Investors Exchange LLC
3 World Trade Center, 58th Floor
New York, New York 10007
1 646 343 2000 tel
www.iextrading.com

June 5, 2019

Vanessa Countryman
Acting Secretary
U.S. Securities and Exchange Commission
100 F Street, N.E.
Washington, D.C. 20549

Re: MIAX, MIAX Pearl, and MIAX Emerald Connectivity Fee Increases; File Nos. SR-MIAX-2019-23; SR-PEARL-2019-17; SR-Emerald-2019-20

Dear Ms. Countryman:

Investors Exchange LLC ("IEX") is pleased to comment on the above-referenced rule filings ("MIAX Filings") by Miami International Securities Exchange LLC, MIAX PEARL, LLC, and MIAX EMERALD, LLC (collectively, "MIAX") concerning increased fees for direct connectivity to MIAX systems.[1] This represents MIAX's second attempt this year to justify its connectivity fee increases.[2] We believe that MIAX has failed to make the case that these fee increases meet the standards for approval of exchange fees under the Securities Exchange Act of 1934 (the "Act"). In particular, we see no basis for squaring approval of the MIAX fees with the Commission's recent disapproval of very similar connectivity fee increases by BOX Exchange LLC ("BOX").[3] We also believe that the MIAX filings fail the standards laid out in recent SEC staff guidance for self-regulatory organizations ("SROs") on the types of information that should be contained in their filings with the SEC to demonstrate that their fees are consistent with the Act.[4]

Comparison of BOX and MIAX Fees

Both BOX and MIAX proposed changes in fees for direct connectivity to exchange systems in their data centers. BOX proposed to charge fees for this functionality for the first time, while MIAX filed to increase existing fees. MIAX's fees are more expensive than BOX's proposal for the same types of connection ($1,400/month vs. $1,000 for a standard 1 Gigabit ("Gb")

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[1] Securities Exchange Act Release Nos. 85836, 85837, and 85839 (May 10, 2019), 84 FR 22205 (May 16, 2019).
[2] See Securities Exchange Act Release No. 85318 (March 14, 2019), 84 FR 10363 (March 20, 2019). IEX commented on these previous filings. *See* Letter from John Ramsay, Chief Market Policy Officer, IEX, to Vanessa Countryman, Acting Secretary, SEC, dated April 5, 2019.
[3] *See* Securities Exchange Act Release No. 85459; File No. SR-BOX-2019-04 (March 29, 2019), 84 FR 13363 (April 4, 2019) (the "BOX Order").
[4] Staff Guidance on SRO Rule Filings Relating to Fees (May 21, 2019), avail. at https://www.sec.gov/tm/staff-guidance-sro-rule-filings-fees (the "Guidance").

connection, $6,100/month v. $5,000 for a standard 10Gb connection). In addition, MIAX proposes to offer an "ultra-low latency" 10Gb connection for $9,300/month per connection.

The Commission found that BOX failed to justify its fee increases either on the basis that market competition constrains its ability to increase fees, or, alternatively, based on BOX's costs. In terms of competition arguments, as further explained below, there is no reason to infer that options market participants are less dependent on connectivity to the MIAX exchanges than to BOX. In fact, according to MIAX's website, for the month of April 2019, the three MIAX exchanges (after the introduction of MIAX Emerald) together accounted for 10.75% of total options market volume.[5] In comparison, BOX presently accounts for less than 2.5%.[6]

In terms of arguments about exchange costs, as explained more below, although MIAX has offered more transparency about its overall costs of running an exchange, it has not explained how the disclosed costs are specifically related to its connectivity offerings, or how much revenue it expects to receive from connectivity following the fee increases. It also has failed to demonstrate why the fees will not have a discriminatory impact on smaller market makers and create an inappropriate burden on competition among options market participants.

Our remaining comments are organized by the topical headings contained in the Guidance.

Purpose

The Guidance indicates that exchanges should identify the purpose for product differences associated with different fees, for example explaining the relative speed advantages to using one option compared to another.[7] MIAX states that market maker members need to use one of the 10Gb options (as explained below, this cuts against the argument that competition constrains price increases) but does not explain the expected latency benefits of the 10Gb connection compared to the 1Gb, or the benefit of the lowest latency 10Gb option over the standard 10Gb option.

Reasonableness of Proposed Fee

Competitive Forces

The SEC stated in the Box Order: "Before the Commission may approve a fee for access or market data based on a competitive pricing argument...there must be evidence that competition will constrain its pricing....Because the Exchange has not provided enough evidence to establish that competitive forces constrain connectivity fees, it must provide an alternative basis to support

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[5] *See* https://www.miaxoptions.com/sites/default/files/press_release-files/MIAX_Press_Release_05032019.pdf
[6] *See* Cboe, U.S. Options Market Volume Summary, avail. at https://markets.cboe.com/us/options/market_statistics/
[7] Guidance, at 2-3.

the proposed fees."[8] The Guidance states that an argument that competition constrains prices may be supported by evidence that there are reasonable substitutes, that a multi-product type of "platform theory" applies in fact in a way that constrains the fees at issue, and/or that data on revenues or costs shows there is no ability to obtain supra-competitive profits.[9]

MIAX does not offer evidence of any of these three types to support the premise that competition is constraining its ability to set connectivity fees. Instead, it makes theoretical arguments that options markets are different from equities markets in terms of the impact of competition on fees, that MIAX's unique circumstances suggest that it is not able to exert market power, and that individual members are free to choose among connectivity options based on their needs.

In trying to distinguish the options markets, MIAX points to the fact that options markets don't provide the same order types offered by equities exchanges and notes the existence of a single securities information processor ("SIP") for options, rather than the multiple equity market SIPs, which it argues limits the need to connect to multiple options markets. It also argues that brokers do not need to be concerned with trade-through violations that could result from a failure to connect, since individual options exchanges are responsible for routing orders to avoid trade-through violations.[10]

It is not clear how differences in order types affect the competition issue. Similarly, whether there is a single SIP or multiple SIPs would not seem to affect the need for direct connectivity, at least in the absence of evidence that market makers and other active market participants are in fact able to rely exclusively on SIP data and forego direct connectivity to multiple options markets. Further, equities exchanges, like options markets, are also responsible for routing to avoid trade-through violations, and the trade-through obligation in equities applies to trading centers, not to brokers routing customer orders. Moreover, options brokers, like those in equities, may require direct access to multiple exchanges to satisfy best execution obligations.

On the other hand, MIAX fails to address one distinction between equities and options markets that *is* meaningful from a competition standpoint. Because options market participants are not able to trade listed options on alternative trading systems or other non-exchange venues, logic suggests that direct access to multiple exchanges is likely to be at least as necessary for options market makers and other participants as is the case for equity market broker-dealers.

MIAX's arguments about its own position compared to other options exchanges are also unconvincing. It emphasizes that the three MIAX exchanges have approximately 10% of the overall options market volume and suggests this fact alone means it does not have supra-competitive pricing power. But BOX has substantially less options volume, and it failed to make the case that its fees are constrained by competition. Further, using equities as a point of

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[8] BOX Order, 84 FR at 13370.
[9] Guidance, at 4.
[10] 84 FR at 22208.

comparison, NYSE Arca presently has less than 10% of aggregate market volume, and NYSE accounts for not much more than 10%.[11]

MIAX also notes that not all broker-dealers are required to connect to all options exchanges, and that not all options participants are directly connected to its exchanges, and it points to examples of individual firms that are not connected to MIAX.[12] But it misses the point that the question is not whether there are *some firms* that can easily choose not to connect, but whether those market participants that account for the bulk of trading in options can readily choose to avoid MIAX entirely or to reach it indirectly, and it offers no evidence to support the proposition that they can. Further, it is worth noting that all the individual firms that it cites as examples are firms that do not trade for customer accounts. Finally, again using equities markets as a point of comparison, the fact that broker-dealers are not all required to connect directly to all equities exchanges does not prevent those exchanges from exerting market power in their pricing of data and connectivity.

Also, some of the key points raised by MIAX seem to undermine rather than support the premise that competition limits their power to set fees. For example, MIAX "finds it compelling" that after the connectivity fee increases covered by the MIAX Filings were put in place in August 2018, not a single member chose to disconnect.[13] Of course, that is exactly what one would expect to find in a case where a company is able to set supra-competitive prices. Even more telling, MIAX admits that it rejected the possibility of raising transaction fees as impractical because of the "intense level of competition among the options exchanges for order flow through transaction fees."[14] The clear implication is that it chose to raise the fees for which it *can* exercise market power such that participants would feel compelled to accept the increase.

In fact, given the intense competition for order flow and pressure on transaction fees, it seems likely that MIAX would not be able to support three separate options exchanges aggregating about 10% market share if it were unable to extract supra-competitive rents in the form of market data and connectivity fees. MIAX is effectively asking the Commission to endorse the use of these fees to help sustain a business model that might be unsustainable under the pressure of normal market forces.

Further, MIAX's arguments about member choice don't help its case. For example, it acknowledges that any members that need to obtain a top of market *or* depth of book data feed need to purchase a 10Gb connection given that the 1Gb connection cannot support these products,[15] and it argues that the standard 10Gb connection "offer[s] smaller market makers a lower cost alternative."[16] Also, MIAX acknowledges that the buyers of the most expensive 10Gb

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[11] *See* Cboe, U.S. Equities Market Volume Summary, avail. at https://markets.cboe.com/us/equities/market_share/.
[12] Id. at 22208-9.
[13] Id. at 22209.
[14] Id. at 22210.
[15] Id. at 22208.
[16] Id. at 22209.

ULL connection account for about 75% of volume on the exchange.[17] Assuming these same members account for a similar proportion of overall options activity, a logical implication is that members that are in this class of firms do not have a practical option to subscribe to a less expensive option.

Relevance of Cost Data

In the BOX Order, the Commission noted that the exchange sought to justify the new fees by the need to offset the cost of maintaining and implementing ongoing improvements to its trading systems, but that the exchange did not show why it is appropriate to consider those costs items when evaluating whether the fees are consistent with the Act, or how the improvements relate to connectivity. The Commission also noted that BOX did not discuss whether transaction or other fees offset these improvements to the trading systems.[18]

The Guidance also makes clear that a general statement that fee increases are meant to offset costs and a general description of the costs offset is not sufficient. Instead, an exchange could provide baseline revenue, costs, and profitability before and as they are expected to be after the increase. The Guidance gives an example of a fee for a 10Gb connection that is five times greater than a non-10Gb connection, but where the cost to the exchange of providing the 10Gb connection is less than five times greater. In this case, the Guidance suggests, the exchange should account for the difference.[19]

In pointing to its costs as a justification, MIAX says the fees are necessary to offset increased costs "associated with maintaining and enhancing a state-of-the-art exchange network infrastructure in the U.S. options industry." It also argues that as total number of connections increase, MIAX and affiliates need to increase data center footprint and consume more power.[20]

MIAX provides dollar figures for some of these cost elements, but it does not show how they are directly related to providing *connectivity products*, as distinct from the costs of operating an exchange in general. Some of the costs identified seem more directly relevant (increased data center costs, and the purchase of additional hardware to support the new connections), but most seem more relevant to general exchange costs (e.g., network engineers, "costs associated with projects and initiatives designed to improved overall network performance and stability, through R&D efforts", information security, enhanced monitoring and customer reporting, and Regulation SCI mandated processes). MIAX did not provide any comparative cost and revenue information before and after the fee change, nor did it attempt to explain the wide (more than 6x difference) in fees between the 1Gb and most expensive 10Gb connection in terms of the exchange's costs.

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[17] Id. at 22210.
[18] 84 FR at 13368.
[19] Guidance, at 6.
[20] 84 FR at 22210-1.

In fact, IEX in its recent study of its own costs to produce market data and connectivity (the "Cost Study")[21] isolated IEX's costs of providing physical connectivity and determined the potential mark-up on those products on other exchanges was up to 4,200%. It is possible that MIAX's relative costs to offer its own connectivity products are higher, or its margins are lower, than suggested by the Cost Study, but there is no way to assess how MIAX's costs impact the specific fees covered by the MIAX filings in the absence of more information of the type suggested by the Guidance.

Further, the IEX Cost Study rebuts MIAX's suggestion that the increased fees are justified by increased costs associated with the need to provide a higher number of connections. In fact, economies of scale that are inherent in offering market data and connectivity suggest that increasing capacity involves very little incremental cost compared to substantially increased revenues.[22] MIAX says the fee for the 10Gb connection is justified because of the increased bandwidth that this option involves but says nothing about differences in the exchange's costs for the two. In fact, IEX's experience is that there is virtually no difference in its cost to offer connectivity options of different bandwidth.

Other Requirements – Equitable Allocation, Non-Discrimination, No Burden on Competition

The Guidance also speaks to the need for SROs to address how fees impact different types of participants. MIAX argues that there is no inequitable or discriminatory impact, or burden on competition, resulting from its connectivity fees because participants can choose what kind of connectivity to purchase based on their individual needs. But, as noted above, MIAX acknowledges that market makers must purchase one of the two 10Gb options – the 1Gb option simply will not support the data feeds they need. MIAX fails to address how these requirements may impact smaller participants other than to say that smaller market makers may not need to have the most expensive 10Gb connection.

Considering that industry participants generally need to maintain a minimum of two physical connections (including one for redundancy and risk management), the less expensive 10Gb option would result in an annual cost to the member of $146,400, excluding additional fees for disaster recovery connections and without considering any other costs the member would face in trading on MIAX. At a minimum, MIAX should explain why it believes this additional cost burden would not be meaningful to a "smaller market maker", or why it would not have an inequitable or anti-competitive effect in limiting the firms that can participate actively on MIAX to those that can afford to pay this entry fee.

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[21] IEX, "The Cost of Exchange Services" (January 2019), avail. at https://iextrading.com/docs/The%20Cost%20of%20Exchange%20Services.pdf.
[22] *See* the Cost Study, "Economies of Scale", at 33-34.

Further, MIAX provides no information on the relative speed advantage of the ultra-fast 10Gb option (with a minimum yearly cost of $223,000 for two connections) compared to the standard 10Gb connection. Considering that relative speed of access to an exchange would seem to be an important competitive factor for market makers of all sizes, it is not clear how the standard 10Gb connection functions as a practical alternative for smaller firms, as MIAX asserts, and whether that choice could put smaller firms at a competitive disadvantage to "larger" market makers.

Conclusion

We see no basis to approve the fees proposed by MIAX considering the Commission's disapproval of the BOX fees and the subsequent Guidance, which we believe sets an appropriate bar for exchange fee filings. Accordingly, we believe the Commission should suspend the filings and institute proceedings to determine whether to disapprove the MIAX fees, and in the absence of substantially better justification, disapprove them.

Sincerely,

John Ramsay
Chief Market Policy Officer

cc: Mr. Brett Redfearn, Director, Division of Trading and Markets
Mr. Christian Sabella, Deputy Director, Division of Trading and Markets
Mr. David S. Shillman, Associate Director, Division of Trading and Markets
Mr. John Roeser, Associate Director, Division of Trading and Markets
Ms. Heidi Pilpel, Senior Special Counsel, Division of Trading and Markets