April 23, 2024

Ms. Vanessa Countryman

Secretary
U.S. Securities and Exchange Commission
100 F Street NE
Washington DC 20549-1090

Re: Notice of Filing and Immediate Effectiveness of Proposed Rule Change to Expand its Cabinet Proximity Option Program (SR-NASDAQ-2024-007; SR-BX-2024-007; SR-ISE-2024-07; SR-GEMX-2024-04; SR-MRX-2024-03; SR-PHLX-2024-06) and Notice of Filing and Immediate Effectiveness of Proposed Rule Change to Amend the Cabinet Proximity Option Fee to Establish a Reservation Fee for Cabinets with Power Densities Greater Than 10kW (SR-NASDAQ-2024-013; SR-BX-2024-010; SR-ISE-2024-13; SR-GEMX-2024-08; SR-MRX-2024-09; SR-PHLX-2024-12)

Dear Ms. Countryman:

Panorama Financial Markets Advisory[1] appreciates the opportunity to provide comment on the above referenced rule changes (the "Nasdaq Filings") by The Nasdaq Stock Market LLC ("Nasdaq") and its affiliate exchanges (the "Exchanges"). The Nasdaq Filings amend the Exchanges' Cabinet Proximity Option program to offer the program for cabinets with power densities greater than 10 kW and establish fees for this offering. The Nasdaq Filings do not, however, include a description or statutory basis with respect the Exchanges' new NY11-4 colocation facility, a material component of the proposed rule changes, and therefore do not meet the statutory requirements of Section 19 of the Securities Exchange Act of 1934 ("Exchange Act").[2]

The Nasdaq Filings fail to address a substantial and important set of issues related to the Exchanges' new colocation facility in their Carteret datacenter, NY11-4. NY11-4 introduces a location change and other attributes that can materially impact latencies of Exchange members and consequently has the potential to give rise to unfair discrimination among market participants, inappropriate burdens on competition, and investor protection concerns under Sections 6(b)(5) and (8) of the Exchange Act.[3] As such, the Exchanges should be required to submit a comprehensive rule filing describing in detail several aspects of the NY11-4 facility, as discussed further below and as required by the Exchange Act. Market participants need critical details to better understand and assess this offering, and so does the Commission.

As the Commission is aware, competition among many market participants in today's markets is largely driven by speed. The speed at which market participants can access exchange data

[1] Panorama Financial Markets Advisory (PFMA) is an Advisory firm focused on helping innovators navigate strategic, regulatory, and operational challenges in the evolving market structures of digital assets and traditional securities.

[2] 15 U.S.C. 78s.

[3] 15 U.S.C. 78f(b)(5) and (8).

and markets (i.e., exchange matching engines) is often determinative of a firm's competitive standing.[4] This speed – and related competitive position – is largely determined in the details of infrastructure offerings of national securities exchanges.

An obvious and essential way for a firm to improve its competitive advantage in terms of speed is to reduce its geographic latency (i.e., distance from an exchange matching engine) by locating inside the exchange data center. Once colocated inside an exchange data center, the location of a firm (its "cage") relative to other infrastructure (e.g., meet-me rooms and, especially, the exchange gateway) can materially affect a firm's competitive position relative to other market participants,[5] as distance is correlated to latency. For this reason, some exchanges have incorporated latency neutralization features to eliminate competitive disparities among firms in different locations in data centers.[6] These features help to ensure that exchange infrastructure offerings are not unfairly discriminatory and do not impose an unnecessary or inappropriate burden on competition, both requirements of the Exchange Act. These very same considerations were at issue in the Commission's adoption of Rule 603(b) in the Market Data Infrastructure Rule.[7]

While latency neutralization features are important to fair competition, their application across exchanges' infrastructure is uneven and sometimes problematic. An example of this includes

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[4] Exchange Act Release No. 61358, 75 FR 3594, 3610 (Jan. 21, 2010) ("Speed matters both in the absolute sense of achieving very small latencies and in the relative sense of being faster than competitors, even if only by a microsecond"). *See also, e.g.*, Exchange Act Release No. 84432, at 42 (Oct. 16, 2018) ("The largest market participants, typically market makers and large institutional brokers, compete in a market where . . . competition is largely based upon speed"); *Intercontinental Exchange, Inc. v. SEC*, No. 20-1470, at 5 (D.C. Cir. 2022) ("Facility Decision") ("[M]iniscule fractions of a second — utterly meaningless virtually everywhere else — can make all the difference when it comes to receiving market data and completing a profitable transaction."); Exchange Act Release No. 99679, 89 FR 26428, 26596 (Apr. 15, 2024) (citing academic study noting that "high frequency trading strategies operate in approximately 5 to 10 microseconds") (citing Matteo Aquilina et al., Quantifying the High-Frequency Trading "Arms Race", 137 Q. J. Econ. 493 (2021)).

[5] It is for this reason that the Commission, in adopting the Market Data Infrastructure Rule, included Rule 603(b), which requires self-regulatory organizations ("SROs") "to make the data content underlying consolidated market data available to competing consolidators and self-aggregators in the same manner and methods, including *all methods of access* and the same format, as proprietary data." Exchange Act Release No. 90610, 86 FR 18596, 18654 (Apr. 9, 2021) ("MDIR Adopting Release") (emphasis added). The Commission further noted that Rule 603(a) "prohibits an SRO from making NMS information available to any person on a more timely basis (i.e., by any time increment that could be measured by the SRO) than it makes such data available to competing consolidators and self-aggregators." *Id.*

[6] *See*, *e.g.*, Cboe Latency Equalization: Secaucus, NJ, https://cdn.cboe.com/resources/membership/Cboe_LE.pdf (last visited Apr. 22, 2024); Cboe Trader E-News 1 (Jan. 19, 2024), https://cdn.cboe.com/resources/trader_news/2024/Trader-E-News-1-19-24.pdf (announcing connectivity to the NY6 datacenter and noting that it "will serve as a latency equalized point of presence" for Cboe exchanges).

[7] *See* MDIR Adopting Release, 86 FR at 18653 ("SROs are required to make available all quotation and transaction information that is necessary to generate consolidated market data *in the same manner and using the same methods, including all methods of access and the same format*, as such SRO makes available any information with respect to quotations for and transactions in NMS stocks to any person.") (emphasis added). The MDIR Adopting Release also specified that SRO-provided "access options (e.g., with different latencies, throughput capacities, and data-feed protocols" made available to proprietary data customers must also be available to competitors, i.e., competing consolidators and self-aggregators. *Id.*

the Exchanges' wireless connectivity services offered via the roof of their datacenter,[8] where users of such wireless services benefit from a geographic latency advantage over other market participants. And, while those advantages may seem miniscule, the D.C. Circuit has stated in a case addressing this very set of dynamics that "miniscule fractions of a second — utterly meaningless virtually everywhere else — can make all the difference when it comes to receiving market data and completing a profitable transaction."[9] To meet its statutory mandate to ensure fair competition, the Commission must continue to scrutinize any infrastructure changes, however esoteric, that could negatively affect fair markets and inappropriately burden competition through changing latency profiles within the facilities of an exchange. National securities exchanges must also be transparent so that market participants can fully and fairly assess these competitive advantages. It is only possible for market participants and the Commission to do so if changes, such as those associated with the new NY11-4 colocation facility, are subject to detailed rule filings that are published for public comment, as required by the Exchange Act. This is especially important in instances where exchanges, directly or indirectly, offer services that compete with private operators in and around the facilities of the exchange.

As detailed in a comment letter on the Nasdaq Filings recently filed with the Commission by McKay Brothers, LLC,[10] **there are several areas where fairness issues are raised and where current information is lacking with respect to the new NY11-4 datacenter, including:**

- It is unclear the extent to which there will be latency differences between Exchange member cabinets and telecom provider cabinets in NY11-4 relative to similar connections in NY11. Based upon technical documents provided by the Exchanges, it is good to see that member cabinets within NY11-4 will have equal length cross-connects between each other, but the fact that these cabinet connections may be different than the length of such connections within NY11 raises questions and concerns that need to be explained as this configuration may unfairly discriminate against market participants colocating in NY11. Also, if the Exchanges are providing equal length cross connects in NY11-4, it's curious why they have not done so in NY11.

- Based on its geographic placement, NY11-4 is located closer than NY11 to other major datacenters, including in Secaucus and Mahwah, which introduces other latency implications for market participants and likely affects competition. Without additional information, one could conclude that information traveling to/from other exchanges will reach cabinets in NY11-4 faster than cabinets in NY11. As incredulous as this may sound to the layperson,

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[8] *See* letters to Vanessa Countryman, Secretary, Commission, from Jim Considine, Chief Financial Officer, McKay Brothers, LLC (Dec. 10, 2020), https://www.sec.gov/comments/4-729/4729- 8131081-226476.pdf; Joanna Mallers, Secretary, FIA PTG (Feb. 11, 2021), https://www.sec.gov/comments/4- 729/4729-8369394-229225.pdf; Gregory Babyak, Global Head of Regulatory Affairs, Bloomberg L.P. (Mar. 1, 2021), https://www.sec.gov/comments/4-729/4729-8426150-229604.pdf; and Ari M. Rubenstein, Co-Founder and Chief Executive Officer, GTS Securities LLC (Apr. 27, 2021), https://www.sec.gov/comments/4-729/4729-8732326-237082.pdf.

[9] Facility Decision, *supra* note 4, at 5.

[10] *See* letter to Vanessa Countryman, Secretary, Commission, from Jim Considine, Chief Financial Officer, McKay Brothers, LLC (Mar. 22, 2024), https://www.sec.gov/comments/sr-nasdaq-2024-007/srnasdaq2024007-449159-1150442.pdf.

these factors are top-of-mind to liquidity providers and other latency sensitive market participants. And the opacity of this and other relevant information to the public creates anxiety-inducing concerns about new competitive dynamics being introduced within this new facility of the Exchanges. It would be even more concerning if that same information was shared privately with a small subset of the Exchanges' favored customers.

- It remains undisclosed, and therefore unclear, how the NY11-4 and NY11 connections will operate relative to the Nasdaq wireless services currently offered via the roof of the NY11 datacenter, which also have not been filed with the Commission[11] nor fully communicated via technical specifications or elsewhere. This is an area where Nasdaq-branded, Nasdaq-affiliated services directly compete with non-Nasdaq-affiliated service providers. As such, it is concerning that such information is completely undisclosed, even *outside* of the rule filing process. Faster connections to Nasdaq-affiliated telecom providers would clearly leave non-affiliated providers at a disadvantage. The competitive implications are obvious, and there is little doubt that this is a material aspect of the operation of the facilities of the Exchanges, which is exactly why there is a requirement that the Exchanges file such changes with the Commission.

- It is unclear how the Exchanges' new NY11-4 meet-me-room(s) will function and how these may differ from functionality of the meet-me-room(s) supporting NY11. It is possible that the new meet-me-room(s) will introduce material latency differentials that affect competition and can drive location decisions among the datacenters. What is most clear is that the relevant details need to be included in a rule filing that provides sufficient information, not only for location decisions among market participants, but for a determination of whether any unnecessary or inappropriate burden on competition is being introduced.

The Commission should suspend the amended Cabinet Proximity Option Program fee filings and institute disapproval proceedings.

In addition to the lack of sufficient detail around the NY11-4 co-location facility and related operational and latency differences, the fees the Exchanges are assessing for the Cabinet Proximity Option Program have not satisfied the Exchange Act's requirements that, among other things, the fees are (i) reasonable, (ii) equitably allocated, (iii) not unfairly discriminatory, and (iv) not an undue burden on competition.[12] First, these fees were assessed on customers prior to being publicly filed with the Commission. Second, these fees were assessed merely for "reservations" for cabinet space before cabinet space was available, despite communications that "unused cabinets can be converted to a powered cabinet at the customer's request." Third, in proposing fees to "reserve" cabinets with power densities greater than 10 kW, the Exchanges argue that:

> [It] believes substitutable products and services are available to market participants, including, among other things, other equities and options exchanges that a market participant may connect to in lieu of the Exchange[s], connectivity to the Exchange[s] via a third-party reseller

[11] *See supra* note 8.

[12] *See* Commission Staff Guidance on SRO Rule Filings Relating to Fees, Section II, III.B (May 21, 2019), https://www.sec.gov/tm/staff-guidance-sro-rule-filings-fees.

> of connectivity, and/or trading of equities or options products within markets which do not require connectivity to the Exchange[s], such as the Over-the-Counter (OTC) markets.

For market participants competing in a National Market System with an Order Protection Rule,[13] best execution obligations,[14] and market competition driven by speed, it is disingenuous to suggest that "other equities and options exchanges" are viable substitutes for a colocated option adjacent to the Exchanges' matching engines. Furthermore, it is impossible to understand how comparable, substitutable products and services are available to market participants via a third-party reseller of connectivity when it is impossible to determine the extent to which latencies will vary for those resellers without the disclosures that would accompany a rule filing for the NY11-4 facility. As such, we respectfully request that the Commission suspend the amended Cabinet Proximity Option Fee and institute disapproval proceedings.

Conclusion

As the Commission is aware, national securities exchanges are required to file changes to their rules when there are material changes to the operation of their facilities. This is clearly the case with the Exchanges' new NY11-4 colocation facility. As articulated above, there are several aspects of this new facility that have the potential to materially affect – and burden – competition. Critical details remain unavailable to market participants and the Commission, including in areas where the Exchanges and affiliated service offerings directly compete with private vendors. Without the details being filed and made public, there is meaningful risk that the missing details will bias the competitive playing field, creating unfair advantages and disadvantages.

In a parallel situation at the NYSE-controlled Mahwah datacenter, an affiliate of the NYSE exchanges implemented a technology solution that raised the very same kinds of concerns raised here. The NYSE exchanges ended up filing rules[15] only because the Commission informed them that they had to do so as required by the Exchange Act. During the ensuing comment period, several parties argued that the use of the private pole geographically closer to the NYSE exchanges' systems inappropriately burdened competition and unfairly discriminated against those connecting to poles outside the Mahwah datacenter. The NYSE exchanges had to address these concerns and amended their rules "negating the advantage" in the original design. The Commission approved the rules only after that change was made. The NYSE exchanges then sued the Commission in a case that, if successful, may have allowed certain infrastructure businesses to be excluded from the definition of a "facility" of the exchange and accompanying rule filing requirements.[16] However, the NYSE exchanges did not prevail, as the D.C. Circuit found that use of the private pole provided NYSE and

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[13] 17 CFR 242.611.

[14] *See*, *e.g.*, Financial Industry Regulatory Authority, Inc., Rule 5310; *Newton v. Merrill, Lynch, Pierce, Fenner & Smith, Inc.*, 135 F.3d 266, 270 (3d Cir.), *cert. denied*, 525 U.S. 811 (1998); Exchange Act Release No. 37619A, 61 FR 48290 (Sept. 12, 1996); Exchange Act Release No. 51808, 70 FR 37496, 37538 (June 29, 2005).

[15] Self-Regulatory Organizations; New York Stock Exchange LLC;, Rule Change to Establish a Schedule of Wireless Connectivity Fees and Charges with Wireless Connections, 85 Fed. Reg. 8938, 8939 (Feb. 2020).

[16] *See*, *e.g.*, Facility Decision, *supra* note 4; Exchange Act Release No. 90209, 85 FR 67044 (Oct. 21, 2020) (order approving SR-NYSE-2020-05, SR-NYSE-2020-11, and other NYSE-affiliated exchange rule filings to, among other things, neutralize the latency advantage of NYSE wireless bandwidth and wireless market data services).

its affiliates with "an insuperable latency advantage over its competitors" and that the wireless connections fit the definition of a facility "to a tee."[17]

In deciding for the SEC, the D.C. Circuit Court stated that, if it could evade SEC oversight, a company that controls an exchange could "use its control over access to exchange facilities to gain a competitive advantage for its subsidiary, which would be directly at odds with one purpose of the Exchange Act, viz., to prevent the imposition of unnecessary burdens upon competition."[18] It is worth reminding the Commission that it was only because the Commission fulfilled its oversight responsibilities and required that rules be filed that the NYSE exchanges removed the advantage.

In the Nasdaq Filings at issue here, and the still absent filing for the NY11-4 facility, nuances that may appear to be *de minimis*, such as the length of cord between point A and point B and latency neutralization tools inside one data center but not another, are not *de minimis* at all. Neither is the complete absence of any rule filing with respect to the Exchanges' wireless services offered via the roof of the Carteret datacenter—an obvious Exchange facility raising conspicuous competitive concerns. The miniscule latencies that arise within an exchange datacenter are fundamental to market competition today and are exactly where the Commission must remain most vigilant in its oversight responsibilities and its duty to protect investors, maintain fair, orderly, and efficient markets, and facilitate capital formation. As with the NYSE datacenter example noted above, **the Commission should require the Exchanges to submit a comprehensive rule filing describing in detail the NY11-4 facility.**

We appreciate the Commission's consideration of these comments and would be pleased to discuss any questions or issues with respect to this letter.

Sincerely,

Brett Redfearn

Brett W. Redfearn
Founder & CEO, PFMA

cc:
The Hon. Gary Gensler, Chair
The Hon. Hester M. Peirce, Commissioner
The Hon. Caroline A. Crenshaw, Commissioner The
Hon. Mark T. Uyeda, Commissioner
The Hon. Jamie Lizárraga, Commissioner

Dr. Haoxiang Zhu, Director, Division of Trading & Markets
Mr. David Saltiel, Deputy Director, Division of Trading & Markets
Ms. Andrea Orr, Deputy Director, Division of Trading & Markets
Mr. David S. Shillman, Associate Director, Division of Trading & Markets
Mr. Eric Juzenas, Associate Director, Division of Trading & Markets

[17] *See*, Facility Decision, *supra* note 4, at 12, 15.

[18] *Id.* at 20.