

March 10, 2020

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

Re: Notice of Filing of Proposed Rule Change to Establish a Schedule of
Wireless Connectivity Fees and Charges with Wireless Connections
(Release No. 34-88168; File No. SR-NYSE-2020-05)

Dear Ms. Countryman:

McKay Brothers LLC (“McKay”) and its affiliate Quincy Data LLC (“Quincy”) (collectively, the “Firm”)¹ appreciate the opportunity to comment on the above referenced proposed rule change (the “Proposal”) by New York Stock Exchange LLC (“NYSE” or the “Exchange”).² The Proposal would establish a schedule of fees for wireless connections in third party data centers located in (i) Carteret, New Jersey, (ii) Secaucus, New Jersey, and (iii) Markham, Canada (the “Third Party Data Centers”) that connect to the Exchange’s data center located in Mahwah, New Jersey (the “Wireless Connections”). Under the Proposal, the Wireless Connections are deemed to be “facilities” of the Exchange within the meaning of Section 3(a)(2) of the Securities Exchange Act of 1934 (“Exchange Act”), although the Exchange disputes this categorization.³

As detailed below, the Firm believes that the Wireless Connections are facilities of the Exchange within a plain reading of the statutory definition because they use the tangible and intangible property of the Exchange. Moreover, these facilities can be used to provide the Exchange or its affiliates with an unfair competitive advantage in access to the Exchange or in the receipt of market data—making the exchange rule filing process critically important. The Exchange has already provided the Wireless Connections with an unjustified latency advantage and has the ability to provide further advantages such that the Wireless Connections would be materially faster than any other possible connection between the Exchange’s data center in Mahwah and the Third Party Data Centers. These efforts burden competition and dampen innovation because the numerous market participants concerned about latency would have little choice but to use the

¹ Quincy is a market data distributor that provides equal access to low latency US equities market data that helps subscribers make tighter markets. McKay is a telecom service provider, using microwave and fiber technologies to offer low-latency data transport services, which likewise allows our subscribers to manage risk more effectively and make tighter markets. We offer services on a level-playing field basis—meaning we make our best latencies available to all subscribers. We also provide small firm discounts to support greater diversity of market participants with access to low latency market data.

² Securities Exchange Act Release No. [88168](#), 85 FR 8938 (Feb. 18, 2020).

³ 15 U.S.C. 78c(a)(2).

Exchange's faster Wireless Connections. Commission oversight is necessary to curb these uncompetitive and unfairly discriminatory practices.

Accordingly, we strongly support the Commission's belief that the Wireless Connections are facilities of the Exchange. We nevertheless believe that the Proposal lacks key factual details and statutory justifications necessary to demonstrate that the latency advantage provided to the Wireless Connections is not unfairly discriminatory and does not inappropriately burden on competition.⁴ Without this information, the public is limited in its ability to informatively comment on the Proposal, and the Commission may not have sufficient information to determine whether the Proposal is consistent with Exchange Act requirements.

The discussion below first provides background on the Proposal, and in Part II, explains why the Wireless Connections are facilities of the Exchange. Part III describes the ways in which the Exchange has provided the Wireless Connections with an unjustified latency advantage, has taken additional steps to further this advantage, and the resulting need for greater transparency.

I. Background

The Wireless Connections are low-latency connections between the Exchange's data center in Mahwah and the Third Party Data Centers. According to the Exchange, the Wireless Connections are essentially "an empty pipe that a customer can use to communicate between its equipment in co-location and its equipment in the Third Party Data Center."⁵ While the Wireless Connections do "not connect to the Exchange trading and execution systems" directly, customers may use these connections to "send trading orders to their equipment in co-location; relay Exchange market data, third party market data and public quotes" among other purposes.⁶

The Exchange states that its affiliate ICE Data Services ("IDS"), with whom the Exchange is under common control by their mutual parent Intercontinental Exchange, Inc., is responsible for providing the Wireless Connections.⁷ At either end of the Wireless Connections, a customer uses a cross connect to connect its own equipment to the IDS equipment.⁸ The Exchange further states that the Wireless Connections connect to "a pole on the grounds of the Mahwah data center" and that "third parties do not have access to such pole" (the "NYSE Private Pole") with the exception of a single "non-ICE

⁴ 15 U.S.C. 78f(b)(5) and (8).

⁵ Proposal at 8939.

⁶ *Id.* The Exchange also notes that it does not send or receive data over the Wireless Connections and purports to have no knowledge of how customers use them.

⁷ *Id.* The Exchange states that IDS provides the equipment used by customers to connect to the Wireless Connections, directly controls the wireless network to the Markham Third Party Data Center and Mahwah data center, and contracts with a third party to provide the wireless network between the Carteret and Secaucus Third Party Data Centers and Mahwah data center.

⁸ *Id.* Cross connects are fiber connections used to connect cabinets within a data center to other cabinets, an exchange's systems, or to external connections such as the Wireless Connections.

entity” third party that operates and maintains the wireless networks used by the Wireless Connections (the “Exclusive Vendor”) to the Carteret and Secaucus Third Party Data Centers.⁹

The Exchange notes that there are currently at least three other vendors that offer market participants wireless network connections between the Mahwah data center and the Carteret and Secaucus Third Party Data Centers using wireless equipment “installed on towers and buildings near the Mahwah data center.”¹⁰ According to the Exchange, access to the NYSE Private Pole is “not required for third parties to establish wireless networks that can compete with the Wireless Connections” as evidenced by the existence of these other vendors.¹¹ The Firm is one of these other vendors whose wireless equipment is located on a public pole outside the premises of the Exchange’s Mahwah data center and approximately 2,600 feet away from the colocation cabinets that connect to the Exchange’s matching engine, as seen in Appendices A and B.

Conspicuously absent from the Exchange’s description of the Wireless Connections is that the NYSE Private Pole to which they connect is approximately 700 feet closer to the Exchange’s colocation cabinets than the public poles available to all other wireless connection vendors (*i.e.*, approximately 1,900 feet from the colocation cabinets rather than 2,600 feet) as seen in Appendix B.¹² If NYSE were to place wireless equipment on the roof of the Mahwah data center, we estimate that the connection would be approximately 1,050 feet from the Exchange’s colocation cabinets—about 1/3 of a mile closer than the public poles.¹³ As Virtu Financial, Inc. (“Virtu”) highlighted in a June 2019 letter to the Commission, NYSE petitioned for and was granted a variance from the Town of Mahwah Zoning Board to add wireless equipment to the Mahwah Data Center rooftop, but only sought permission to add enough capacity for a single

⁹ *Id.* at 8943. The location of the NYSE Private Pole can be seen in Appendix A. Although unidentified in the Proposal, the Exclusive Provider granted rights to the NYSE Private Pole appears to be Anova Technologies LLC. See ICE Global Network & Colocation Technical Specifications, Version 3.1, at Section 7.2 (October 2019), available at https://www.nyse.com/publicdocs/data/IGN_Colo_US_Technical_Specifications.pdf (“Using Anova Technologies LLC as the exclusive partner to deliver this advanced technology, it provides superior reliability and availability when compared to other wireless solutions, while facilitating faster data transfer than fiber.”).

¹⁰ Proposal at 8939.

¹¹ *Id.* at 8945. The Exchange further states that “IDS does not sell rights to third parties to operate wireless equipment on the pole, due to space limitations, security concerns, and the interference that would arise between equipment placed too closely together.” *Id.*

¹² Both the public pole and the private pole use a fiber optic cable connection for the “last mile” to connect to the colocation cabinets that connect to the Exchange’s matching engine.

¹³ We note that all of the distance estimates in this letter are good-faith, educated guesses by the Firm as to the length of these distances. The absence of any specific information on these distances underscores the need for additional transparency (as discussed in Section III of this letter) where exchanges offer low-latency services like the Wireless Connection that compete with other providers.

provider.¹⁴ The NYSE Private Pole, and even more so the roof of the Exchange’s Mahwah data center, enjoy closer geographic proximity to the Exchange’s colocation cabinets relative to the public poles—materially reducing the geographic latency associated with transmitting information to and from the Exchange.¹⁵

II. Third Party Data Centers Are Facilities of the Exchange

The Exchange states that it has filed the Proposal “solely because the Staff of the Commission has advised the Exchange that it believes the Wireless Connections are facilities of the Exchange and so must be part of its rules.”¹⁶ The Exchange argues that the Wireless Connections are not a “facility”¹⁷ or “facilities” of the Exchange because: (1) they are not its “premises” since IDS and the Exclusive Vendor provide and maintain the wireless network; (2) they are services using the property of IDS and the Exclusive Vendor and therefore are not the “tangible or intangible property” of the Exchange; and (3) they do not constitute a right to use the Exchange’s premises or property or any service thereof for the purpose of effecting or reporting a transaction because the “Exchange does not have a right to use them to effect or report a transaction” and they do not connect directly to the Exchange’s trading and execution systems.¹⁸ This superficial analysis ignores key details of the operation of the Wireless Connections and is substantively flawed, as explained below.

a. *The Wireless Connections Use the Exchange’s Tangible Property*

The Wireless Connections are facilities of the Exchange for the very simple reason, among others, that they connect to and use the NYSE Private Pole located on the premises of the Exchange. The Exchange offers no explanation as to why the NYSE Private Pole is not the property of the Exchange, while acknowledging that it is located on the premises of the Exchange’s Mahwah data center and that access is limited to its affiliate IDS and the Exclusive Vendor.¹⁹ The Exchange has indicated in previous filings

¹⁴ See Letter from Thomas M. Merritt, Deputy General Counsel, Virtu, to Brett Redfearn, Director, Division of Trading and Markets, SEC, re: *NYSE Mahwah Roof* (June 25, 2019) (“Virtu Letter”), available at <https://www.sec.gov/comments/4-729/4729-5880550-188760.pdf>.

¹⁵ The Commission has explained that geographic latency “refers to the time it takes for data to travel from one physical location to another, which must also take into account that data does not always travel between two locations in a straight line.” Securities Exchange Act Release No. 87906, 85 FR 2164, 2171 (January 14, 2020) (the “SIP Governance Proposal”).

¹⁶ Proposal at 8939.

¹⁷ Section 3(a)(2) of the Exchange Act defines the term “facility” as follows:

“The term ‘facility’ when used with respect to an exchange includes [1] its premises, [2] tangible or intangible property whether on the premises or not, [3] any right to the use of such premises or property or any service thereof for the purpose of effecting or reporting a transaction on an exchange (including, among other things, any system of communication to or from the exchange, by ticker or otherwise, maintained by or with the consent of the exchange), and [4] any right of the exchange to the use of any property or service.” 15 U.S.C. 78c(a)(2).

¹⁸ Proposal at 8940-41.

¹⁹ See *supra* note 9 and accompanying text.

with the Commission that it has the authority to sell rights with respect to the NYSE Private Pole, but now suggests that “IDS does not sell rights to third parties” to operate on it.²⁰ It is unclear who else but the Exchange could have, or would have been motivated to, limit access to the NYSE Private Pole to just those parties. The Exchange has authorized IDS and the Exclusive Vendor to use the NYSE Private Pole—the Exchange’s on-premises property—for the Wireless Connections, making the Wireless Connections facilities of the Exchange.²¹

The fact that IDS and the Exclusive Vendor, rather than the Exchange itself, provide and maintain most of the equipment that support the Wireless Connections is irrelevant. The Commission has previously found that services operated by an entity unaffiliated with an exchange can constitute a facility of that exchange.²² In addition, the definition of a “facility” explicitly contemplates that entities other than an exchange itself could be considered facilities, in noting that a facility includes “the right [granted by an exchange] to use such premises or property.” Moreover, if the mere use of an affiliate or a third party to carry out an exchange function or service renders that function or service as no longer a “facility” of an exchange, exchanges would delegate all their functions and services to third parties to avoid subjecting them to the rule filing process.²³ The definition of a facility would be eviscerated if such a loophole existed. It is for this reason that the analysis of whether something is a facility of an exchange must depend on whether the particular product, function, or service falls within the “facility” definition—*e.g.*, uses the premises or property of the exchange—regardless of the entity offering the product, function, or service.

²⁰ Proposal at 8945 *cf.* Exchange Act Release No. [78387](#), 81 FR 49315, 49318 (July 27, 2016) (SR-NYSE-2016-49) (“[t]he Exchange will not sell rights to third parties to operate wireless equipment on the pole, due to space limitations, security concerns, and the interference that would arise between equipment placed too closely together.”) and Exchange Act Release No. [76374](#), 80 FR 70021, 70023 (Nov. 12, 2015) (SR-NYSE-2015-52) (same quotation). Any suggestion that it was the Exchange’s parent company or IDS itself that authorized this use, and that therefore the NYSE Private Pole is not a “facility,” would also render the definition of a “facility” meaningless because the Exchange could simply circumvent categorizing a product or service as a facility by moving ownership to its parent or affiliate. An exchange must be responsible for its premises and property on such premises.

²¹ Similarly, to the extent the Exchange were to install wireless equipment on the roof of the Mahwah data center to be used by the Wireless Connections, such equipment on the roof would likewise be a facility of the Exchange.

²² See *e.g.*, Exchange Act Release No. [54538](#), 71 FR 59184, 59191 (Oct. 6, 2006) (order approving Phlx’s new equity trading system and operation of an optional outbound router as a facility of Phlx where Phlx had no ownership interest in the third party operator).

²³ Similarly, where an exchange leases property or equipment, the exchange’s rights in the use of that property or equipment must be considered the property (and therefore a facility) of the exchange. To conclude otherwise would mean that if an exchange were to, for example, lease computer servers for its matching engine from a third party, those servers might technically not be the property (and therefore not a facility) of the exchange.

b. The Wireless Connections Are Used for Effecting or Reporting a Transaction

The Wireless Connections are also facilities of the Exchange under the third prong of the definition because they may be used to effect transactions on the Exchange (and report transactions or other market data disseminated from the Exchange) using Exchange Property (e.g., the NYSE Private Pole). As noted above, the Exchange acknowledges that customers may use the Wireless Connections to “send trading orders to their equipment in co-location; relay Exchange market data, third party market data and public quotes” among other purposes.²⁴ Notwithstanding that customers can use the Wireless Connections to send orders and receive transaction reports to and from the Exchange, the Exchange asserts that the Wireless Connections are still not facilities of the Exchange because they “do not connect to the Exchange trading and execution systems.”²⁵ Instead, orders/market data must traverse a cross connect²⁶ to connect to the Exchange’s systems, which the Exchange reasons is sufficient to conclude that the Wireless Connections are not used for the purposes of effecting or reporting a transaction.

There is simply no rational basis for the Exchange’s argument given that information sent via the Wireless Connections is received at the NYSE Private Pole on the premises of the Exchange. All orders and market data from any source sent to and from the Exchange must use a fiber optic cable connection, such as a cross connect, as seen in Appendix B, to physically connect to the Exchange trading and execution systems. Consequently, to reasonably determine where the facilities of the Exchange begin, one must consider where and how one connects to the “last mile” cable connection. Here, the Wireless Connections connect to the NYSE Private Pole on the Exchange’s premises. If, in contrast, the Wireless Connections connected to a public pole outside the Exchange’s Mahwah data center before connecting to the “last mile” cable connection, the Exchange could at least offer a colorable argument that the Wireless Connections do not use the Exchange’s premises or property for the purpose of effecting or reporting a transaction.²⁷

c. The Wireless Connections Use the Exchange’s Intangible Property

The Exchange also fails to address the highly visible use of the Exchange’s intangible property in connection with the Wireless Connections. The technical specifications relating to the Wireless Connections, available through the Exchange’s

²⁴ Proposal at 8939.

²⁵ *Id.* at 8941.

²⁶ The Exchange acknowledges that the cross connects are facilities of the Exchange. *Id.* at n.12.

²⁷ Even if the Exchange were to use a public pole for the Wireless Connections, the Exchange might conceivably use the wireless equipment it plans to install on its roof to shorten the last mile and provide the Wireless Connections a latency advantage. In such case, the use of wireless equipment on the roof of the Mahwah data center, the Exchange’s property, would be the facility of the Exchange subject to the rule filing process.

website, are branded with the Exchange’s trademark and logo on the very first page.²⁸ Thus, not only do the Wireless Connections directly use the on-premises property of the Exchange, but the imprimatur of “NYSE” is provided to the technical reference guide governing the service. If this is not the type of use of the “intangible property” of the Exchange contemplated by Congress in defining the term “facility,” then it is unclear what would be.

III. Exchanges Can—and Have—Provided Themselves with Unfair Competitive Advantages

As recently highlighted in the Commission’s proposed reforms to the governance structure of the SIPs, exchanges today operate as for-profit “publicly held companies seeking to maximize shareholder value.”²⁹ These commercial incentives naturally extend to all aspects of an exchange and its affiliates’ businesses, including, in the instant case, the Wireless Connections and other services to provide low-latency connectivity to the Exchange. Crucially, however, exchanges are uniquely able to tip the scales in their favor against competitors because they control the points of information entry and exit to and from their systems (*e.g.*, matching engines, colocation cabinets, “last mile” cross connects). Exchanges, therefore, have both the incentive and the ability to provide themselves with competitive advantages in connectivity and market data transmission.

It is precisely because of an exchange’s incentive and ability to advantage their own low latency services, however they are provided (*e.g.*, through an affiliate or exclusive provider), that such services should be considered facilities of the exchange providing them. This will provide greatly needed transparency to these services through the public notice and comment process, as well as subject them to Commission review and approval to ensure such services are consistent with Exchange Act requirements.³⁰ The discussion below first explains the need for transparency and oversight—both specific to the Wireless Connections in the Proposal, and more generally, in light of NYSE’s steps toward placing wireless equipment on the roof of the Mahwah data center—and then considers additional steps the Commission should take to improve transparency.

a. The Proposal Lacks Important Details and Statutory Justification

The Proposal lacks sufficient detail to elicit meaningful public comment and facilitate the Commission’s review for consistency with the Exchange Act. Specifically, the Proposal fails to note that the NYSE Private Pole is approximately 700 feet closer to the Exchange’s matching engine than the closest public pole that all other market participants must use if they do not use the Wireless Connections, as seen in Appendices

²⁸ ICE Global Network & Colocation Technical Specifications, Version 3.1 (October 2019), *available at* https://www.nyse.com/publicdocs/data/IGN_Colo_US_Technical_Specifications.pdf.

²⁹ SIP Governance Release at 2173.

³⁰ 15 U.S.C. 78f(b).

A and B.³¹ Although it may not seem like a significant distance, the delay of data through 700 feet of fiber is meaningful in today's markets. For comparison, 700 feet is twelve times longer than the fastest tick-to-trade delay documented by the derivatives exchange Eurex in a 2019 presentation.³² U.S exchanges too are attentive to seemingly small advantages in latency: with at least one validating to one foot of accuracy the equidistant fiber cross connects to its common access point for wireless services. The Proposal further fails to justify why this geographic latency advantage is consistent with the Exchange Act, does not unfairly discriminate against market participants that do not use the Wireless Connections, and does not impose a burden on competition not necessary or appropriate in furtherance of the Exchange Act.³³

Regarding the disparity in access between the NYSE Private Pole and the public poles, the Exchange offers only that IDS “does not sell rights to third parties to operate wireless equipment on the pole, due to space limitations, security concerns, and the interference that would arise between equipment placed too closely together.”³⁴ This paltry explanation raises the immediate question of why the NYSE Private Pole is incapable of supporting additional market participants' wireless equipment when the public poles are capable of doing so. Notably, in seeking to extend this latency advantage by placing wireless equipment on the roof of the Mahwah data center (discussed below) in March 2019, the Exchange also sought permission to add four additional antennas to the NYSE Private Pole.³⁵ Adding four additional antennas severely undercuts any alleged concerns regarding “space limitations” or interference between such equipment and casts doubt on the veracity of past representations to this effect.³⁶ The NYSE Private Pole clearly had room for additional wireless equipment that could have been opened up to at least some competing wireless network providers if the

³¹ Appendix C additionally shows the path by which the messages are sent to and from the respective poles.

³² Andreas Lohr, Senior Expert, Derivatives and Cash Trading IT, Deutsche Borse Group, *Open Day 2019 T7@ infrastructure and latency* (Sept. 26, 2019), <https://www.deutsche-boerse.com/resource/blob/1637232/da0ae611905acda0d7502260903a0835/data/Open-Day-2019-T7-Latency-Roadmap-Andreas-Lohr-final.pdf>. The presentation demonstrates on slide 24 that the fastest tick-to-trade speed is roughly 84 nanoseconds, which is roughly 1/12 of a microsecond. One microsecond is roughly the time for data to travel through 700 ft. of fiber.

³³ 15 U.S.C. 78f(b)(5) and (8).

³⁴ Proposal at 8945.

³⁵ Board of Adjustment Meeting Minutes, Township of Mahwah, at 4 (March 20, 2019) (“[n]othing is being removed from the tower [NYSE Private Pole]; four (4) 1 foot diameter antennas are being added.”) available at <http://www.mahwahtwp.org/uppages/BOA%20MINUTES%20MARCH%2020,%202019.pdf>.

³⁶ See e.g., Exchange Act Release No. [78387](#), 81 FR 49315, 49318 (July 27, 2016) (SR-NYSE-2016-49) (“[t]he Exchange will not sell rights to third parties to operate wireless equipment on the pole, due to space limitations, security concerns, and the interference that would arise between equipment placed too closely together.”) and Exchange Act Release No. [76374](#), 80 FR 70021, 70023 (Nov. 12, 2015) (SR-NYSE-2015-52) (same quotation).

Exchange had chosen to do so.³⁷ Instead, the Exchange has reserved this access point to advantage its own services.

The Proposal contains no discussion of the Exchange affording its affiliate's service with a latency advantage, the significant conflict of interest that this presents, and why this advantage is consistent with the Exchange Act. It is the Exchange's burden to demonstrate the Proposal's consistency with the Exchange Act and a "mere assertion that the proposed rule change is consistent with those requirements . . . is not sufficient."³⁸

b. The Exchange Is Seeking to Cement Its Competitive Advantage with Wireless Equipment on the Mahwah Data Center Roof

The absence of any statutory justification for the geographic latency advantage is especially troubling as the Exchange seeks to further cement this advantage by placing wireless equipment on its roof. Connecting to the roof of the Mahwah data center would provide the Wireless Connections an insurmountable latency advantage in the communication of orders and the distribution of market data between exchanges. In other words, NYSE would have a monopoly on the fastest means of communication between its data center and the Third Party Data Centers.

The numerous market participants that value low-latency connections in carrying out their trading and investment strategies, including market makers and large institutional brokers, would have little choice but to use the Wireless Connections to remain competitive.³⁹ The Exchange would have inelastic demand for the Wireless Connections from its member firms and competition from other wireless network providers, like the Firm, that continually work toward establishing the fastest, most reliable wireless network would be undermined if not eliminated, reducing investor choice and potentially raising costs. The Exchange's dominant position would arise not from new technology or innovation, but instead by using its control over the Mahwah

³⁷ See Remarks of Kyle McGinley before the Township of Mahwah Board of Adjustment Hearing at 26:10 (March 20, 2019) ("March 2019 Mahwah Variance Board Hearing") (with the additional four antennas, the NYSE Private Pole "reaches a capacity of 87% meaning there is 13 percent excess capacity to install equipment.") available at <http://mahwahnj.swagit.com/play/03202019-1419>. To the extent the NYSE Private Pole as currently constructed could not support all of the wireless equipment that is currently supported on the public poles, this would seem to be a deliberate design choice by the Exchange to establish a latency-advantaged pole with limited capacity for its own use (or use by its affiliate). The Exchange must justify why such a design choice is consistent with Exchange Act requirements when more equitable designs are clearly on offer (e.g., construct the NYSE Private Pole with the same capacity as the public poles, or eliminate the NYSE Private Pole and have the Wireless Connections connect to the public pole).

³⁸ 17 CFR 201.700(b)(3).

³⁹ The Commission observed over 10 years ago that for many market participants, "[s]peed 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."³⁹ Exchange Act Release No. [61358](#), 75 FR 3593, 3610 (Jan. 21, 2010) ("Equity Market Structure Concept Release"). See also Securities Exchange Act Release No. [84432](#), at 42 (Oct. 16, 2018) (noting that today the "largest market participants, typically market makers and large institutional brokers, compete in a market where: (1) competition is largely based upon speed ...").

data center to advantage itself and disadvantage competitors. But for the Commission having instructed the Exchange to file the Proposal, there would be no public notice or review of the Wireless Connections, including the fees charged for this monopoly product, for consistency with Exchange Act requirements.⁴⁰

Section 6(b)(8) of the Exchange Act requires that the rules of an exchange must not “impose any burden on competition not necessary or appropriate in furtherance of” the Exchange Act.⁴¹ As previously noted, the Exchange bears the burden of demonstrating why any latency advantage, including the existing advantage afforded to the Wireless Connections through use of the NYSE Private Pole, does not burden the competitive market for the provision of wireless services.⁴² This type of practice dampens the incentive for innovation and the provision of better, and more reliable and efficient services. There is also no question that the Exchange’s motive is to reduce the latency of the Wireless Connections both through use of the NYSE Private Pole and in its effort to place wireless equipment on the Mahwah data center roof. Under oath before the Township of Mahwah’s Board of Adjustments on March 20th, 2019, the telecommunications engineer working for the Exchange, stated that the “new rooftop antenna provides a better latency,” “[t]he whole point is . . . to make the data delivery faster,” and “this is more desirable than the other three monopoles [east of the Mahwah data center].”⁴³

These latency advantages also require scrutiny under Section 6(b)(5) of the Exchange Act, which requires, among other things, that the rules of an exchange be designed to “remove impediments to and perfect the mechanism of a free and open market and a national market system” and not be designed to permit unfair discrimination between market participants.⁴⁴ The national market system is expressly designed in contemplation of communicating quickly between different exchanges.⁴⁵ Using the

⁴⁰ 15 U.S.C. 78f.

⁴¹ See 15 U.S.C. 78f(b)(8).

⁴² 17 CFR 201.700(b)(3).

⁴³ Remarks of Sanjamjit Kaur March 2019 Mahwah Variance Board Hearing, *supra* note 37, at 46:18 (“the whole point of doing the wireless links [to the rooftop] is to reduce the reliance on fiber and make the data delivery as fast as it can be...”). In a subsequent variance hearing on April 3, 2019, in explaining why the rooftop location was chosen, NYSE Counsel, Michael Levine of Fox Rothschild stated that “[t]he proximity of the antennas to the data center . . . is what enables the low latency aspect of the plan that our expert testified to is critical to its performance in furtherance of transmitting market data for the stock exchange.” Remarks of Michael Levine before the Township of Mahwah Board of Adjustment Hearing at 23:35 (April 3, 2019) available at <http://mahwahnj.swagit.com/play/04032019-1173>.

⁴⁴ 15 U.S.C. 78f(b)(5).

⁴⁵ Because the same stocks trade on multiple exchanges at different prices and because market participants cannot trade through a protected quotation on another exchange, the speed with which a market participant is able to communicate among exchanges becomes an essential component to obtain the best price for an execution or avoid an unfavorable execution. In adopting Regulation NMS, the Commission acknowledged that “[o]ne of the primary effects of the Order Protection Rule adopted today will be to promote much greater speed of execution in the market for exchange-listed stocks.” Exchange Act Release No. [51808](#), 70 FR 37495, 37519 (June 29, 2005) (“Regulation NMS Adopting Release”).

Exchange’s control over its data center to provide itself, through its affiliate IDS and the Exclusive Vendor, with a material latency advantage and not disclosing these efforts to the Commission and the public under a specious interpretation of what constitutes a “facility” does not promote a free and open market system.

The latency advantage afforded to the Wireless Connections (both currently and on any future rooftop connection) also unfairly discriminates against market participants that do not use or wish to use the Exchange’s Wireless Connections. Market participants using the Exchange’s Wireless Connections are allowed to enter through a special door with faster access to the Exchange than those that do not. The Commission has previously expressed concern regarding an exchange giving a latency advantage to its own service where that service competes with other available service providers. For example, in the initial design of Investors’ Exchange LLC (“IEX”), IEX introduced a fiber coil to add 350 microseconds of latency, which purportedly applied equally to all market participants—however, IEX’s initial design allowed its affiliated routing broker-dealer to bypass the coil in routing to away markets.⁴⁶ Under pressure from the Commission and public commenters following publication of IEX’s exchange application, IEX amended its application to eliminate the speed advantage provided to its affiliated broker-dealer routing functionality.⁴⁷ Both the IEX application and the present Proposal involve facilities of an exchange, and services in which an exchange competes with other available service providers. The Exchange’s Wireless Connections enjoy a speed advantage that is unavailable to competing providers, which unfairly discriminates against market participants who may choose to use a competing service.⁴⁸ The Commission should be similarly concerned in this case.

c. The Need for Additional Transparency

Transparency is the first step toward identifying and addressing latency or other advantages an exchange may provide itself that may be unfairly discriminatory and anti-

⁴⁶ Exchange Act Release No. [77406](#), 81 FR 15765, 15768 (Mar. 24, 2016) (noting the SEC’s interest in commenter’s further views regarding “concerns that IEX’s routing functionality and IEXS would have an advantage over other routing broker-dealers that would be unfairly discriminatory and an inappropriate burden on competition”).

⁴⁷ *Id.*

⁴⁸ That all broker-dealers are free to choose to use the Exchange’s latency advantaged service (provided through its affiliate IDS) over competing service providers neither eliminates the Exchange’s conflict of interest in offering the Wireless Connections nor renders them free from unfair discrimination. For example, in a similar context in which the SEC approved an exchange arrangement with an affiliated outbound routing broker, the SEC stated that “[a] conflict of interest would arise if the national securities exchange (or an affiliate) provided advantages to its broker-dealer that are not available to other members.” Exchange Act Release No. 44983 (Oct. 25, 2001), 66 FR 55225, 55233 (Nov. 1, 2001) (SR-PCX-00-25). The Commission further explained that “advantages, such as greater access to information, improved speed of execution, or enhanced operational capabilities in dealing with the exchange, might constitute unfair discrimination under the [Exchange] Act.” *Id.* Thus, notwithstanding that the Wireless Connections are available to all market participants, the Exchange has provided enhanced operational capabilities in dealing with the Exchange, raising precisely the same unfair discrimination concerns as previously articulated by the Commission.

competitive. In Commission’s recent proposed amendments to the Regulation NMS (the “Market Data Infrastructure Proposal”), the Commission explicitly acknowledged that “exchanges have an inherent competitive advantage in the provision of connectivity services within exchange facilities . . .”⁴⁹ Exchanges also operate as for-profit entities and are therefore incentivized to seek any competitive advantage they can. However, as previously noted, an exchange’s rules are prohibited from being unfairly discriminatory or imposing any burden on competition not necessary or appropriate in furtherance of the Exchange Act.⁵⁰ Given the inherent competitive advantage exchanges have in providing connectivity, and in light of the exchanges’ statutory obligations, additional transparency is necessary to (i) identify potential competitive advantages and (ii) facilitate the Commission’s review of any such advantages for consistency with Exchange Act requirements.

Specifically, exchanges should be required to provide clear disclosure regarding any latency or other advantage provided, directly or indirectly, to any exchange service, including through the use of affiliated or select vendors. To the extent there is a speed or other advantage, further detail *must* be provided regarding such advantage including a description of:

- (1) *Magnitude* – the magnitude of the advantage, as measured in microseconds, distance (*e.g.*, in the case of a geographic latency advantage), or otherwise;⁵¹
- (2) *Implementation* – how the exchange (with or through affiliates or vendors) provides such advantage (*e.g.*, by reducing geographic latency or adding latency to other connections through a longer fiber route);
- (3) *Availability* – who may be provided with the advantage and on what terms and conditions as well as who would not be able to use the advantage;
- (4) *Impact* – how those who do not avail themselves of the advantage (or are not able to) may be negatively impacted by the advantage;
- (5) *Exchange’s Interest* – how the exchange (or its affiliates or selected vendors) are likely to benefit by providing the advantage;

⁴⁹ Exchange Act Release No. [88216](#) at n.51 (Feb. 14, 2020) [Federal Register publication pending].

⁵⁰ 15 U.S.C. 78f(b)(8). Exchange rules are also prohibited not permit unfair discrimination

⁵¹ In past filings related to colocation and low latency services with the Commission, exchanges have glossed over the differences in speed. For example, in a 2016 NYSE filing related to distributing market data through a wireless connection, the Exchange stated that “[b]ased on the information available to it, the Exchange believes that its proposed wireless connection would provide data *at the same or similar speed* and at the same or similar cost as the other wireless networks” (emphasis added). Exchange Act Release No. [77119](#), 81 FR 8313 (Feb. 18, 2016) (SR-NYSE-2016-01). While this statement is technically true, it is also misleading. Market data that is systematically slower by even a single microsecond is *similar* in speed but completely *dissimilar* in value. For example, Nasdaq sells a variety of low latency connectivity options and the 10G Ultra connectivity is faster by “2 to 5 microseconds.” Nasdaq Co-Location (CoLo) *available at* <http://nasdaqtrader.com/Trader.aspx?id=colo>. Nasdaq, or any exchange, would be unlikely to offer such a product if there were not a real advantage to reducing latency by two to five microseconds.

- (6) *Consistency with the Exchange Act* – as with all rule filings, a description of why the advantage is consistent with Exchange Act requirements including how the advantage does not unfairly discriminate against market participants and does not unduly burden competition.

This additional transparency should extend to any service relating to connectivity to or colocation at the exchange, the distribution or redistribution of market data (including away from an exchange’s data facility), and any preferential access arrangements afforded to certain market participants or other trading centers.⁵²

This additional transparency is necessary even under the competing consolidator model recently proposed by the Commission. Under the Market Data Infrastructure Proposal, the Commission would address these types of latency advantages in the distribution of market data currently provided by the securities information processors (“NMS data”) by requiring in proposed Rule 603(b) that an exchange provide market data “in the same manner and using the same methods, including all methods of access and the same format” as it provides that information to any other person.⁵³ Pursuant to this requirement, any new form of access an exchange provides to consumers of its proprietary market data must be extended to competing consolidators and self-aggregators, and exchanges would be required to provide NMS data in a latency-neutralized manner.⁵⁴

The Firm strongly supports these proposed requirements, but notes that they would not necessarily extend to faster means of sending orders to the Exchange, such as through the Wireless Connections.⁵⁵ Thus, while the Market Data Infrastructure Proposal might curb latency advantages regarding the transmission of market data, it may not do so for order entry or connectivity more generally.⁵⁶ Accordingly, these additional

⁵² Notably, alternative trading systems that trade NMS stock (“NMS Stock ATSS”) are required to publicly disclose preferential access arrangements that their operators or their affiliates may have with other trading centers as well as any means by which a subscriber could increase the speed of communication with the NMS Stock ATS. See [Form ATS-N](#), Part II, Item 4 (requiring disclosure of “any formal or informal arrangements (e.g., mutual, reciprocal, or preferential access arrangements)” between the broker-dealer operator of the NMS Stock ATS (or its affiliates) and another trading center) and Part III, Item 6 (requiring disclosure of any colocation related services, or “any other means . . . to increase the speed of communication with the ATS”). There are, however, no similar requirements expressly demanding these disclosures from exchanges trading the exact same securities.

⁵³ Market Data Infrastructure Proposal, *supra* note 49, at 564.

⁵⁴ *Id.* at p. 175-176 (noting that exchanges would not be permitted to provide NMS data “in a faster manner to any affiliate exchange, a subsidiary or other affiliate that operates as a competing consolidator or a subsidiary or affiliate that competes in the provision of proprietary data” and “Rule 603(b) would require that all access options be provided in a latency-neutralized manner such that all participants within the exchange’s data center . . . would receive the data at the same time, regardless of their location or status within the data center.”)

⁵⁵ See *supra* note 6 and accompanying text (noting that the Wireless Connections can be used to transmit orders to the Exchange).

⁵⁶ It is also possible that the Market Data Infrastructure Proposal might take a significant amount of time to be adopted or never be adopted. Transparency around latency advantages cannot wait on the prospect of

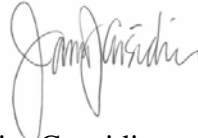
disclosures remain essential, including in the instance case, to facilitate meaningful public comment and Commission review notwithstanding recent commendable efforts by the Commission to address these types of latency advantages.

IV. Conclusion

We support the Commission requiring the Exchange to treat the Wireless Connections as facilities. We nonetheless believe the Proposal requires further factual detail and statutory justification before it could be approved. The Proposal is emblematic of a broader lack of transparency in areas where an exchange offers services (often with or through an affiliate or an exclusive provider) that compete with other service providers. We urge the Commission to demand greater transparency regarding latency or other advantages relating to all exchanges connectivity and market data-related services.

Please feel free to contact us with us with any questions at (312) 948-9188.

Sincerely,



Jim Considine
Chief Financial Officer
McKay Brothers, LLC

cc: The Hon. Jay Clayton, Chairman
The Hon. Hester M. Peirce, Commissioner
The Hon. Elad L. Roisman, Commissioner
The Hon. Allison Herren Lee, Commissioner

Mr. Brett Redfearn, Director, Division of Trading and Markets
Mr. Christian Sabella, Deputy Director, Division of Trading and Markets
Ms. Elizabeth Baird, 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

S.P. Kothari, Director, Division of Economic and Risk Analysis

some future rule being adopted and is, in any case, necessary in the instance case for the Exchange to demonstrate the Proposal's consistency with the Exchange Act.

APPENDIX A

NYSE Datacenter - Campus Overview
1700 MacArthur Blvd
Mahwah, NJ



APPENDIX B

“Last Mile” Fiber Cable Routes

Fiber Routes

Distance between a NYSE Customer Cabinet and points in ingress/egress:
~2600 feet - public poles
~1900 feet - NYSE Pole
~1050 feet - NYSE Roof

Over ¼ mile of distance is added to all market participants not on the NYSE Roof.



APPENDIX C

Wireless Connectivity Path

