[INITIAL BRIEF]

[ORAL ARGUMENT NOT YET SCHEDULED]

No. 20-1470

IN THE UNITED STATES COURT OF APPEALS
FOR THE DISTRICT OF COLUMBIA CIRCUIT

INTERCONTINENTAL EXCHANGE, INC., ICE DATA SERVICES WIRELESS LLC, NYSE TECHNOLOGIES CONNECTIVITY, INC., ICE DATA CONNECTIVITY & FEEDS, INC., NEW YORK STOCK EXCHANGE LLC, NYSE AMERICAN LLC, NYSE ARCA, INC., NYSE CHICAGO, INC., AND NYSE NATIONAL, INC.,

Petitioners,

v.

SECURITIES AND EXCHANGE COMMISSION,

Respondent,

On Petition for Review of a Final Order
of the Securities and Exchange Commission

BRIEF OF *AMICI CURIAE* MCKAY BROTHERS LLC, QUINCY DATA LLC, VIRTU FINANCIAL, INC., AND JUMP TRADING, LLC IN SUPPORT OF RESPONDENT AND DENIAL OF THE PETITION FOR REVIEW

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CERTIFICATE AS TO PARTIES, RULINGS, AND RELATED CASES

(A) Parties and *Amici*: Except for *amici* McKay Brothers LLC, Quincy Data LLC, Virtu Financial, Inc., Jump Trading, LLC, Securities Industry and Financial Markets Association, FIA Principal Traders Group, and any *amici* who have not yet appeared in this appeal, the parties that appeared in the proceedings below and that appear in this Court are listed in petitioners' brief.

(B) Ruling under Review: Petitioners seek review of the Securities and Exchange Commission's Order captioned *Self-Regulatory Organizations; New York Stock Exchange LLC, NYSE American LLC, NYSE Arca, Inc., NYSE Chicago, Inc., NYSE National, Inc.; Notice of Filings of Partial Amendment No. 3 and Order Granting Accelerated Approval to Proposed Rule Changes, each as Modified by Partial Amendment No. 3, to Establish a Wireless Fee Schedule Setting Forth Available Wireless Bandwidth connections and Wireless Market Data Connections*, Release No. 34-90209, 85 Fed. Reg. 67,044 (Oct. 15, 2020).

(C) Related Cases: This case was not previously before this Court or any other. To *amici*'s knowledge, there are no other related cases.

CORPORATE DISCLOSURE STATEMENT

McKay Brothers LLC is a specialty telecommunications company, which uses wireless and wired technologies to offer low-latency transport services to financial market participants. McKay's affiliate Quincy Data LLC is a distributor of low-latency U.S. equities market data. Wireless services are used by a variety of firms to trade, manage risk, and make markets. Both companies offer services on a level playing field basis—that is, they make their fastest products available to all subscribers. Quincy also provides small firm discounts to broaden and diversify access to low-latency data. Neither McKay nor Quincy has a parent company, and no public company has an ownership interest of 10% or more in either firm.

Virtu Financial, Inc. is a leading financial firm that leverages cutting-edge technology to deliver liquidity to the global markets and innovative, transparent trading solutions to its clients. Virtu operates as a market maker across numerous exchanges in the U.S. and is a member of all U.S. registered stock exchanges. Virtu's market structure expertise, broad diversification, and investment in execution technology enable it to provide competitive bids and offers in over 25,000 securities, at over 235 venues, in 36 countries worldwide. As such, Virtu broadly supports innovation and enhancements to transparency and fairness which enhance liquidity to the benefit of all marketplace participants. Virtu does not have a parent company, and no public company has a 10% or greater ownership in the firm.

Jump Trading, LLC is part of the Jump Trading Group (collectively, "Jump"), a research-driven global trading and investment firm. Jump's activities range from short-duration (*i.e.*, low-latency) and longer-duration algorithmic trading to venture capital investing. Jump Trading, LLC is wholly-owned by Jump Trading Holdings, LLC, which is wholly-owned by Jump Financial, LLC and in which Jump Traders, LLC has an interest. Neither Jump Financial, LLC nor Jump Traders, LLC has any parent company, and no public company has a 10% or greater ownership interest in Jump Financial, LLC, Jump Traders, LLC, or in any other Jump Trading Group company.

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GLOSSARY

Commission or SEC	United States Securities and Exchange Commission
Exchanges	New York Stock Exchange LLC, NYSE American LLC, NYSE Arca, Inc., NYSE Chicago, Inc., and NYSE National, Inc.
Reg NMS	Regulation National Market System

INTEREST OF *AMICI CURIAE*[1]

This case concerns wireless services that allow high-speed, or "low-latency," communication and transmission of market data between the major national equities exchanges.[2] These services (the "Wireless Connections") are operated by ICE Data Services, an affiliate of the NYSE group of exchanges (the "Exchanges"). They provide wireless connectivity between the Mahwah, New Jersey data center that houses the Exchanges' electronic trading and execution systems and the corresponding data centers of exchanges like Nasdaq (in Carteret, New Jersey) and Cboe (in Secaucus, New Jersey). The Exchanges seek review of an order of the Securities and Exchange Commission (the "Commission" or "SEC") determining that the Wireless Connections are subject to Commission oversight as exchange "facilities" under 15 U.S.C. § 78c(a). *See* JA__[85Fed.Reg.67,044,67,047–49].

The Commission reached its conclusion in part because the Exchanges have granted the Wireless Connections exclusive use of a private pole on the premises of the Exchanges' Mahwah data center. That private pole affords quicker access (via a shorter fiber connection) to the Exchanges' trading systems, and, thus, a material

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[1] All parties consent to the filing of this brief. No counsel for any party authored this brief in whole or in part. No party or party's counsel, and no other person or entity, other than *amici*, their members, and counsel, contributed money to fund preparing or submitting the brief.

[2] "Latency" is the time it takes information to traverse a communication pathway. The lower the latency, the faster information traverses that pathway.

advantage over competing wireless services providers. JA__[*Id.*67,048–49]. After concluding that the Wireless Connections were "facilities," the Commission approved the Exchanges' proposed fees—but only after they agreed to amend their fee filings to adopt policies neutralizing their unfair competitive advantage. JA__[*Id.*67,049–54]. The Exchanges now contend they should not have been required to adopt these policies or even submit the fees for Commission review because the Wireless Connections are not "facilities" under the Exchange Act. ICE Br. 24–26.

McKay Brothers LLC is a telecommunications provider that uses microwave and fiber technologies to offer low-latency data transport services. McKay's affiliate Quincy Data LLC is a market-data distributor that uses McKay's wireless network to provide access to low-latency U.S. equities market data. Together, McKay and Quincy compete with the Wireless Connections to provide market participants connectivity and market-data transmission between the Mahwah data center and the Nasdaq and Cboe data centers in Carteret and Secaucus.[3]

[3] The Exchanges also provide connectivity services between the Mahwah data center and a data center in Markham, Canada. Because McKay and Quincy do not compete with the Exchanges' Mahwah-to-Markham services, this brief does not address the Commission's grounds for concluding that those services, too, are "facilities" under the Exchange Act. Therefore, the term "Wireless Connections" here refers only to the Mahwah-to-Carteret and Mahwah-to-Secaucus routes.

Virtu Financial, Inc. is one of the world's largest providers of financial services, including trading products and market-making services. Jump Trading, LLC is part of the Jump Trading Group, a proprietary trading and investment firm. Jump's algorithmic trading includes low-latency trading strategies. To avoid a competitive disadvantage, both Virtu and Jump seek out the lowest-latency connectivity services available for their principal or agency trading strategies. Both are customers of McKay's and Quincy's wireless connectivity and/or market-data services. While Virtu and Jump are competitors, they have also become joint venture partners in a wireless communications business that provides them with low-latency connectivity to trading venues, including to the Exchanges' Mahwah data center. Thus, Virtu and Jump are both providers (to themselves) and consumers of wireless services.

As providers and/or consumers of competing wireless services, *amici* have a substantial interest in ensuring that the Commission can prevent the Exchanges from using their control over the Mahwah data center to unfairly advantage their affiliate services. *Amici* strongly support the Commission's determination that the Wireless Connections are exchange "facilities" subject to SEC oversight. Without such oversight, the Exchanges will undoubtedly entrench and augment the Wireless Connections' unearned latency advantage, undermining fair competition in the wireless services market that is essential to the operation of the national market system.

ARGUMENT

To prevent exchanges from using control over their facilities to discriminate against market participants and hinder fair competition, the Exchange Act authorizes the Commission to regulate as exchange "facilities" certain services granted advantaged access to the "premises or property" of an exchange "for the purpose of effecting or reporting" exchange transactions, including "any system of communication to or from the exchange." 15 U.S.C. § 78c(a)(2). The Commission correctly concluded that the Wireless Connections are "facilities" under this definition. The Wireless Connections provide a "system of communication to [*and*] from the exchange" that has been afforded the exclusive "right to … use" the Exchanges' "property"—the private pole—on the "premises" of the Exchanges' Mahwah data center.

Seeking to evade Commission oversight of their anticompetitive practices, the Exchanges claim that the Wireless Connections are "ancillary services disconnected from the actual buying and selling of securities," ICE Br. 52, and that Commission oversight "would put *them* at a significant competitive disadvantage," ICE Br. 24 (emphasis added). The opposite is true. Intermarket connectivity services are not "ancillary"; they are integral to how exchanges function in today's national market system and essential for many firms to fulfill their regulatory obligations while trading competitively. *See infra*, Part I. Without Commission oversight, nothing will prevent the Wireless Connections from leveraging their affiliate relationship with

the Exchanges to obtain exactly the sort of unfair competitive advantage and unchecked pricing power that Commission regulation of exchange "facilities" was intended to prevent. *See infra*, Part II. Because the Commission correctly concluded that the Wireless Connections fall within the Exchange Act's definition of "facility," *see infra*, Part III, the petition for review should be denied.

I. The Wireless Connections Provide Intermarket Communications Services That Are Integral To The Modern Securities Marketplace.

The Exchanges' claim that wireless connectivity services are "ancillary" to core exchange functions relies on an anachronistic picture of exchanges as isolated trading centers operating independently of one another. *Cf.* ICE Br. 2, 52. That is not how the modern national market system functions. For the last half century, and certainly today, U.S. equities markets have, by congressional mandate, been inextricably linked, and connectivity services like the Wireless Connections are necessary for those markets to function. Participants in today's national market system require intermarket connectivity, and, because "even small degrees of latency affect trading strategies," many firms seek out the fastest connections available. 85 Fed. Reg. 16,726, 16,748 n.51 (Mar. 24, 2020). In short, as the Exchanges' effort to shield their affiliates' anticompetitive advantage illustrates, latency matters.

A. The national market system and today's trading environment incentivize high-speed intermarket connectivity.

By linking once-separate exchanges into an integrated national market system, Congress and the Commission have necessitated the efficient transmission of market information between trading centers. At the same time, technological change coupled with modern trading applications have motivated many market participants to obtain and react to that information as quickly as possible—*i.e.*, by using the lowest-latency connectivity available. 85 Fed. Reg. at 16,748 n.51.

1. Before the 1970s, securities exchanges operated as independent trading centers. *See, e.g.*, SEC, *Market 2000, An Examination of Current Equity Market Developments*, at I-2 (Jan. 27, 1994).[4] This had pernicious effects, including the "misallocation of capital, widespread inefficiencies, and … harmful fragmentation of trading markets," with the same security often trading on separate exchanges at dramatically different prices. S. Rep. No. 94-75, at 1 (1975).[5] To resolve these problems and ensure that investors could access the exchange where a security was trading at the optimal price, Congress amended the Exchange Act in 1975. The 1975 amendments empowered the Commission to create and regulate a national market system,

[4] https://www.sec.gov/divisions/marketreg/market2000.pdf.

[5] In the United States, a stock is permitted to trade on multiple exchanges simultaneously, *see* 15 U.S.C. § 78*l*(f), which can lead to these price differences.

"linking … all markets for qualified securities through communication and data processing facilities." 15 U.S.C. § 78k–1(a)(1)(D).

The Commission's initial attempt to realize this integrated market was the Intermarket Trading System. This system used computers to join the trading venues of the major equity exchanges, requiring them to provide electronic access to their displayed best quotes (*i.e.*, the lowest offers to sell and the highest offers to buy) and mechanisms for routing orders to the exchange with the best price. 43 Fed. Reg. 17,419, 17,419–20 (Apr. 24, 1978). While this system improved intermarket connectivity, technological change required further adaptation. 69 Fed. Reg. 11,126, 11,129 (Mar. 9, 2004). By the early 2000s, the matching of bids and offers that once took place manually on exchange trading floors was increasingly "effected electronically, as exchanges and their members use[d] sophisticated order delivery and accepting technologies and matching algorithms to perform core exchange functions." ICE Br. 4–5; *see also* 69 Fed. Reg. at 11,129.

The Commission responded to these changes with the 2005 Regulation National Market System ("Reg NMS"). Reg NMS adopted "a series of initiatives designed to modernize and strengthen the national market system … for equity securities," by "promoting fair competition among individual markets, while at the same time assuring that all these markets are linked together, through facilities and rules,

in a unified system that promotes interaction among the orders of buyers and sellers in a particular NMS stock." 70 Fed. Reg. 37,496, 37,496–99 (June 29, 2005).

Reg NMS accelerated the electronification and intermarket connectivity of the national market system. Among the initiatives Reg NMS adopted, two are especially relevant here. *First*, Rule 610, the Access Rule, requires exchanges to provide fair and nondiscriminatory access to quotations and limits the fees they can charge for that access. *See* 17 C.F.R. § 242.610. *Second*, Rule 611, the Order Protection Rule, requires broker-dealers to send their orders to whichever market is displaying the best price for that security or find a counterparty willing to match that best displayed price. *See id.* § 242.611.[6] Together, these rules (i) ensure market participants have fair access to the market data from exchanges' matching engines and (ii) prohibit broker-dealers from ignoring that information.

For example, suppose both the NYSE and Nasdaq exchanges are, at 11:30 am, displaying a quote to buy 100 shares of XYZ stock for $10. Then, at 11:31 am, a broker submits an order to sell 100 shares of XYZ on Nasdaq at the $10 price. This results in the execution of a trade on Nasdaq, and now the best quote to buy 100

[6] The Order Protection Rule supplemented broker-dealers' preexisting duty of best execution. *See* 70 Fed. Reg. at 37,538. The duty of best execution requires brokers to "use reasonable diligence to ascertain the best market for the subject security and buy or sell in such market so that the resultant price to the customer is as favorable as possible under prevailing market conditions." FINRA Rule 5310(a)(1).

shares of XYZ on Nasdaq is $9.99—one penny lower than on NYSE. This price difference creates the powerful incentive for those wishing to sell their shares of XYZ to route orders to NYSE where they can sell at $10.00 instead of the $9.99 price available on Nasdaq.

In this context, the Access Rule ensures that market participants can access the market data necessary to know when and where to route their orders to obtain the best price available (*e.g.*, the $10.00 price at NYSE). And the Order Protection Rule prohibits brokers from simply executing an investor's sell order on Nasdaq at the inferior price of $9.99 when they could have obtained the $10.00 price at NYSE. The broker must therefore route the sell order to NYSE or find a counterparty willing to match NYSE's displayed price of $10.00.

As this simplified example makes clear, a broker-dealer operating in today's national market system must be able to connect directly or indirectly to every market covered by the Order Protection Rule where a given security is trading so as to access the best displayed price. Only then will the broker-dealer be able to comply with the Order Protection Rule.

2. In addition to requiring intermarket connectivity, the national market system has also rendered low-latency market data and connectivity services critical for executing client orders, making markets, and managing risk. As the Commission has explained, "[o]ne of the primary effects" of Reg NMS is "to promote much greater

speed of execution in the market for exchange-listed stocks." 70 Fed. Reg. at 37,500 n.21. In today's high-speed marketplace, "[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." 75 Fed. Reg. 3,594, 3,610 (Jan. 21, 2010).

Every "microsecond"—one millionth of a second—matters because exchanges' "trading floors" are now electronic. Their matching engines are computerized, and the first order in wins the race to access the best displayed price. *See* 81 Fed. Reg. 49,432, 49,433 (July 27, 2016). Again, if the best quote to buy 100 shares of XYZ stock on Nasdaq is $9.99, but the best quote on NYSE is $10.00, there will be a race by XYZ sellers to obtain the higher price at NYSE. Losing these races time and again—even by a microsecond—can severely impair a firm's ability to offer competitive execution services to investors and to provide liquidity to the market.

The desire for low-latency intermarket connectivity has also driven investment in high-speed communication technology. This initially involved laying fiber-optic cable between the exchanges. More recently, because light travels faster in air than in the glass core of fiber-optic cables, many companies have invested in wireless (sometimes microwave) network technology. *See* 85 Fed. Reg. at 16,766. Despite technological development, physical distance remains a critical determinant of latency. The shorter the distance information must travel, the faster the connection will be. Thus, competing wireless services providers have invested in ever-more-

direct lines of connection between the exchanges to shorten the distance that information must travel along their wireless networks. *See id.* at 16,766.

Market participants have also taken steps to reduce latency. For example, firms consistently upgrade their trading systems to reduce "tick-to-trade" latency—*i.e.*, the time between receiving market information (a "tick") and responding with an order update (the "trade"). *See, e.g.*, 85 Fed. Reg. at 16,748 n.241. As of 2019, the fastest tick-to-trade intervals were around 84 nanoseconds, or *billionths* of a second. JA__[McKay.Cmnt.Ltr.8.n.32(Mar.10.2020)]. Market participants also reduce latency by purchasing "co-location services." That is, exchanges allow market participants to rent rack space in their data centers "to place their servers in close physical proximity to a trading center's matching engine," which "helps minimize network and other types of latencies between the matching engine of trading centers and the servers of market participants." 75 Fed. Reg. at 3,610. Underscoring the competitive significance of eliminating even small latencies, the Exchanges assure co-location customers that their fiber connections (and thus latencies) are equalized within the data center. *E.g.* JA__[85.Fed.Reg.67052.n.130)].

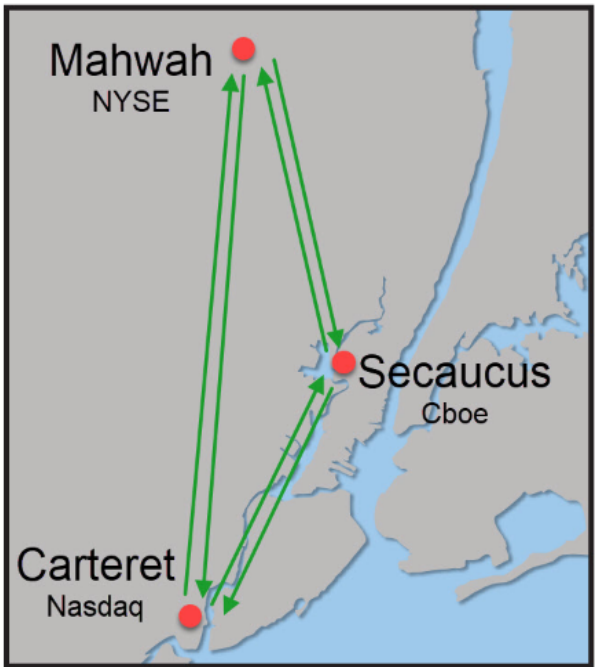
In short, the Exchanges' assertion that the Wireless Connections are "ancillary" is inconsistent with the reality of the national market system. Congress has mandated connections between exchanges, and the Commission has required market participants to use those connections. Low-latency intermarket connectivity services

allow market participants to trade competitively. They are integral to the modern securities marketplace.

B. The Wireless Connections compete with companies like McKay and Quincy to provide these essential connectivity services.

At the heart of the national market system is what is known as the New Jersey Triangle, which consists of connections between the three United States equity exchanges that account for the most trading volume: the NYSE exchanges (in Mahwah), the Nasdaq exchanges (in Carteret), and the Cboe exchanges (in Secaucus). *See* Exchange Act Release No. 34-90610, at 168 & n.534 (Dec. 9, 2020).[7]

Figure 1
"New Jersey Triangle"



[7] https://www.sec.gov/rules/final/2020/34-90610.pdf.

McKay and Quincy compete with the Wireless Connections to provide wireless connectivity services between the points on the New Jersey Triangle. Competition has driven many rounds of improvement, and the wireless connectivity paths are nearly as direct as the laws of physics allow, reducing the distance (and, thus, the latency) of the intermarket connections.

The Wireless Connections (like McKay and Quincy) provide two discrete but related services. *First*, they transport market data—*e.g.*, information about the quotes for stocks trading on a given exchange—from the Exchanges' matching engines in Mahwah to market participants located at the Secaucus or Carteret hubs. *See* ICE Br. 13 & n.7. *Second*, they enable market participants to respond to the information they receive by updating quotes and routing clients' or proprietary buy/sell orders (and related information) to and from the other exchanges in the New Jersey Triangle. *See* ICE Br. 13.

Many market participants need either direct or indirect access to both services. Broker-dealers generally co-locate at two or more of the three points on the New Jersey Triangle. There, they receive market data from the Wireless Connections' (or

a competitor's) service and then respond to that data by modifying quotes and routing orders using the Wireless Connections' (or a competitor's) bandwidth service.[8]

Both services also operate in essentially the same way, with information (market data or buy/sell decisions) traveling to or from the Exchanges through a series of connections. For example, market data from Mahwah traverses the following connections, or "legs," before reaching the Carteret or Secaucus data centers:

> Leg 1: The data travels from the Exchanges' matching engines through a fiber-optic "cross connect" to the wireless provider's equipment located inside the data center co-location hall.
>
> Leg 2: The data travels through another cross connect to the wireless provider's equipment just outside the co-location hall but still within the data center.
>
> Leg 3: The data travels through another cross connect to a pole outside the building where it can connect to the wireless network.
>
> Leg 4: The data is relayed along a series of towers comprising the wireless network until it reaches a distribution point (*e.g.*, another pole) at the third-party data center.
>
> Leg 5: The data travels through another cross connect to the wireless provider's equipment inside the third-party data center.
>
> Leg 6: The data travels through a final cross connect to the market participant's equipment also inside the data center.

As the legs of this journey show, market-data connections involve one-way transmission—*from* Mahwah *to* Secaucus or Carteret. Bandwidth connections follow the

[8] If, for example, a broker-dealer trades primarily at NYSE (and thus has co-located its servers at the Mahwah data center), the broker-dealer still needs timely information concerning trades occurring on Nasdaq and Cboe to inform its order-routing decisions and comply with Reg NMS.

same route, except they run both ways; market participants co-located in Secaucus or Carteret can send trading instructions *to* Mahwah and vice versa.[9]

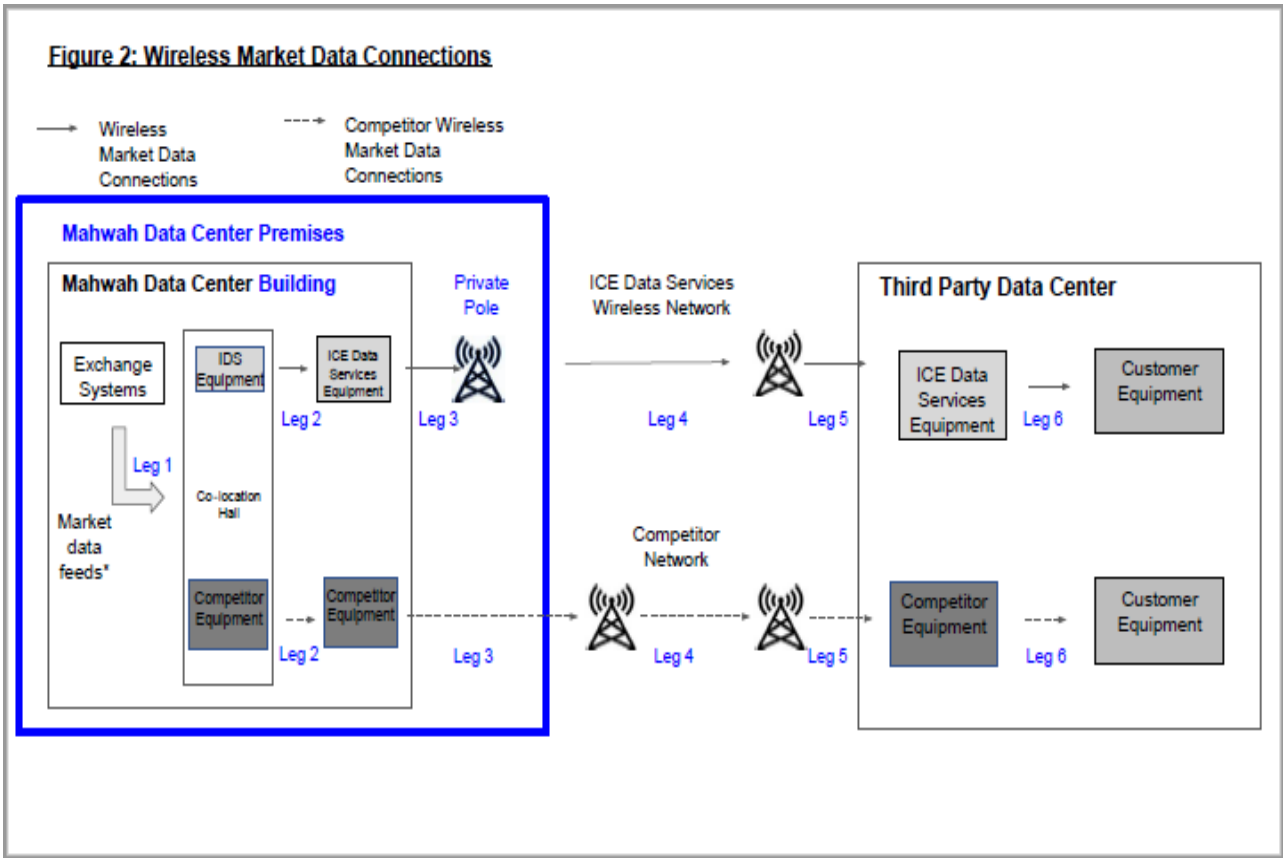
The Exchanges' brief provides diagrams illustrating this journey for both their bandwidth and market-data services. *See* ICE Br. 16, 18. But the Exchanges' diagrams are misleading. Neither diagram reveals that the Wireless Connections' data pole—where Leg 3 ends and Leg 4 begins—is *on* the Mahwah data center premises, whereas competing service providers like McKay must use poles *outside* the data center premises in the public right of way.

The following diagram revises the Exchanges' market-data diagram (with changes in blue) to give a more accurate[10] picture of how the system works:

[9] Another minor difference is that when a market participant co-located in Secaucus or Carteret uses the bandwidth connections to send an order for execution in Mahwah, it will travel through the market participant's data center cabinet in Mahwah before reaching the Exchanges' matching engines.

[10] The Exchanges' bandwidth connection diagram also omits any link between the Exchanges' systems and the customer equipment in the co-location hall. *See* ICE Br. 16. But if a market participant in Secaucus or Carteret uses bandwidth services to execute an order on the Exchanges' systems in Mahwah, that order must—and does—connect via another cross connect to the Exchanges' systems. Indeed, *amici* are unaware of *any* trading firm co-located in the Exchanges' data center that does not have a connection for executing orders on the Exchanges' system.

Figure 2



As Figure 2 shows, the Wireless Connections are competing with *amici* to provide essential connectivity services, but they are *not* competing on equal terms. While use of the private pole may seem insignificant, it creates, as explained below, a critical latency advantage that highlights the unfair and anticompetitive benefits the Exchanges have granted their affiliates.

II. Commission Oversight Is Necessary To Prevent The Exchanges From Giving The Wireless Connections An Anticompetitive—And Ultimately Insurmountable—Latency Advantage.

By granting the Wireless Connections exclusive use of a private pole on the Mahwah data center premises, the Exchanges have given their affiliates an unfair

latency advantage that competitors cannot replicate. As the Exchanges' rule filing amendments demonstrate, Commission oversight can—and, given the agency's Exchange Act mandate, *must*—prevent the Exchanges' anticompetitive conduct.

A. The Exchanges have used their control over the Mahwah data center to give the Wireless Connections a latency advantage that competitors cannot replicate.

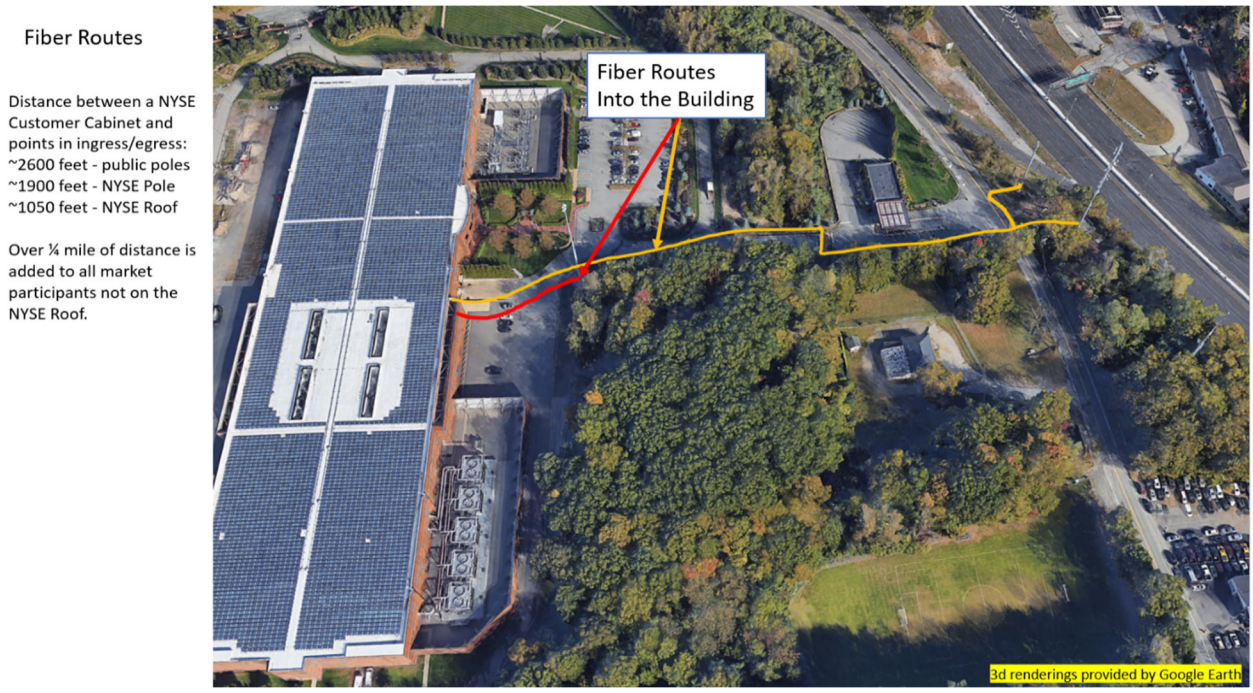
As noted above, the Exchanges have granted the Wireless Connections exclusive access to a private pole on the Mahwah data center premises just outside the building where the Exchanges' matching engines and the co-location cabinets are located. By contrast, *amici* must use a pole outside the Mahwah data center premises in the public right of way. Figure 3 presents an aerial view of these features:

Figure 3
Mahwah Data Center - Campus Overview

While the Exchanges acknowledge their use of the private pole in passing, *see, e.g.*, ICE Br. 23 n.10, they omit it from their relevant diagrams. Nor do they acknowledge what Figure 3 makes obvious—that the private pole is significantly closer (by approximately 700 feet) to the Exchanges' co-location cabinets than the poles located in the public right of way.

But the location of the private pole is the critical fact—the very crux of the issues presented here. This is because, as illustrated by Figure 4 below, the Wireless Connections' exclusive use of the private pole gives them a fiber route into the Mahwah data center—*i.e.*, Leg 3, described above—shown in red, that is 700 feet shorter than McKay's or any other competitor's Leg 3, shown in yellow.

Figure 4
Fiber Connection From Poles Into Data Center



The Wireless Connections' shorter Leg 3 provides a material latency advantage because it allows information traversing the Wireless Connections' route to travel further in air (where information travels faster) and a correspondingly shorter distance in fiber (where it travels slower). Thus, even if the total distance traveled along the Wireless Connections' and competitors' routes were the same, competitors' longer Leg 3—the extra 700 feet of fiber—imposes an extra microsecond of latency. *See* JA__[McKay.Cmnt.Ltr.8.n.32(Mar.10.2020)]. In today's markets even a fraction of a microsecond matters—a microsecond is roughly twelve times the fastest tick-to-trade delay documented in 2019. *See supra*, p. 11.

Besides offering a shorter route into the building, the private pole also provides an over-the-air latency advantage because it is 167 feet closer to Nasdaq's Carteret data center to the South than is the closest pole in the public right of way—that is, the Wireless Connections' Leg 4 to Carteret is shorter as well. *See* JA__[McKay.Cmnt.Ltr,App.C(Aug.28,2020)].[11]

[11] At the same time, with respect to Cboe's Secaucus data center, the private pole is at a 61-foot disadvantage. *See id*.

Figure 5
Wireless Connectivity Path

The Exchanges have also sought to create an insurmountable latency advantage by putting wireless equipment on their rooftop. As shown by Figure 4 above, if the NYSE rooftop were equipped to send and receive wireless data transfers, the Wireless Connections' Leg 3 could be a mere 1050 feet—less than half the distance from the closest pole available to competitors.

Indeed, the impetus for the underlying proposals was a June 2019 letter from Virtu notifying the SEC that the Exchanges had obtained a variance from the Town of Mahwah Zoning Board to add wireless equipment to the Mahwah data center

rooftop. *See* Virtu Letter at 1–2 (June 25, 2019).[12] The variance application, submitted by NYSE Group Inc. (an intermediate parent company of the Exchanges) and not ICE Data Services, sought capacity for only *one* wireless provider to locate an antenna on their roof, effectively excluding other wireless services providers. And the purpose of the rooftop equipment, the Exchanges explained, was to provide "better latency" because "the closer you are to the data center, the faster you would be." *Id.* at 2.

This rooftop strategy was not novel. In 2012, Nasdaq was allowed to place wireless equipment for market-data distribution on its rooftop, while contending there was insufficient space to accommodate competitors' equipment. *See* 78 Fed. Reg. 6,842, 6,844 (Jan. 31, 2013). Notably, Nasdaq recognized that this service was an exchange "facility," submitting a rule filing for Commission review. *Id.* at 6,842. Despite the anticompetitive concerns raised by Quincy, the Commission approved Nasdaq's proposal based on the exchange's promise that wireless services provided using the roof would be "at the same or similar speed" to other connections. *Id.* at 6,844. The difference of a few microseconds, however, may appear to make connectivity "similar" in speed, but the resulting service is of wholly dissimilar *value*, considering the competitive significance of obtaining the lowest-latency connections. In

[12] https://www.sec.gov/comments/4-729/4729-5880550-188760.pdf.

fact, it took McKay *six years* of investment and innovation to overcome the latency advantage that Nasdaq created by granting its preferred wireless services vendor use of the roof. *See* JA__[McKay.Cmnt.Ltr.5(June12,2020)].

If the Exchanges are allowed to place wireless equipment on the Mahwah data center roof—and if the Wireless Connections are not "facilities," the Commission cannot stop them—their latency advantage will be insuperable. McKay and other competitors already cannot replicate the 700-foot head start resulting from the Wireless Connections' use of the private pole. Without Commission oversight, nothing would prevent them from obtaining similar anticompetitive advantages on Legs 1 and 2, over which, like Leg 3, the Exchanges exercise total control. *Cf.* 85 Fed. Reg. at 16,731 n.51 ("The exchanges have an inherent competitive advantage in the provision of connectivity services within exchange facilities, while connectivity options made available elsewhere … are fully competitive."). Although McKay currently provides faster service than the Wireless Connections as a result of its investment in infrastructure and innovative technology enabling it to be faster along the other, "fully competitive" legs of the route, *id.*, that investment will be for nothing if the Wireless Connections can use the Mahwah data center roof, dramatically shortening their Leg 3. No other provider could then compete, and the Exchanges would be able to charge monopoly prices for the Wireless Connections.

In the proceedings underlying the Commission's Order, the Exchanges asserted that concerns about unfair competition were illusory because McKay currently provides the lowest-latency wireless connection. *See, e.g.*, JA__[NYSE.Cmnt.Ltr.5–6(May8,2020)]. But McKay's success in the wireless services market is, again, the result of extensive work, time, and investment to create the best and most efficient network. Evidence of competition between McKay and the Wireless Connections is hardly evidence of *fair* competition. Suppose the provision of wireless services were a race (hosted by the Exchanges on their affiliates' track). McKay could well be the fastest competitor—the Usain Bolt—in that race. The Exchanges' reliance on McKay's status as a market leader amounts to saying that because Usain Bolt is the fastest man alive, there is nothing *unfair* about giving the Exchanges' preferred runner a perpetual 700-foot head start.

B. The Wireless Connections' latency advantage harms competition.

The head start the Exchanges have given the Wireless Connections harms competition in the wireless services market for several reasons.

To begin with, granting one provider this type of unfair advantage chills the incentive for innovation and the provision of better, more reliable and efficient services, discouraging firms from entering or remaining in the market. As noted, it took McKay *six years* to overcome Nasdaq's latency advantage. Without Commission oversight—and without any concomitant need for exchange transparency—potential

entrants into the wireless services market will think twice. After all, years of investment developing a faster network could then be wiped out by an exchange's decision to shorten its route into or within the data center—*e.g.*, by mounting wireless equipment on the roof or moving the private pole—or adding unnecessary length to competing wireless providers' corresponding fiber connections.

As a result, the Wireless Connections could use their latency advantage to drive competitors out of business and, with no Commission oversight of pricing, extract monopolistic rents from market participants. Moreover, while a monopoly on wireless services would certainly harm broker dealers by inflating service fees, investors would bear the ultimate costs of monopolization in the form of higher execution pricing and less efficient markets, contrary to Congress's vision of a national market system promoting "economically efficient execution[s]" and "fair competition among brokers and dealers, among exchange markets, and between exchange markets." 15 U.S.C. § 78k–1(a)(1)(C).

C. The order under review illustrates that the Commission can prevent these anticompetitive harms.

The proceedings below illustrate the Wireless Connections' latency advantage, the Exchanges' eagerness to exploit it, and the Commission's ability to mitigate it through appropriate oversight of the Exchanges' rule filings.

Under protest, the Exchanges amended their initial rule filings three times to respond to comments by McKay, Virtu, and others highlighting the Wireless Connections' unfair latency advantage. In their first amendment, the Exchanges agreed to "negate proximity differences," equalizing "the length of the connection into the data center from the [private pole] … [and] the closest commercial pole." JA__[85Fed.Reg.67052]. Then, after commenters highlighted the lack of detail in this proposal, the Exchanges submitted a second amendment, which expressly "committed to the princip[le] of having no measurable latency differential due to [their] use of" the private pole, and provided detailed policies and procedures to accomplish this. *Id.* Finally, following further comments, the Exchanges agreed to account for "over-the-air" latency advantages. JA__[85Fed.Reg.67053]. These amendments demonstrate that there *are* material advantages stemming from the Wireless Connections' affiliate relationship with the Exchanges and their use of the private pole.

The amendments also demonstrate that Commission oversight is capable of forcing the Exchanges to eliminate their latency advantages—in particular, by mandating transparency and fair competition. And the Exchange Act requires the Commission to do exactly that. *See, e.g.*, 15 U.S.C. § 78f(b)(5) (requiring Commission to (i) "promote just and equitable principles of trade," (ii) "remove impediments to and perfect the mechanism of a free and open market and national market system,"

(iii) "protect investors and the public interest," and (iv) prevent "unfair discrimination" between market participants); *id.* § 78f(b)(8) (prohibiting exchanges from imposing any undue "burden on competition"). Absent Commission action pursuant to this authority, the Exchanges could immediately entrench their latency advantage by mounting equipment on their roof or altering on-premises fiber cabling, thereby eliminating competition in the wireless services market.

III. The Commission Correctly Concluded That The Wireless Connections Are Exchange "Facilities."

While the Commission offered multiple reasons that the Wireless Connections are exchange "facilities," *see* JA__[85Fed.Reg.67047–49], *amici* focus here on just one. Namely, the Wireless Connections are "facilities" because they possess an exclusive "right to … use" the Exchanges' "premises or property" "for the purpose of effecting or reporting" exchange transactions.

A. The Wireless Connections' exclusive use of the private pole places them squarely within the Exchange Act's "facility" definition.

The Wireless Connections' privileged access to the Exchanges' premises and property "'for the purpose of' effecting or reporting a transaction on the Exchange" renders them "facilities" under the Exchange Act. JA__[85Fed.Reg.67048–49]. The Commission's conclusion follows directly from the statute's text.

The Exchange Act provides that a "facility" of an exchange includes not only the "premises" and "tangible or intangible property" of an exchange, but also "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." 15 U.S.C. § 78c(a)(2). The Exchange Act further specifies that this includes "any system of communication to or from the exchange … maintained by or with the consent of the exchange." *Id.*

Here, the Wireless Connections possess an exclusive "right to … use" the Exchanges' "premises or property"—*i.e.*, the private pole located on the same lot as the data center—and the purpose of the service they provide is integral to "effecting or reporting a transaction on an exchange." *See supra*, Part I.A.[13] Indeed, the "effecting or reporting" of transactions in the national market system cannot, as a practical matter, occur without intermarket connectivity services. The "facility" definition's express inclusion of "any system of communication" demonstrates that the Wireless Connections are, in fact, squarely the sort of facility contemplated by Congress. Moreover, the Wireless Connections use NYSE's "intangible property" in their connectivity manual. That is, the Wireless Connections, available through the Exchanges' website, contain the Exchanges' NYSE branded logo and trademark on

[13] It is certain—not merely "possible," *see* ICE Br. 35—that the Wireless Connections facilitate transmission of buy and sell orders. The Commission rightly found that "the reason market participants pay fees for the Wireless Connections is to effect transactions on the Exchanges." JA__[85Fed.Reg.67048&nn.67–68] (citing comments by Virtu, McKay, Citadel Securities, the Healthy Markets Association, Bloomberg L.P., XR Securities LLC, and FIA Principal Trading Group).

their very first page, giving them the NYSE imprimatur. *See* JA__[McKay.Cmnt.Ltr.6-7.&.n.28].[14]

It makes perfect sense that the Exchange Act would, by focusing on an exchange's premises and property, subject the Wireless Connections to Commission oversight. After all, it is the Exchanges' control over the Mahwah data center's premises and property that has afforded the Wireless Connections their unfair latency advantage. *See supra*, Part II. As Congress recognized, an exchange's control over the space in which it operates allows it to engage in just the sort of "unfair discrimination," imposing exactly the undue "burden on competition," that Commission oversight should prevent. 15 U.S.C. § 78f(b)(5), (8). And the Exchanges' exploitation of their control is precisely the sort of unfair discrimination with respect to facility access that Rule 610 precludes. *See* 70 Fed. Reg. at 37,497.

The Exchange Act's principles of "fair competition" and nondiscrimination reinforce the statute's plain text authorizing regulation of the Exchanges' affiliate Wireless Connections. As Virtu pointed out in opposing the Exchanges' attempt to use their roof to gain a latency advantage, the Exchange Act would never have permitted an exchange, free from Commission oversight, to "sell positions on the floor of the exchange on Wall Street within [earshot] of the specialists to the detriment of

[14] *See also* ICE NYSE, *ICE Global Network & Colocation: Technical Specifications* (Mar. 2021), https://perma.cc/FZ9W-9X77.

the rest of the members for a premium price." Virtu Letter at 2. That would plainly involve unfair discrimination in the use of exchange premises. This is no different.

B. The Exchanges' contrary arguments lack merit.

None of the Exchanges' arguments for excluding the Wireless Connections from the Exchange Act's "facility" definition withstand scrutiny.

First, the Exchanges' argument that they do not own the private pole is specious for multiple reasons. *Cf.* ICE Br. 23 n.10. Regardless of ownership interest, the Mahwah data center premises are plainly the "premises" of the exchange—*i.e.*, the place where the exchange operates and public access is limited. *See* 8 Oxford English Dictionary 1281 (1933) (defining "premises" as "[a] house or building *with its grounds or other appurtenances*" (emphasis added)). Likewise, it is blackletter law that an entity cannot do indirectly what it is prohibited from doing directly. *Cf. Bailey v. State of Alabama*, 219 U.S. 219, 244 (1911). If the Exchanges could evade Commission oversight merely by creating separate affiliates to operate the exchange facilities, the Commission's regulatory authority would be rendered nugatory. The Exchanges' recourse to corporate formality, moreover, is particularly disingenuous given their prior acknowledgment that NYSE controls access to the private pole.[15]

[15] *See*, *e.g.*, 81 Fed. Reg. 49,315, 49,318 (July 27, 2016) ("The *Exchange* will not sell rights to third parties to operate wireless equipment on the pole … ." (emphasis added)).

Second, the Wireless Connections' supposed lack of a *direct* connection to the Exchanges' matching engines, ICE Br. 34, is immaterial.[16] The definition of "facility" has no "direct connection" requirement. And the Wireless Connections are indisputably used for—indeed, essential to—the "effecting or reporting [of] transaction[s] on an exchange." *See supra*, Part I. Further, because all intermarket wireless services must use a cross connect to reach the data center itself, *see supra*, Figure 2, the "facility" analysis should focus on where the cross connect begins—and for the Wireless Connections it begins on the Exchanges' premises and property. As with the Exchanges' reliance on corporate formalities, moreover, a direct-connection requirement would allow exchanges to evade Commission oversight for facilities such as co-location—which the Commission regulates as a facility—because there are cross connects between a customer's cabinet and the Exchanges' matching engines.

Third, the Exchanges fail to show that the Commission's interpretation would sweep in services that fall outside the statutory definition. The Exchanges claim that treating the Wireless Connections as "facilities" would mean that a courier service

[16] Nor is it right to suggest there is *no* connection between the Exchanges' connectivity services and their matching engines. *See supra*, n.11. Indeed, the Exchanges recently proposed new fees related to their wireless services, noting for at least one offering that when a user "purchases access to the IDS Network, it receives the ability to access the trading and execution systems of the NYSE, NYSE American, NYSE Arca, NYSE Chicago, and NYSE National[.]" 41 Fed. Reg. 12,715, 12,717 (Mar. 4, 2021). That is, customers purchase these services in order to "access"—*i.e.*, connect to—the Exchanges' "trading and execution systems."

or telephone lines could also be facilities. ICE Br. 39. But telephone lines *have* been regulated as facilities, including by NYSE, *see, e.g.*, 82 Fed. Reg. 17,306, 17,307 (Apr. 10, 2017), and if courier services were afforded privileged or exclusive use of the exchange premises they, too, could be subject to analysis as a "facility." Similarly, the Exchanges contend that, under the Commission's interpretation, wireless services offered by an unaffiliated third-party provider could also be an exchange "facility." ICE Br. 40–41. But as the Exchanges noted below, the Commission has *already* concluded that such services may be facilities. *See* JA__[NYSE. Cmnt.Ltr.10(May8,2020)] (acknowledging that a "service operated by a third party could be a facility"); *see also* JA__[McKay.Cmnt.Ltr.5.n.22(Mar.10.2020)]. Thus, if an unaffiliated wireless services provider received the sort of exclusive or privileged access to the Exchanges' premises and property afforded the Wireless Connections, its services too might qualify as a "facility." The exclusive or privileged use of an exchange's premises or property for the purpose of facilitating trading is a key limiting principle that obviates the Exchanges' parade of horribles.

CONCLUSION

For these reasons, the Commission correctly determined that the Wireless Connections are exchange "facilities" subject to agency oversight. *Amici* therefore respectfully urge the Court to deny the petition for review.

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Respectfully submitted,

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CERTIFICATE REGARDING SEPARATE BRIEF

Pursuant to D.C. Circuit Rule 29(d), I certify that a separate *amicus* brief is necessary because of the unique perspective offered by *amici* as the leading providers and largest consumers of wireless connection and data services.

/s/ *Eric D. McArthur*

CERTIFICATE OF COMPLIANCE

This brief complies with the typeface requirements of Fed. R. App. P. 32(a)(5) and type-style requirements of Fed. R. App. P. 32(a)(6) because it has been prepared in a proportionally spaced typeface using Microsoft Word in 14-point Times New Roman font.

This brief complies with the word-count limitation under Fed. R. App. P. 29(a)(5) and 32(a)(7)(B) because it contains 6,485 words, not counting the parts excluded by Fed. R. App. P. 32(f) and Circuit Rule 32(e)(1).

/s/ *Eric D. McArthur*

CERTIFICATE OF SERVICE

I hereby certify that on April 19, 2021, I electronically filed the foregoing brief with the Clerk of the Court using the CM/ECF System, which will send notice of such filing to all registered CM/ECF users.

/s/ *Eric D. McArthur*