



**Martha Redding**  
Associate General Counsel  
Assistant Secretary

December 23, 2019

**VIA E-MAIL**

Secretary  
Securities and Exchange Commission  
100 F Street, N.E.  
Washington, DC 20549-1090

Re: Securities Exchange Act Rel. 34-86868 (SR-NYSEArca-2019-61)

Dear Secretary:

NYSE Arca, Inc. filed the attached Amendment No. 1 to the above-referenced filing on December 23, 2019.

Sincerely,

A handwritten signature in blue ink, appearing to be the initials "MR" followed by a stylized flourish.

Encl. (Amendment No. 1 to SR-NYSEArca-2019-61)

Required fields are shown with yellow backgrounds and asterisks.

Filing by NYSE Arca, Inc.  
 Pursuant to Rule 19b-4 under the Securities Exchange Act of 1934

Initial * <input type="checkbox"/>	Amendment * <input checked="" type="checkbox"/>	Withdrawal <input type="checkbox"/>	Section 19(b)(2) * <input checked="" type="checkbox"/>	Section 19(b)(3)(A) * <input type="checkbox"/>	Section 19(b)(3)(B) * <input type="checkbox"/>
Pilot <input type="checkbox"/>			Rule		
Extension of Time Period for Commission Action * <input type="checkbox"/>		Date Expires * <input type="text"/>	<input type="checkbox"/> 19b-4(f)(1)	<input type="checkbox"/> 19b-4(f)(4)	
			<input type="checkbox"/> 19b-4(f)(2)	<input type="checkbox"/> 19b-4(f)(5)	
			<input type="checkbox"/> 19b-4(f)(3)	<input type="checkbox"/> 19b-4(f)(6)	

Notice of proposed change pursuant to the Payment, Clearing, and Settlement Act of 2010	Security-Based Swap Submission pursuant to the Securities Exchange Act of 1934
Section 806(e)(1) * <input type="checkbox"/>	Section 806(e)(2) * <input type="checkbox"/>
	Section 3C(b)(2) * <input type="checkbox"/>

Exhibit 2 Sent As Paper Document <input type="checkbox"/>	Exhibit 3 Sent As Paper Document <input type="checkbox"/>
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**Description**

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

**Contact Information**

Provide the name, telephone number, and e-mail address of the person on the staff of the self-regulatory organization prepared to respond to questions and comments on the action.

First Name \*       Last Name \*

Title \*

E-mail \*

Telephone \*       Fax

**Signature**

Pursuant to the requirements of the Securities Exchange Act of 1934,

has duly caused this filing to be signed on its behalf by the undersigned thereunto duly authorized.

(Title \*)

Date      

By         
 (Name \*)

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

SECURITIES AND EXCHANGE COMMISSION  
WASHINGTON, D.C. 20549

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

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

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

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

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

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

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

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

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Exhibit Sent As Paper Document

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

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

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Exhibit Sent As Paper Document

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

**Exhibit 4 - Marked Copies**

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

**Exhibit 5 - Proposed Rule Text**

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The self-regulatory organization may choose to attach as Exhibit 5 proposed changes to rule text in place of providing it in Item I and which may otherwise be more easily readable if provided separately from Form 19b-4. Exhibit 5 shall be considered part of the proposed rule change.

**Partial Amendment**

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If the self-regulatory organization is amending only part of the text of a lengthy proposed rule change, it may, with the Commission's permission, file only those portions of the text of the proposed rule change in which changes are being made if the filing (i.e. partial amendment) is clearly understandable on its face. Such partial amendment shall be clearly identified and marked to show deletions and additions.

1. Text of the Proposed Rule Change

- (a) Pursuant to the provisions of Section 19(b)(1) of the Securities Exchange Act of 1934 (“Act”)<sup>1</sup> and Rule 19b-4 thereunder,<sup>2</sup> NYSE Arca, Inc. (“NYSE Arca” or the “Exchange”) proposes to amend the services available to Users that use co-location services in the Mahwah, New Jersey data center to add the NMS network to connect to the NMS feeds. This Amendment No. 1, which supersedes the original filing in its entirety, is designed to address comments in the Commission’s Order instituting proceedings to determine whether to approve or disapprove the original filing.<sup>3</sup>

A notice of the proposed rule change for publication in the Federal Register is attached hereto as Exhibit 1, and the text of the proposed rule change is attached as Exhibit 5.

- (b) The Exchange does not believe that the proposed rule change will have any direct effect, or any significant indirect effect, on any other Exchange rule in effect at the time of this filing.
- (c) Not applicable.

2. Procedures of the Self-Regulatory Organization

Senior management has approved the proposed rule change pursuant to authority delegated to it by the Board of the Exchange. No further action by the Board of Directors or the membership of the Exchange is required. Therefore, the Exchange’s internal procedures with respect to the proposed change are complete.

The person on the Exchange staff prepared to respond to questions and comments on the proposed rule change is:

Clare F. Saperstein  
Associate General Counsel  
NYSE Group, Inc.  
[REDACTED]

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

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

<sup>3</sup> See Securities Exchange Act Release No. 87699 (December 9, 2019), 84 FR 68239 (December 13, 2019) (SR-NYSEArca-2019-61) (“Order”).

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

(a) Purpose

Overview

This Amendment No. 1 supersedes the original filing in its entirety. In the original filing, the Exchange proposed to amend its co-location services<sup>4</sup> to provide Users<sup>5</sup> with an alternate, dedicated network connection to access the NMS feeds (the “NMS network”) for which the Securities Industry Automation Corporation (“SIAC”) is engaged as the securities information processor (“SIP”) and proposed fees for the NMS network.<sup>6</sup>

On December 9, 2019, the Commission issued an Order instituting proceedings to determine whether to approve or disapprove the original filing, and in that Order, raised questions about how the Exchange proposed to charge fees for the NMS

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<sup>4</sup> The Exchange initially filed rule changes relating to its co-location services with the Commission in 2010. See Securities Exchange Act Release No. 63275 (November 8, 2010), 75 FR 70048 (November 16, 2010) (SR-NYSEArca-2010-100). The Exchange operates a data center in Mahwah, New Jersey (the “data center”) from which it provides co-location services to Users.

<sup>5</sup> For purposes of the Exchange’s co-location services, a “User” means any market participant that requests to receive co-location services directly from the Exchange. See Securities Exchange Act Release No. 76010 (September 29, 2015), 80 FR 60197 (October 5, 2015) (SR-NYSEArca-2015-82). As specified in the NYSE Arca Options Fees and Charges (the “Options Fee Schedule”) and the NYSE Arca Equities Fees and Charges (the “Equities Fee Schedule” and, together with the Options Fee Schedule, the “Fee Schedules”), a User that incurs co-location fees for a particular co-location service pursuant thereto would not be subject to co-location fees for the same co-location service charged by the Exchange’s affiliates New York Stock Exchange LLC (“NYSE”), NYSE American LLC (“NYSE American”), and NYSE National, Inc. (“NYSE National” and together, the “Affiliate SROs”). See Securities Exchange Act Release No. 70173 (August 13, 2013), 78 FR 50459 (August 19, 2013) (SR-NYSEArca-2013-80).

<sup>6</sup> Specifically, as originally proposed, Users would be eligible for up to eight “No Fee NMS Network Connections” that would not be subject to any fees. Users not eligible for the No Fee NMS Network Connection or that needed additional NMS network connections would have been charged at the same rate as the same-sized IP network.

network.<sup>7</sup> Because the purpose of the NMS network is to enhance performance of the SIP and not to generate revenue, to address the questions raised in the Order, the Exchange is amending the proposal to eliminate any fee changes associated with the introduction of the NMS network. As amended, this proposed rule change would solely add the NMS network as part of the services available if a User purchases a 10 Gigabit (“Gb”) or 40 Gb connection to one of the two local area networks in the Mahwah data center.

As described below, today Users can connect to Regulation NMS equities and options feeds<sup>8</sup> disseminated by the SIP using either of the co-location local area networks. Currently, a User would need to purchase a service that includes either a 10 Gb or 40 Gb connection to access a local area network in order to connect to the NMS feeds.<sup>9</sup> Users do not pay an additional charge to connect to the NMS feeds: it comes with their connection to the local area network.<sup>10</sup>

The Exchange has recently been authorized to build the NMS network in the Mahwah data center that will only connect to the NMS feeds. The new network will connect to the NMS feeds faster than either of the existing local area networks. Because a User currently needs to purchase a service that includes access to one of the two local area networks in the data center via either a 10 Gb or 40 Gb connection to connect to the NMS feeds, the Exchange proposes to expand that service to include the option to also connect to the NMS network via a same-sized connection at no additional charge. Accordingly, with this proposed rule change, Users will have the option to use the NMS network or either of the existing local area networks to connect to the NMS feeds. The Exchange is not proposing any changes to its fees.

Because the NMS network has been built and tested and is ready to be implemented, subject to approval of this proposed rule change, the Exchange proposes to implement the NMS network as soon as practicable. The Exchange will announce the implementation date through a customer notice.

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<sup>7</sup> See Order, supra note 3. The Order also discussed a comment letter submitted in connection with the original proposal.

<sup>8</sup> The NMS feeds include the Consolidated Tape System and Consolidated Quote System data streams, as well as Options Price Reporting Authority (“OPRA”) feeds. See Securities Exchange Act Release No. 79729 (January 4, 2017), 82 FR 3061 (January 10, 2017) (SR-NYSEArca-2016-172).

<sup>9</sup> Because of the volume of data, a 1 Gb connection is not sufficient to connect to an NMS feed. See id. at 3063.

<sup>10</sup> See Id.

## Background

The Exchange's affiliate, SIAC, is engaged as the SIP for three separate Regulation NMS plans (collectively, the "NMS Plans").<sup>11</sup> SIAC operates as the SIP for the NMS Plans in the same data center where the Exchange and its Affiliate SROs operate. In that data center, Users can access SIAC as the SIP over the same network connections through which they access other services. Specifically, a User can access the SIAC SIP environment via either the IP network or the Liquidity Center Network ("LCN"), which are the local area networks in the data center.<sup>12</sup>

The Exchange offers Users connectivity to the SIAC SIP environment at no additional charge when a User purchases access to a 10 Gb or 40 Gb LCN or IP network.<sup>13</sup> In connection with the services available over the local area networks, the SIAC feeds are referred to as the "NMS feeds." As described in General Note 4 of the Fee Schedules, when a User purchases access to the LCN or IP network, it receives connectivity to certain market data products (the "Included Data Products") that it selects, subject to technical provisioning requirements and authorization from the provider of the data feed. The NMS feeds are included in the list of the Included Data Products that come with connections to the LCN or IP network. The remaining Included Data Products are proprietary feeds of the Exchange, its Affiliate SROs, and the Exchange's affiliate NYSE Chicago, Inc. ("NYSE Chicago" and together with the Exchange and Affiliate SROs, the "NYSE Exchanges").

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<sup>11</sup> SIAC has been engaged as the SIP to, among other things, receive, process, validate and disseminate: (1) last-sale price information in Tape A and Tape B-listed securities pursuant to the CTA Plan ("CTA Plan"), which is available here: <https://www.nyse.com/publicdocs/ctaplan/notifications/trader-update/CTA%20Plan%20-%20Composite%20as%20of%20August%2027,%202018.pdf>; (2) quotation information in Tape A and B-listed securities pursuant to the CQ Plan ("CQ Plan"), which is available here: [https://www.nyse.com/publicdocs/ctaplan/notifications/trader-update/CQ\\_Plan\\_Composite\\_as\\_of\\_July\\_9\\_2018.pdf](https://www.nyse.com/publicdocs/ctaplan/notifications/trader-update/CQ_Plan_Composite_as_of_July_9_2018.pdf); and (3) quotation and last-sale price information in all exchange options trading pursuant to the OPRA Plan ("OPRA Plan"), which is available here: [https://uploads-ssl.webflow.com/5ba40927ac854d8c97bc92d7/5bf419a6b7c4f5085340f9af\\_opra\\_plan.pdf](https://uploads-ssl.webflow.com/5ba40927ac854d8c97bc92d7/5bf419a6b7c4f5085340f9af_opra_plan.pdf).

<sup>12</sup> See 82 FR 3061, note 8, *supra*.

<sup>13</sup> As set forth on the Fee Schedules, the Exchange offers a range of LCN and IP network connectivity options at different rates depending on the bandwidth and latency profile of the applicable network.

A User that purchases access to the LCN or IP network also receives the ability to access the trading and execution systems of the NYSE Exchanges (the “Exchange Systems”) and the trading and execution systems of OTC Global, an alternative trading system (“ATS”), subject, in each case, to authorization by the relevant entity.<sup>14</sup>

Accordingly, without paying an additional connectivity fee, a User that purchases access to either the LCN or IP network can use such network to:

1. Access the trading and execution services of five registered exchanges (five equities markets, two options markets, and a fixed income market) and an ATS;
2. Connect to the market data of five registered exchanges (five equities exchanges, two options markets, and a fixed income market); and
3. Connect to the NMS feeds.

A User may connect to the NMS feeds through the IP network or LCN. Until recently the operating committee for the CTA and CQ Plans (“CTA/CQ Plans”) mandated use of the IP network to access the NMS feeds.<sup>15</sup> As a result, all LCN connections to the NMS feeds go through the IP network before reaching the NMS feeds,<sup>16</sup> and so using the LCN to connect to an NMS feed is slower than using the IP network.<sup>17</sup>

#### Alternate, Dedicated Network Connection for NMS Feeds

As the SIP for the NMS Plans, SIAC continually assesses the services it provides and has been working with the operating committees of the NMS Plans and the industry-based advisory committee to the CTA/CQ Plans to identify potential performance enhancements. Among other initiatives, this group identified that, because the IP network was not designed as a low-latency network, the

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<sup>14</sup> See 82 FR 3061, note 8, *supra*, and Securities Exchange Release No. 85958 (May 29, 2019), 84 FR 25858 (June 4, 2019) (SR-NYSEArca-2019-40). Information regarding the Included Data Products is currently set forth in the second paragraph of General Note 4.

<sup>15</sup> The Operating Committee of the CTA/CQ Plans mandated the use of the IP network to access the NMS feeds because the IP network was built as a secure network designed for resiliency and redundancy.

<sup>16</sup> By contrast, the LCN does not connect to the IP network for access to the Exchange Systems or connectivity to the other Included Data Products.

<sup>17</sup> A User that uses the LCN to connect to an NMS feed does not need to separately purchase an IP network connection.

requirement to use the IP network to access the NMS feeds introduces a layer of latency.

To reduce network latency, the Exchange sought and received approval from the operating committees for the CTA/CQ Plans to build an alternate to the LCN and IP network to connect to the NMS feeds.<sup>18</sup> As approved by the CTA/CQ Plans, the Exchange is building a low-latency network in the data center that will provide Users with dedicated access to the NMS feeds (the “NMS network”).<sup>19</sup>

The Exchange currently anticipates that the low-latency network will have a one-way reduction in latency to access the NMS feeds from the IP network and LCN of over 140 microseconds.

Consistent with the current bandwidth needs to connect to the NMS feeds, connections to the NMS network will be available in 10 Gb and 40 Gb circuits. Because the NMS network will be an alternate network to access the NMS feeds, once it is available, Users would have the choice between continuing to use the LCN or IP network to connect to NMS feeds or switching to the NMS network.

Even though the NMS network will provide access only to the NMS feeds, the Exchange is funding the build of the NMS network and is not being reimbursed for such expenses by either CTA or OPRA. The Exchange’s capital expenditure costs for the build are estimated to be \$3.8 million, which includes procurement of new low-latency network switches, network devices, and analytics tools and the one-time operational expenditures to build this new network. In addition to this initial estimated approximately \$3.8 million outlay, the Exchange anticipates that the ongoing costs to maintain and operate the NMS network will be approximately \$215,000 annually.

#### Proposed Amendment to Add the NMS Network

The proposed structure for the NMS network has been designed so that the services available in co-location would be expanded so that a User can opt to connect to the NMS network at no additional charge.

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<sup>18</sup> The alternate network to access the NMS feeds will not be available outside of the data center.

<sup>19</sup> Because SIAC, as the SIP for the NMS Plans, is also responsible for collecting data from the participants of the CTA/CQ Plans and members of the OPRA Plan, Users that are participants of the applicable NMS Plans could use this alternate network connection for purposes of both transmitting and receiving data. Users that are not participants of the NMS Plans could use this alternate network connection for purposes of receiving data. This alternate network would not be available to connect to the other Included Data Products or to access the Exchange Systems or Global OTC.

To effect the proposed change, the Exchange proposes to amend the services available in co-location to provide that if a User purchases a service that includes a 10 Gb or 40 Gb connection to access either local area network, that access would include a connection to the NMS network of the same size. Although the Exchange is funding and expanding the types of local area network connections that would be available in the data center, the Exchange does not propose to change any of the fees related to purchasing a service that includes a connection to a local area network.

More specifically, the services available in co-location currently include LCN Access, IP Network Access, and Partial Cabinet Solution bundles. In order to implement the proposed change, the Exchange proposes the following amendments to Exchange Rules that describe the following services in co-location:

- In the column titled “Type of Service,” the Exchange proposes to amend the text describing the 10 Gb and 40 Gb LCN and IP Network Access options to include text referencing the NMS network.
- In the column titled “Description,” the Exchange proposes to amend the descriptions of the 10 Gb LX LCN Circuit, 40 Gb LCN Circuit, Partial Cabinet Solution bundle Option C and Option D, 10 Gb IP Network Circuit and 40 Gb IP Network Circuit to include text referencing the specific NMS Network connection that would be part of the service. In addition, because the descriptions of the LCN and IP network services do not currently reference either “LCN” or “IP Network,” respectively, the Exchange proposes to add text references as applicable.
- Finally, the Exchange proposes to amend text in the column titled “Amount of Charge” to specify that the current initial and monthly recurring charges would not change and that for purposes of such charges, the existing local area network connection and NMS network connection would be together considered one connection. These text changes would make clear that Users would not be subject to two initial or two monthly charges. The Partial Cabinet Solution bundle description already indicates that the charges are “per bundle” and therefore no similar clarifying language is proposed.

The Exchange proposes to set forth these changes as follows (proposed new text underlined and proposed text for deletion in brackets):

Type of Service	Description	Amount of Charge
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<p><u>LCN and NMS Network Access</u></p>	<p><u>10 Gb LX LCN Circuit and 10 Gb NMS Network Circuit</u></p>	<p>\$15,000 <u>initial charge</u> per connection [initial charge] to <u>both the LCN and NMS Network</u> plus \$22,000 <u>monthly charge</u> per connection to <u>both the LCN and NMS Network</u>.</p> <p><u>For purposes of these charges, the LCN Circuit and NMS Network Circuit are together considered to be one connection, and so Users are not subject to two initial or two monthly charges.</u></p>
<p><u>LCN and NMS Network Access</u></p>	<p><u>40 Gb LCN Circuit and 40 Gb NMS Network Circuit</u></p>	<p>\$15,000 <u>initial charge</u> per connection [initial charge] to <u>both the LCN and NMS Network</u> plus \$22,000 <u>monthly charge</u> per connection to <u>both the LCN and NMS Network</u>.</p> <p><u>For purposes of these charges, the LCN Circuit and NMS Network Circuit are together considered to be one connection, and so Users are not subject to two initial or two monthly charges.</u></p>
<p>Partial Cabinet Solution bundles</p> <p>Note: A User and its Affiliates are limited to one Partial Cabinet Solution bundle at a time. A User and its Affiliates must have an Aggregate Cabinet Footprint</p>	<p>No change</p>	<p>No change</p>
	<p>No change</p>	<p>No change</p>

<p>of 2 kW or less to qualify for a Partial Cabinet Solution bundle. See Note 2 under “General Notes.”</p>	<p>Option C: 1 kW partial cabinet, 1 LCN connection (10 Gb LX), 1 IP network connection (10 Gb), <u>2 NMS Network connections (10 Gb each)</u>, 2 fiber cross connections and either the Network Time Protocol Feed or Precision Timing Protocol</p>	<p>No change</p>
	<p>Option D: 2 kW partial cabinet, 1 LCN connection (10 Gb LX), 1 IP network connection (10 Gb), <u>2 NMS Network connections (10 Gb each)</u>, 2 fiber cross connections and either the Network Time Protocol Feed or Precision Timing Protocol</p>	<p>No change</p>
<p><u>IP Network and NMS Network Access</u></p>	<p><u>10 Gb IP Network Circuit and 10 GB NMS Network Circuit</u></p>	<p>\$10,000 <u>initial charge</u> per connection [<u>initial charge</u>] to <u>both the IP Network and NMS Network</u> plus \$11,000 <u>monthly charge</u> per connection to <u>both the IP Network and NMS Network</u>.</p> <p><u>For purposes of these charges, the IP Network Circuit and NMS Network Circuit are together considered to be one connection, and so Users are not subject to two initial or two monthly charges.</u></p>

<p><u>IP Network and NMS Network Access</u></p>	<p><u>40 Gb IP Network Circuit and 40 Gb NMS Network Circuit</u></p>	<p><u>\$10,000 initial charge per connection [initial charge] to both the IP Network and NMS Network plus \$18,000 monthly charge per connection to both the IP Network and NMS Network.</u></p> <p><u>For purposes of these charges, the IP Network Circuit and NMS Network Circuit are together considered to be one connection, and so Users are not subject to two initial or two monthly charges.</u></p>
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As noted above, Users that purchase access to the LCN or IP Network currently can use such networks to connect to the NMS feeds. Once the NMS Network is available, Users can continue to use either their existing LCN or IP Network connection or the new NMS network connection to connect to the NMS feeds.

The Exchange proposes to amend the current General Note 4 to describe what a User obtains when it purchases a service that includes access to the LCN, IP network, or NMS Network.

First, the Exchange proposes to split current Note 4 into three separate notes. The first paragraph of current Note 4 would continue to be numbered Note 4, and would specify which trading and execution services a User can access when it purchases a service that includes access to the LCN or IP network, which are not changing. Because the services that a User purchases may include access to the NMS network in addition to access to the LCN or IP network, the Exchange proposes a non-substantive amendment to the first sentence of this note to add the phrase “a service that includes.”

Second, the Exchange proposes that the current second paragraph of Note 4 and following table would be renumbered as Note 5. As the paragraph does currently, Note 5 would specify the Included Data Products that a User can connect to if it purchases a service that includes access to the LCN or IP network. Similar to the proposed amendment to the first sentence of Note 4, the Exchange proposes a non-substantive amendment to add the phrase “a service that includes” to the first sentence of new Note 5. In addition, the Exchange proposes a non-substantive amendment to the table to clarify that the NMS feeds are the CTA, CQ, and OPRA feeds.

Finally, the Exchange proposes new Note 6, which would describe in more detail

the NMS network. As proposed, Note 6 would provide that when a User purchases a service that includes access to the NMS Network, upon its request it would receive connectivity to the NMS network and any of the NMS feeds that it selects, subject to any technical provisioning requirements and authorization from the provider of the data feed. Consistent with existing Note 4 (proposed Note 5), Note 6 would provide that market data fees for the NMS feeds would be charged by the provider of the NMS data feed. The proposed note would further state that the NMS Network would provide connectivity to the NMS feeds only.

#### Expected Application of the Proposed Change

The proposed NMS network would be available to all Users that purchase a service that includes a 10 Gb or 40 Gb connection to access either the LCN or IP network, which are the networks currently available to provide connections to the NMS feeds.

#### General

As is the case with all Exchange co-location arrangements, (i) neither a User nor any of the User's customers would be permitted to submit orders directly to the Exchange unless such User or customer is a member organization, a Sponsored Participant or an agent thereof (e.g., a service bureau providing order entry services); (ii) use of the co-location services proposed herein would be completely voluntary and available to all Users on a non-discriminatory basis;<sup>20</sup> and (iii) a User would only incur one charge for the particular co-location service described herein, regardless of whether the User connects only to the Exchange or to the Exchange and one or more of the Affiliate SROs.<sup>21</sup>

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<sup>20</sup> As is currently the case, Users that receive co-location services from the Exchange will not receive any means of access to the Exchange's trading and execution systems that is separate from, or superior to, that of other Users. In this regard, all orders sent to the Exchange enter the Exchange's trading and execution systems through the same order gateway, regardless of whether the sender is co-located in the data center or not. In addition, co-located Users do not receive any market data or data service product that is not available to all Users, although Users that receive co-location services normally would expect reduced latencies in sending orders to, and receiving market data from, the Exchange.

<sup>21</sup> See 78 FR 50459, supra note 5, at 50459. NYSE, NYSE American and NYSE National have submitted substantially the same proposed rule change to propose the changes described herein and will be amending their respective filings in substantially the same manner. See Securities Exchange Act Release Nos. 86865 (September 4, 2019), 84 FR 47592 (September 10, 2019) (SR-NYSE-2019-46) (Notice); 86867 (September 4, 2019), 84 FR 47563 (September 10, 2019) (SR-NYSEAmer-2019-34) (Notice); and 86869 (September 4, 2019), 84 FR 47600 (September 10, 2019) (SR-NYSENAT-2019-19) (Notice).

(b) Statutory Basis

The Exchange believes that the proposed rule change is consistent with Section 6(b) of the Act,<sup>22</sup> in general, and furthers the objectives of Sections 6(b)(5) of the Act,<sup>23</sup> in particular, because it is designed to prevent fraudulent and manipulative acts and practices, to promote just and equitable principles of trade, to foster cooperation and coordination with persons engaged in regulating, clearing, settling, processing information with respect to, and facilitating transactions in securities, to remove impediments to, and perfect the mechanisms of, a free and open market and a national market system and, in general, to protect investors and the public interest and because it is not designed to permit unfair discrimination between customers, issuers, brokers, or dealers. The Exchange also believes that the proposed fee change is consistent with Section 6(b)(4) of the Act,<sup>24</sup> in particular, because it provides for the equitable allocation of reasonable dues, fees, and other charges among its members, issuers and other persons using its facilities and does not unfairly discriminate between customers, issuers, brokers or dealers.

The Proposed Rule Change Would Remove Impediments to and Perfect the Mechanism of a Free and Open Market and a National Market System.

The Exchange believes that the proposed change to include access to the NMS network as part of existing services available in co-location would remove impediments to, and perfect the mechanisms of, a free and open market and a national market system and, in general, protect investors and the public interest because, by offering access to the dedicated, low-latency NMS network, the Exchange will be providing Users with an additional option to connect to the NMS feeds. Until recently, SIAC was required to provide connectivity to the NMS feeds via only the IP network. As recently approved by the operating committees for the CTA/CQ Plans, SIAC is now authorized to offer connectivity to the NMS feeds in the data center via an alternate, dedicated, low-latency NMS network. The proposed NMS network has been designed consistent with this directive and will provide greater choice to Users that are seeking a low-latency network to connect to the NMS feeds.

The Proposed Rule Change is Reasonable

As an initial matter, as required by Rule 603(b) of Regulation NMS, SIAC disseminates quotation and transaction information as the single plan processor

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<sup>22</sup> 15 U.S.C. 78f(b).

<sup>23</sup> 15 U.S.C. 78f(b)(5).

<sup>24</sup> 15 U.S.C. 78f(b)(4).

for all Tape A and Tape B-listed securities and is also the single plan processor for all options exchanges. As the single plan processor, the pricing decisions relating to the dedicated NMS network are not constrained by competitive market forces.

Instead, as described above, the Exchange is funding the capital and operational expenses to build and operate the NMS network. The implementation costs of approximately \$3.8 million are applicable only to the NMS network, which will be used for the sole purpose of providing access to the NMS feeds. Simply put, none of the implementation costs are applicable to any other Exchange services. The Exchange has based its procurement needs - which correlate to the Exchange's estimated costs to build the NMS network - based on the Current Users' usage of the LCN or IP networks to connect to the NMS feeds, with some room for additional growth.

The Exchange believes that adding the NMS network as a service that would be included when a User purchases either a 10 Gb or 40 Gb connection to access a local area network is reasonable because the amended service is designed to make the NMS network available at no additional cost to Users. Specifically, as proposed, the NMS network would be included as part of specified existing LCN and IP network services that Users can already purchase, and are already used to connect to the NMS feeds.

Because the fees for LCN and IP network services relate to charges for services either other than or in addition to connectivity to the NMS feeds, the Exchange currently does not assess any fees that are specific to connectivity to the NMS feeds. Accordingly, if a User purchases a service that includes either a 10 Gb or 40 Gb connection to access either local area network, such User can use such local area network to connect to the NMS feeds at no additional charge. By adding access to the NMS network to these existing services, the Exchange proposes to offer an additional choice to such Users for how they could connect to the NMS feeds. By not changing the existing fees for such expanded service, Users would not incur any additional charges if they choose to use to the new low-latency, dedicated alternate network to connect to the NMS feeds instead of using a connection to one of the existing local area networks.

The Exchange further believes that expanding the existing services that include access to a 10 Gb and 40 Gb connection to either local area network to also include access to a same-size connection to the NMS network would be reasonable because there would be no differences in fees charged to either current or prospective Users that seek to use co-location services to connect to the NMS feeds. Currently, a User would need to purchase a service that includes either a 10 Gb or 40 Gb connection to access a local area network in order to connect to the NMS feeds. As proposed, when such service is purchased, a User would continue to receive the same local area network service currently available, and would also have the option to connect to the NMS feeds via the NMS network.

The Exchange believes that the proposed changes to describe the NMS network are reasonable because they to promote clarity and transparency regarding which services would be available to Users and the charges for such services. As noted above, the Exchange proposes that if a User purchases a service that includes a 10 Gb or 40 Gb connection to access either local area network, that service would include access to a same-size connection to the NMS network. The Exchange believes that the text changes to Exchange's rules for such services is reasonable because the amendments would provide specificity regarding which specific services would include access to the NMS network. The proposed amendments would also provide specificity that the existing initial and monthly charges would be charged only once, and that a connection to an existing local area network and an NMS network would be considered a single connection for purposes of such charges.

The Exchange also believes that the proposed non-substantive amendment to split Note 4 into three separate Notes is reasonable because it would promote clarity and transparency regarding how services that include a connection to an LCN or IP network could be used. As now, Note 4 would describe the trading and execution services that a User may access if it purchases a service that includes access to the LCN or IP network. Proposed Note 5 would describe the Included Data Products that a User can connect to if it purchases a service that includes access to the LCN or IP network. Proposed Note 6 would be new and is designed to promote clarity and transparency by (a) describing the connectivity that the User would obtain if it purchased service that included access to the NMS Network, subject to any technical provisioning requirements and authorization from the provider of the data feed, and (b) specifying that the NMS network would provide connectivity to the NMS feeds only. The Exchange further believes it is reasonable to identify the specific NMS feeds that are available, which are the CTA, CQ, and OPRA feeds, as this proposed amendment to Note 4 and proposed Note 6 would promote clarity and transparency in Exchange rules.

#### The Proposed Rule Change is Equitably Allocated

The Exchange believes that the proposed rule change is equitably allocated. As described above, the proposed amendment to include the NMS network as a service available in co-location has been designed so that Users would not have any new or different charges if they opt to connect to the NMS network. Rather, because the NMS network would be included as part of services that include access to a 10 Gb or 40 Gb connection to either local area network, Users will have a choice whether to use an IP network, LCN or NMS network connection to connect to the NMS feeds. A User that voluntarily chooses to exercise the choice to connect with the NMS network would receive the benefit of a low-latency connection without any additional charges.

As noted above, because a User that purchases access to the LCN or IP network receives connectivity to the NMS feeds, the Exchange currently does not assess any fees that are specific to connectivity to the NMS feeds. By offering the NMS

network as part of these existing services, the Exchange proposes to offer an additional choice to such Users for how they could connect to the NMS feeds. By not charging different fees for such expanded services, all Users will be treated equally and charged no differently than how fees are currently charged for access to a 10 Gb or 40 Gb connection to a local area network service.

#### The Proposed Rule Change is Not Unfairly Discriminatory

The Exchange believes that the proposed rule change is not unfairly discriminatory. As described above, the proposed amendment to include the NMS network as a service available in co-location has been designed so that Users would not have any new or different charges if they opt to connect to the NMS network. Rather, because access to the NMS network would be included as part of access to the 10 Gb and 40 Gb connection to either local area network, all Users will have a choice whether to use an IP network, LCN or NMS network connection to connect to the NMS feeds. The proposed change in services available in co-location therefore would not impose any meaningful differences to different types of Users. Any User that voluntarily chooses to exercise the choice to connect with the NMS network would receive the benefit of a low-latency connection without any additional charges.

As noted above, because a User that purchases access to the LCN or IP network receives connectivity to the NMS feeds, the Exchange currently does not assess any fees that are specific to connectivity to the NMS feeds. Accordingly, if a User purchases a service that includes either a 10 Gb or 40 Gb connection to access either local area network, such User can use such local area network to connect to the NMS feeds at no additional charge. By offering the NMS network as part of these existing services, the Exchange proposes to offer an additional choice to such Users for how they could connect to the NMS feeds. By not charging any different fees for such expanded service, all Users will be treated equally and no differently than how fees are currently charged for a 10 Gb or 40 Gb connection to a local area network service.

For the reasons above, the proposed changes would not unfairly discriminate between or among market participants that are otherwise capable of satisfying any applicable co-location fees, requirements, terms and conditions established from time to time by the Exchange.

For these reasons, the Exchange believes that the proposal is consistent with the Act.

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

The Exchange does not believe that the proposed rule change will impose any burden on competition that is not necessary or appropriate in furtherance of the purposes of the Act. The Exchange believes that the proposed rule change would not impose any burden on competition because it is not designed to address any

competitive issues. As described above, SIAC is the single plan processor for Tape A and B equities securities and all options securities and does not currently compete with any other providers for these processor services. The proposed rule change would amend the services available in co-location to include the NMS network when a User purchases a 10 Gb or 40 Gb connection to access either local area network service. Accordingly, the proposed rule change would expand the services available in co-location without changing any fees for the existing services, or adding fees for the expanded services. All Users would have access to the NMS network and it would be their choice of whether and at what level to subscribe to such services, including whether to utilize the NMS network connection. Accordingly, the Exchange does not believe that the proposed rule change would place any User at a relative disadvantage compared to other Users.

5. Self-Regulatory Organization's Statement on Comments on the Proposed Rule Change Received from Members, Participants or Others

The Exchange has neither solicited nor received written comments on the proposed rule change.

6. Extension of Time Period for Commission Action

The Exchange does not consent at this time to an extension of any time period for Commission action.

7. Basis for Summary Effectiveness Pursuant to Section 19(b)(3) or for Accelerated Effectiveness Pursuant to Section 19(b)(2)

The Exchange respectfully requests accelerated effectiveness of this proposed rule change, as amended, pursuant to Section 19(b)(2) of the Act.<sup>25</sup> The Exchange believes there is good cause for the Commission to accelerate effectiveness of this proposed rule change, as amended, because the introduction of the NMS network will enhance the performance of the CTA/CQ and OPRA SIPs by offering the option for Users to connect to the NMS feeds via a dedicated, alternate, low-latency network. As noted above, the Exchange currently anticipates that the low-latency network will have a one-way reduction in latency to access the NMS feeds from the IP network and LCN of over 140 microseconds.

Because the purpose of the NMS network is to enhance performance of the SIP and not to generate revenue, this Amendment No. 1 is designed to address the questions raised in the Order by eliminating any fee changes associated with the introduction of the NMS network. As amended, this proposed rule change would solely add the NMS network as part of the services available if a User purchases a 10 Gb or 40 Gb connection to one of the two local area networks in the Mahwah

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<sup>25</sup> 78 U.S.C. 78s(b)(2).

data center for no additional charge. During the notice and comment period of the original proposal, there were not any comment letters opposed to the introduction of the NMS network and as noted in the Order, the sole commenter on the proposal has stated its general support for the NMS network. Because this Amendment No. 1 retains the core of the original proposal to introduce the NMS network as a new service, but eliminates any changes to fees, the Exchange believes that this Amendment No. 1 addresses concerns raised about the original proposal.

Moreover, the NMS network has been built and tested and is ready to be implemented. Accordingly, accelerated effectiveness of this proposed rule change, as amended, would allow the Exchange to implement the NMS network without any further delay, thus enhancing the performance of the CTA/CQ and OPRA SIPs.

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

The proposed rule change is not based on the rules of another self-regulatory organization or of the Commission.

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

Not applicable.

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

Not applicable.

11. Exhibits

Exhibit 1 – Form of Notice of Proposed Rule Change for Federal Register

Exhibit 4 - Proposed Rule Text Marked to Show Change to Exhibit 5 Made in Amendment No. 1

Exhibit 5 – Text of Proposed Rule Change

## SECURITIES AND EXCHANGE COMMISSION

(Release No. 34- ; File No. SR-NYSEARCA-2019-61, Amendment No. 1)

[Date]

Self-Regulatory Organizations; NYSE Arca, Inc.; Notice of Filing of Proposed Rule Change to Amend the NYSE Arca Options Fees and Charges and the NYSE Arca Equities Fees and Charges Related to Co-location Services in the Mahwah, New Jersey Data Center

Pursuant to Section 19(b)(1)<sup>1</sup> of the Securities Exchange Act of 1934 (the “Act”)<sup>2</sup> and Rule 19b-4 thereunder,<sup>3</sup> notice is hereby given that, on December 23, 2019, NYSE Arca, Inc. (“NYSE Arca” or the “Exchange”) filed with the Securities and Exchange Commission (the “Commission”) the proposed rule change as described in Items I, II, and III below, which Items have been prepared by the self-regulatory organization. The Commission is publishing this notice to solicit comments on the proposed rule change from interested persons.

I. Self-Regulatory Organization’s Statement of the Terms of Substance of the Proposed Rule Change

(a) The Exchange proposes to amend the services available to Users that use co-location services in the Mahwah, New Jersey data center to add the NMS network to connect to the NMS feeds. This Amendment No. 1, which supersedes the original filing in its entirety, is designed to address comments in the Commission’s Order instituting proceedings to determine whether to approve or disapprove the original

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

<sup>2</sup> 15 U.S.C. 78a.

<sup>3</sup> 17 CFR 240.19b-4.

filing.<sup>4</sup> The proposed change is available on the Exchange’s website at [www.nyse.com](http://www.nyse.com), at the principal office of the Exchange, and at the Commission’s Public Reference Room.

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

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

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

1. Purpose

Overview

This Amendment No. 1 supersedes the original filing in its entirety. In the original filing, the Exchange proposed to amend its co-location services<sup>5</sup> to provide Users<sup>6</sup> with an alternate, dedicated network connection to access the NMS feeds (the

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<sup>4</sup> See Securities Exchange Act Release No. 87699 (December 9, 2019), 84 FR 68239 (December 13, 2019) (SR-NYSEArca-2019-61) (“Order”).

<sup>5</sup> The Exchange initially filed rule changes relating to its co-location services with the Commission in 2010. See Securities Exchange Act Release No. 63275 (November 8, 2010), 75 FR 70048 (November 16, 2010) (SR-NYSEArca-2010-100). The Exchange operates a data center in Mahwah, New Jersey (the “data center”) from which it provides co-location services to Users.

<sup>6</sup> For purposes of the Exchange’s co-location services, a “User” means any market participant that requests to receive co-location services directly from the Exchange. See Securities Exchange Act Release No. 76010 (September 29, 2015), 80 FR 60197 (October 5, 2015) (SR-NYSEArca-2015-82). As specified in the

“NMS network”) for which the Securities Industry Automation Corporation (“SIAC”) is engaged as the securities information processor (“SIP”) and proposed fees for the NMS network.<sup>7</sup>

On December 9, 2019, the Commission issued an Order instituting proceedings to determine whether to approve or disapprove the original filing, and in that Order, raised questions about how the Exchange proposed to charge fees for the NMS network.<sup>8</sup> Because the purpose of the NMS network is to enhance performance of the SIP and not to generate revenue, to address the questions raised in the Order, the Exchange is amending the proposal to eliminate any fee changes associated with the introduction of the NMS network. As amended, this proposed rule change would solely add the NMS network as part of the services available if a User purchases a 10 Gigabit (“Gb”) or 40 Gb connection to one of the two local area networks in the Mahwah data center.

As described below, today Users can connect to Regulation NMS equities and

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NYSE Arca Options Fees and Charges (the “Options Fee Schedule”) and the NYSE Arca Equities Fees and Charges (the “Equities Fee Schedule” and, together with the Options Fee Schedule, the “Fee Schedules”), a User that incurs co-location fees for a particular co-location service pursuant thereto would not be subject to co-location fees for the same co-location service charged by the Exchange’s affiliates New York Stock Exchange LLC (“NYSE”), NYSE American LLC (“NYSE American”), and NYSE National, Inc. (“NYSE National” and together, the “Affiliate SROs”). See Securities Exchange Act Release No. 70173 (August 13, 2013), 78 FR 50459 (August 19, 2013) (SR-NYSEArca-2013-80).

<sup>7</sup> Specifically, as originally proposed, Users would be eligible for up to eight “No Fee NMS Network Connections” that would not be subject to any fees. Users not eligible for the No Fee NMS Network Connection or that needed additional NMS network connections would have been charged at the same rate as the same-sized IP network.

<sup>8</sup> See Order, supra note 4. The Order also discussed a comment letter submitted in connection with the original proposal.

options feeds<sup>9</sup> disseminated by the SIP using either of the co-location local area networks. Currently, a User would need to purchase a service that includes either a 10 Gb or 40 Gb connection to access a local area network in order to connect to the NMS feeds.<sup>10</sup> Users do not pay an additional charge to connect to the NMS feeds: it comes with their connection to the local area network.<sup>11</sup>

The Exchange has recently been authorized to build the NMS network in the Mahwah data center that will only connect to the NMS feeds. The new network will connect to the NMS feeds faster than either of the existing local area networks. Because a User currently needs to purchase a service that includes access to one of the two local area networks in the data center via either a 10 Gb or 40 Gb connection to connect to the NMS feeds, the Exchange proposes to expand that service to include the option to also connect to the NMS network via a same-sized connection at no additional charge. Accordingly, with this proposed rule change, Users will have the option to use the NMS network or either of the existing local area networks to connect to the NMS feeds. The Exchange is not proposing any changes to its fees.

Because the NMS network has been built and tested and is ready to be implemented, subject to approval of this proposed rule change, the Exchange proposes to implement the NMS network as soon as practicable. The Exchange will announce the implementation date through a customer notice.

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<sup>9</sup> The NMS feeds include the Consolidated Tape System and Consolidated Quote System data streams, as well as Options Price Reporting Authority (“OPRA”) feeds. See Securities Exchange Act Release No. 79729 (January 4, 2017), 82 FR 3061 (January 10, 2017) (SR-NYSEArca-2016-172).

<sup>10</sup> Because of the volume of data, a 1 Gb connection is not sufficient to connect to an NMS feed. See id. at 3063.

<sup>11</sup> See Id.

### Background

The Exchange's affiliate, SIAC, is engaged as the SIP for three separate Regulation NMS plans (collectively, the "NMS Plans").<sup>12</sup> SIAC operates as the SIP for the NMS Plans in the same data center where the Exchange and its Affiliate SROs operate. In that data center, Users can access SIAC as the SIP over the same network connections through which they access other services. Specifically, a User can access the SIAC SIP environment via either the IP network or the Liquidity Center Network ("LCN"), which are the local area networks in the data center.<sup>13</sup>

The Exchange offers Users connectivity to the SIAC SIP environment at no additional charge when a User purchases access to a 10 Gb or 40 Gb LCN or IP network.<sup>14</sup> In connection with the services available over the local area networks, the SIAC feeds are referred to as the "NMS feeds." As described in General Note 4 of the Fee Schedules, when a User purchases access to the LCN or IP network, it receives

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<sup>12</sup> SIAC has been engaged as the SIP to, among other things, receive, process, validate and disseminate: (1) last-sale price information in Tape A and Tape B-listed securities pursuant to the CTA Plan ("CTA Plan"), which is available here: <https://www.nyse.com/publicdocs/ctaplan/notifications/trader-update/CTA%20Plan%20-%20Composite%20as%20of%20August%2027,%202018.pdf>; (2) quotation information in Tape A and B-listed securities pursuant to the CQ Plan ("CQ Plan"), which is available here: [https://www.nyse.com/publicdocs/ctaplan/notifications/trader-update/CQ\\_Plan\\_Composite\\_as\\_of\\_July\\_9\\_2018.pdf](https://www.nyse.com/publicdocs/ctaplan/notifications/trader-update/CQ_Plan_Composite_as_of_July_9_2018.pdf); and (3) quotation and last-sale price information in all exchange options trading pursuant to the OPRA Plan ("OPRA Plan"), which is available here: [https://uploads-ssl.webflow.com/5ba40927ac854d8c97bc92d7/5bf419a6b7c4f5085340f9af\\_opra\\_plan.pdf](https://uploads-ssl.webflow.com/5ba40927ac854d8c97bc92d7/5bf419a6b7c4f5085340f9af_opra_plan.pdf).

<sup>13</sup> See 82 FR 3061, note 9, *supra*.

<sup>14</sup> As set forth on the Fee Schedules, the Exchange offers a range of LCN and IP network connectivity options at different rates depending on the bandwidth and latency profile of the applicable network.

connectivity to certain market data products (the “Included Data Products”) that it selects, subject to technical provisioning requirements and authorization from the provider of the data feed. The NMS feeds are included in the list of the Included Data Products that come with connections to the LCN or IP network. The remaining Included Data Products are proprietary feeds of the Exchange, its Affiliate SROs, and the Exchange’s affiliate NYSE Chicago, Inc. (“NYSE Chicago” and together with the Exchange and Affiliate SROs, the “NYSE Exchanges”).

A User that purchases access to the LCN or IP network also receives the ability to access the trading and execution systems of the NYSE Exchanges (the “Exchange Systems”) and the trading and execution systems of OTC Global, an alternative trading system (“ATS”), subject, in each case, to authorization by the relevant entity.<sup>15</sup>

Accordingly, without paying an additional connectivity fee, a User that purchases access to either the LCN or IP network can use such network to:

1. Access the trading and execution services of five registered exchanges (five equities markets, two options markets, and a fixed income market) and an ATS;
2. Connect to the market data of five registered exchanges (five equities exchanges, two options markets, and a fixed income market); and
3. Connect to the NMS feeds.

A User may connect to the NMS feeds through the IP network or LCN. Until recently the operating committee for the CTA and CQ Plans (“CTA/CQ Plans”)

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<sup>15</sup> See 82 FR 3061, note 9, *supra*, and Securities Exchange Release No. 85958 (May 29, 2019), 84 FR 25858 (June 4, 2019) (SR-NYSEArca-2019-40). Information regarding the Included Data Products is currently set forth in the second paragraph of General Note 4.

mandated use of the IP network to access the NMS feeds.<sup>16</sup> As a result, all LCN connections to the NMS feeds go through the IP network before reaching the NMS feeds,<sup>17</sup> and so using the LCN to connect to an NMS feed is slower than using the IP network.<sup>18</sup>

Alternate, Dedicated Network Connection for NMS Feeds

As the SIP for the NMS Plans, SIAC continually assesses the services it provides and has been working with the operating committees of the NMS Plans and the industry-based advisory committee to the CTA/CQ Plans to identify potential performance enhancements. Among other initiatives, this group identified that, because the IP network was not designed as a low-latency network, the requirement to use the IP network to access the NMS feeds introduces a layer of latency.

To reduce network latency, the Exchange sought and received approval from the operating committees for the CTA/CQ Plans to build an alternate to the LCN and IP network to connect to the NMS feeds.<sup>19</sup> As approved by the CTA/CQ Plans, the Exchange is building a low-latency network in the data center that will provide Users with dedicated access to the NMS feeds (the “NMS network”).<sup>20</sup>

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<sup>16</sup> The Operating Committee of the CTA/CQ Plans mandated the use of the IP network to access the NMS feeds because the IP network was built as a secure network designed for resiliency and redundancy.

<sup>17</sup> By contrast, the LCN does not connect to the IP network for access to the Exchange Systems or connectivity to the other Included Data Products.

<sup>18</sup> A User that uses the LCN to connect to an NMS feed does not need to separately purchase an IP network connection.

<sup>19</sup> The alternate network to access the NMS feeds will not be available outside of the data center.

<sup>20</sup> Because SIAC, as the SIP for the NMS Plans, is also responsible for collecting data from the participants of the CTA/CQ Plans and members of the OPRA Plan, Users that are participants of the applicable NMS Plans could use this alternate

The Exchange currently anticipates that the low-latency network will have a one-way reduction in latency to access the NMS feeds from the IP network and LCN of over 140 microseconds.

Consistent with the current bandwidth needs to connect to the NMS feeds, connections to the NMS network will be available in 10 Gb and 40 Gb circuits. Because the NMS network will be an alternate network to access the NMS feeds, once it is available, Users would have the choice between continuing to use the LCN or IP network to connect to NMS feeds or switching to the NMS network.

Even though the NMS network will provide access only to the NMS feeds, the Exchange is funding the build of the NMS network and is not being reimbursed for such expenses by either CTA or OPRA. The Exchange's capital expenditure costs for the build are estimated to be \$3.8 million, which includes procurement of new low-latency network switches, network devices, and analytics tools and the one-time operational expenditures to build this new network. In addition to this initial estimated approximately \$3.8 million outlay, the Exchange anticipates that the ongoing costs to maintain and operate the NMS network will be approximately \$215,000 annually.

#### Proposed Amendment to Add the NMS Network

The proposed structure for the NMS network has been designed so that the services available in co-location would be expanded so that a User can opt to connect to the NMS network at no additional charge.

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network connection for purposes of both transmitting and receiving data. Users that are not participants of the NMS Plans could use this alternate network connection for purposes of receiving data. This alternate network would not be available to connect to the other Included Data Products or to access the Exchange Systems or Global OTC.

To effect the proposed change, the Exchange proposes to amend the services available in co-location to provide that if a User purchases a service that includes a 10 Gb or 40 Gb connection to access either local area network, that access would include a connection to the NMS network of the same size. Although the Exchange is funding and expanding the types of local area network connections that would be available in the data center, the Exchange does not propose to change any of the fees related to purchasing a service that includes a connection to a local area network.

More specifically, the services available in co-location currently include LCN Access, IP Network Access, and Partial Cabinet Solution bundles. In order to implement the proposed change, the Exchange proposes the following amendments to Exchange Rules that describe the following services in co-location:

- In the column titled “Type of Service,” the Exchange proposes to amend the text describing the 10 Gb and 40 Gb LCN and IP Network Access options to include text referencing the NMS network.
- In the column titled “Description,” the Exchange proposes to amend the descriptions of the 10 Gb LX LCN Circuit, 40 Gb LCN Circuit, Partial Cabinet Solution bundle Option C and Option D, 10 Gb IP Network Circuit and 40 Gb IP Network Circuit to include text referencing the specific NMS Network connection that would be part of the service. In addition, because the descriptions of the LCN and IP network services do not currently reference either “LCN” or “IP Network,” respectively, the Exchange proposes to add text references as applicable.
- Finally, the Exchange proposes to amend text in the column titled

“Amount of Charge” to specify that the current initial and monthly recurring charges would not change and that for purposes of such charges, the existing local area network connection and NMS network connection would be together considered one connection. These text changes would make clear that Users would not be subject to two initial or two monthly charges. The Partial Cabinet Solution bundle description already indicates that the charges are “per bundle” and therefore no similar clarifying language is proposed.

The Exchange proposes to set forth these changes as follows (proposed new text underlined and proposed text for deletion in brackets):

Type of Service	Description	Amount of Charge
<p><u>LCN and NMS Network Access</u></p>	<p>10 Gb LX <u>LCN Circuit and 10 Gb NMS Network Circuit</u></p>	<p>\$15,000 <u>initial charge per connection [initial charge] to both the LCN and NMS Network</u> plus \$22,000 <u>monthly charge per connection to both the LCN and NMS Network.</u></p> <p><u>For purposes of these charges, the LCN Circuit and NMS Network Circuit are together considered to be one connection, and so Users are not subject to two initial or two monthly charges.</u></p>

<p><u>LCN and NMS Network Access</u></p>	<p>40 Gb <u>LCN Circuit</u> and <u>40 Gb NMS Network Circuit</u></p>	<p>\$15,000 <u>initial charge</u> per connection [<u>initial charge</u>] <u>to both the LCN and NMS Network</u> plus \$22,000 <u>monthly charge</u> per connection <u>to both the LCN and NMS Network</u>.</p> <p><u>For purposes of these charges, the LCN Circuit and NMS Network Circuit are together considered to be one connection, and so Users are not subject to two initial or two monthly charges.</u></p>
<p>Partial Cabinet Solution bundles</p> <p>Note: A User and its Affiliates are limited to one Partial Cabinet Solution bundle at a time. A User and its Affiliates must have an Aggregate Cabinet Footprint of 2 kW or less to qualify for a Partial Cabinet Solution bundle. See Note 2 under “General Notes.”</p>	<p>No change</p>	<p>No change</p>
	<p>No change</p>	<p>No change</p>
	<p>Option C: 1 kW partial cabinet, 1 LCN connection (10 Gb LX), 1 IP network connection (10 Gb), <u>2 NMS Network connections (10 Gb each)</u>, 2 fiber cross connections and either the Network Time Protocol Feed or Precision Timing Protocol</p>	<p>No change</p>
	<p>Option D: 2 kW partial cabinet, 1 LCN connection (10 Gb LX), 1 IP network connection (10 Gb), <u>2 NMS Network connections (10 Gb each)</u>, 2 fiber cross connections and either the Network Time Protocol Feed or Precision Timing Protocol</p>	<p>No change</p>

<p><u>IP Network and NMS Network Access</u></p>	<p><u>10 Gb IP Network Circuit and 10 GB NMS Network Circuit</u></p>	<p><u>\$10,000 initial charge per connection [initial charge] to both the IP Network and NMS Network plus \$11,000 monthly charge per connection to both the IP Network and NMS Network.</u></p> <p><u>For purposes of these charges, the IP Network Circuit and NMS Network Circuit are together considered to be one connection, and so Users are not subject to two initial or two monthly charges.</u></p>
<p><u>IP Network and NMS Network Access</u></p>	<p><u>40 Gb IP Network Circuit and 40 Gb NMS Network Circuit</u></p>	<p><u>\$10,000 initial charge per connection [initial charge] to both the IP Network and NMS Network plus \$18,000 monthly charge per connection to both the IP Network and NMS Network.</u></p> <p><u>For purposes of these charges, the IP Network Circuit and NMS Network Circuit are together considered to be one connection, and so Users are not subject to two initial or two monthly charges.</u></p>

As noted above, Users that purchase access to the LCN or IP Network currently can use such networks to connect to the NMS feeds. Once the NMS Network is available, Users can continue to use either their existing LCN or IP Network connection or the new NMS network connection to connect to the NMS feeds.

The Exchange proposes to amend the current General Note 4 to describe what a User obtains when it purchases a service that includes access to the LCN, IP network, or

NMS Network.

First, the Exchange proposes to split current Note 4 into three separate notes. The first paragraph of current Note 4 would continue to be numbered Note 4, and would specify which trading and execution services a User can access when it purchases a service that includes access to the LCN or IP network, which are not changing. Because the services that a User purchases may include access to the NMS network in addition to access to the LCN or IP network, the Exchange proposes a non-substantive amendment to the first sentence of this note to add the phrase “a service that includes.”

Second, the Exchange proposes that the current second paragraph of Note 4 and following table would be renumbered as Note 5. As the paragraph does currently, Note 5 would specify the Included Data Products that a User can connect to if it purchases a service that includes access to the LCN or IP network. Similar to the proposed amendment to the first sentence of Note 4, the Exchange proposes a non-substantive amendment to add the phrase “a service that includes” to the first sentence of new Note 5. In addition, the Exchange proposes a non-substantive amendment to the table to clarify that the NMS feeds are the CTA, CQ, and OPRA feeds.

Finally, the Exchange proposes new Note 6, which would describe in more detail the NMS network. As proposed, Note 6 would provide that when a User purchases a service that includes access to the NMS Network, upon its request it would receive connectivity to the NMS network and any of the NMS feeds that it selects, subject to any technical provisioning requirements and authorization from the provider of the data feed. Consistent with existing Note 4 (proposed Note 5), Note 6 would provide that market data fees for the NMS feeds would be charged by the provider of the NMS data feed.

The proposed note would further state that the NMS Network would provide connectivity to the NMS feeds only.

#### Expected Application of the Proposed Change

The proposed NMS network would be available to all Users that purchase a service that includes a 10 Gb or 40 Gb connection to access either the LCN or IP network, which are the networks currently available to provide connections to the NMS feeds.

#### General

As is the case with all Exchange co-location arrangements, (i) neither a User nor any of the User's customers would be permitted to submit orders directly to the Exchange unless such User or customer is a member organization, a Sponsored Participant or an agent thereof (e.g., a service bureau providing order entry services); (ii) use of the co-location services proposed herein would be completely voluntary and available to all Users on a non-discriminatory basis;<sup>21</sup> and (iii) a User would only incur one charge for the particular co-location service described herein, regardless of whether the User connects only to the Exchange or to the Exchange and one or more of the Affiliate SROs.<sup>22</sup>

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<sup>21</sup> As is currently the case, Users that receive co-location services from the Exchange will not receive any means of access to the Exchange's trading and execution systems that is separate from, or superior to, that of other Users. In this regard, all orders sent to the Exchange enter the Exchange's trading and execution systems through the same order gateway, regardless of whether the sender is co-located in the data center or not. In addition, co-located Users do not receive any market data or data service product that is not available to all Users, although Users that receive co-location services normally would expect reduced latencies in sending orders to, and receiving market data from, the Exchange.

<sup>22</sup> See 78 FR 50459, supra note 6, at 50459. NYSE, NYSE American and NYSE National have submitted substantially the same proposed rule change to propose

## 2. Statutory Basis

The Exchange believes that the proposed rule change is consistent with Section 6(b) of the Act,<sup>23</sup> in general, and furthers the objectives of Sections 6(b)(5) of the Act,<sup>24</sup> in particular, because it is designed to prevent fraudulent and manipulative acts and practices, to promote just and equitable principles of trade, to foster cooperation and coordination with persons engaged in regulating, clearing, settling, processing information with respect to, and facilitating transactions in securities, to remove impediments to, and perfect the mechanisms of, a free and open market and a national market system and, in general, to protect investors and the public interest and because it is not designed to permit unfair discrimination between customers, issuers, brokers, or dealers. The Exchange also believes that the proposed fee change is consistent with Section 6(b)(4) of the Act,<sup>25</sup> in particular, because it provides for the equitable allocation of reasonable dues, fees, and other charges among its members, issuers and other persons using its facilities and does not unfairly discriminate between customers, issuers, brokers or dealers.

### The Proposed Rule Change Would Remove Impediments to and Perfect the Mechanism of a Free and Open Market and a National Market System.

The Exchange believes that the proposed change to include access to the NMS

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the changes described herein and will be amending their respective filings in substantially the same manner. See Securities Exchange Act Release Nos. 86865 (September 4, 2019), 84 FR 47592 (September 10, 2019) (SR-NYSE-2019-46) (Notice); 86867 (September 4, 2019), 84 FR 47563 (September 10, 2019) (SR-NYSEAmer-2019-34) (Notice); and 86869 (September 4, 2019), 84 FR 47600 (September 10, 2019) (SR-NYSENAT-2019-19) (Notice).

<sup>23</sup> 15 U.S.C. 78f(b).

<sup>24</sup> 15 U.S.C. 78f(b)(5).

<sup>25</sup> 15 U.S.C. 78f(b)(4).

network as part of existing services available in co-location would remove impediments to, and perfect the mechanisms of, a free and open market and a national market system and, in general, protect investors and the public interest because, by offering access to the dedicated, low-latency NMS network, the Exchange will be providing Users with an additional option to connect to the NMS feeds. Until recently, SIAC was required to provide connectivity to the NMS feeds via only the IP network. As recently approved by the operating committees for the CTA/CQ Plans, SIAC is now authorized to offer connectivity to the NMS feeds in the data center via an alternate, dedicated, low-latency NMS network. The proposed NMS network has been designed consistent with this directive and will provide greater choice to Users that are seeking a low-latency network to connect to the NMS feeds.

#### The Proposed Rule Change is Reasonable

As an initial matter, as required by Rule 603(b) of Regulation NMS, SIAC disseminates quotation and transaction information as the single plan processor for all Tape A and Tape B-listed securities and is also the single plan processor for all options exchanges. As the single plan processor, the pricing decisions relating to the dedicated NMS network are not constrained by competitive market forces.

Instead, as described above, the Exchange is funding the capital and operational expenses to build and operate the NMS network. The implementation costs of approximately \$3.8 million are applicable only to the NMS network, which will be used for the sole purpose of providing access to the NMS feeds. Simply put, none of the implementation costs are applicable to any other Exchange services. The Exchange has based its procurement needs - which correlate to the Exchange's estimated costs to build

the NMS network - based on the Current Users' usage of the LCN or IP networks to connect to the NMS feeds, with some room for additional growth.

The Exchange believes that adding the NMS network as a service that would be included when a User purchases either a 10 Gb or 40 Gb connection to access a local area network is reasonable because the amended service is designed to make the NMS network available at no additional cost to Users. Specifically, as proposed, the NMS network would be included as part of specified existing LCN and IP network services that Users can already purchase, and are already used to connect to the NMS feeds.

Because the fees for LCN and IP network services relate to charges for services either other than or in addition to connectivity to the NMS feeds, the Exchange currently does not assess any fees that are specific to connectivity to the NMS feeds. Accordingly, if a User purchases a service that includes either a 10 Gb or 40 Gb connection to access either local area network, such User can use such local area network to connect to the NMS feeds at no additional charge. By adding access to the NMS network to these existing services, the Exchange proposes to offer an additional choice to such Users for how they could connect to the NMS feeds. By not changing the existing fees for such expanded service, Users would not incur any additional charges if they choose to use to the new low-latency, dedicated alternate network to connect to the NMS feeds instead of using a connection to one of the existing local area networks.

The Exchange further believes that expanding the existing services that include access to a 10 Gb and 40 Gb connection to either local area network to also include access to a same-size connection to the NMS network would be reasonable because there would be no differences in fees charged to either current or prospective Users that seek to

use co-location services to connect to the NMS feeds. Currently, a User would need to purchase a service that includes either a 10 Gb or 40 Gb connection to access a local area network in order to connect to the NMS feeds. As proposed, when such service is purchased, a User would continue to receive the same local area network service currently available, and would also have the option to connect to the NMS feeds via the NMS network.

The Exchange believes that the proposed changes to describe the NMS network are reasonable because they to promote clarity and transparency regarding which services would be available to Users and the charges for such services. As noted above, the Exchange proposes that if a User purchases a service that includes a 10 Gb or 40 Gb connection to access either local area network, that service would include access to a same-size connection to the NMS network. The Exchange believes that the text changes to Exchange's rules for such services is reasonable because the amendments would provide specificity regarding which specific services would include access to the NMS network. The proposed amendments would also provide specificity that the existing initial and monthly charges would be charged only once, and that a connection to an existing local area network and an NMS network would be considered a single connection for purposes of such charges.

The Exchange also believes that the proposed non-substantive amendment to split Note 4 into three separate Notes is reasonable because it would promote clarity and transparency regarding how services that include a connection to an LCN or IP network could be used. As now, Note 4 would describe the trading and execution services that a User may access if it purchases a service that includes access to the LCN or IP network.

Proposed Note 5 would describe the Included Data Products that a User can connect to if it purchases a service that includes access to the LCN or IP network. Proposed Note 6 would be new and is designed to promote clarity and transparency by (a) describing the connectivity that the User would obtain if it purchased service that included access to the NMS Network, subject to any technical provisioning requirements and authorization from the provider of the data feed, and (b) specifying that the NMS network would provide connectivity to the NMS feeds only. The Exchange further believes it is reasonable to identify the specific NMS feeds that are available, which are the CTA, CQ, and OPRA feeds, as this proposed amendment to Note 4 and proposed Note 6 would promote clarity and transparency in Exchange rules.

The Proposed Rule Change is Equitably Allocated

The Exchange believes that the proposed rule change is equitably allocated. As described above, the proposed amendment to include the NMS network as a service available in co-location has been designed so that Users would not have any new or different charges if they opt to connect to the NMS network. Rather, because the NMS network would be included as part of services that include access to a 10 Gb or 40 Gb connection to either local area network, Users will have a choice whether to use an IP network, LCN or NMS network connection to connect to the NMS feeds. A User that voluntarily chooses to exercise the choice to connect with the NMS network would receive the benefit of a low-latency connection without any additional charges.

As noted above, because a User that purchases access to the LCN or IP network receives connectivity to the NMS feeds, the Exchange currently does not assess any fees that are specific to connectivity to the NMS feeds. By offering the NMS network as part

of these existing services, the Exchange proposes to offer an additional choice to such Users for how they could connect to the NMS feeds. By not charging different fees for such expanded services, all Users will be treated equally and charged no differently than how fees are currently charged for access to a 10 Gb or 40 Gb connection to a local area network service.

The Proposed Rule Change is Not Unfairly Discriminatory

The Exchange believes that the proposed rule change is not unfairly discriminatory. As described above, the proposed amendment to include the NMS network as a service available in co-location has been designed so that Users would not have any new or different charges if they opt to connect to the NMS network. Rather, because access to the NMS network would be included as part of access to the 10 Gb and 40 Gb connection to either local area network, all Users will have a choice whether to use an IP network, LCN or NMS network connection to connect to the NMS feeds. The proposed change in services available in co-location therefore would not impose any meaningful differences to different types of Users. Any User that voluntarily chooses to exercise the choice to connect with the NMS network would receive the benefit of a low-latency connection without any additional charges.

As noted above, because a User that purchases access to the LCN or IP network receives connectivity to the NMS feeds, the Exchange currently does not assess any fees that are specific to connectivity to the NMS feeds. Accordingly, if a User purchases a service that includes either a 10 Gb or 40 Gb connection to access either local area network, such User can use such local area network to connect to the NMS feeds at no additional charge. By offering the NMS network as part of these existing services, the

Exchange proposes to offer an additional choice to such Users for how they could connect to the NMS feeds. By not charging any different fees for such expanded service, all Users will be treated equally and no differently than how fees are currently charged for a 10 Gb or 40 Gb connection to a local area network service.

For the reasons above, the proposed changes would not unfairly discriminate between or among market participants that are otherwise capable of satisfying any applicable co-location fees, requirements, terms and conditions established from time to time by the Exchange.

For these reasons, the Exchange believes that the proposal is consistent with the Act.

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

The Exchange does not believe that the proposed rule change will impose any burden on competition that is not necessary or appropriate in furtherance of the purposes of the Act. The Exchange believes that the proposed rule change would not impose any burden on competition because it is not designed to address any competitive issues. As described above, SIAC is the single plan processor for Tape A and B equities securities and all options securities and does not currently compete with any other providers for these processor services. The proposed rule change would amend the services available in co-location to include the NMS network when a User purchases a 10 Gb or 40 Gb connection to access either local area network service. Accordingly, the proposed rule change would expand the services available in co-location without changing any fees for the existing services, or adding fees for the expanded services. All Users would have access to the NMS network and it would be their choice of whether and at what level to

subscribe to such services, including whether to utilize the NMS network connection. Accordingly, the Exchange does not believe that the proposed rule change would place any User at a relative disadvantage compared to other Users.

C. Self-Regulatory Organization's Statement on Comments on the Proposed Rule Change Received from Members, Participants, or Others

No written comments were solicited or received with respect to the proposed rule change.

III. Date of Effectiveness of the Proposed Rule Change and Timing for Commission Action

Within 45 days of the date of publication of this notice in the Federal Register or up to 90 days (i) as the Commission may designate if it finds such longer period to be appropriate and publishes its reasons for so finding or (ii) as to which the self-regulatory organization consents, the Commission will:

- (A) by order approve or disapprove the proposed rule change, or
- (B) institute proceedings to determine whether the proposed rule change should be disapproved.

IV. Solicitation of Comments

Interested persons are invited to submit written data, views, and arguments concerning the foregoing, including whether the proposed rule change is consistent with the Act. Comments may be submitted by any of the following methods:

Electronic comments:

- Use the Commission's Internet comment form (<http://www.sec.gov/rules/sro.shtml>); or
- Send an e-mail to [rule-comments@sec.gov](mailto:rule-comments@sec.gov). Please include File Number SR-

NYSEARCA-2019-61 on the subject line.

Paper comments:

- Send paper comments in triplicate to: Secretary, Securities and Exchange Commission, 100 F Street, NE, Washington, DC 20549-1090.

All submissions should refer to File Number SR-NYSEARCA-2019-61. This file number should be included on the subject line if e-mail is used. To help the Commission process and review your comments more efficiently, please use only one method. The Commission will post all comments on the Commission's Internet website (<http://www.sec.gov/rules/sro.shtml>). Copies of the submission, all subsequent amendments, all written statements with respect to the proposed rule change that are filed with the Commission, and all written communications relating to the proposed rule change between the Commission and any person, other than those that may be withheld from the public in accordance with the provisions of 5 U.S.C. 552, will be available for website viewing and printing in the Commission's Public Reference Room, 100 F Street, NE, Washington, DC 20549 on official business days between the hours of 10:00 a.m. and 3:00 p.m. Copies of the filing also will be available for inspection and copying at the principal office of the Exchange. All comments received will be posted without change. Persons submitting comments are cautioned that we do not redact or edit personal identifying information from comment submissions. You should submit only information that you wish to make available publicly. All submissions should refer to File Number SR-NYSEARCA-2019-61 and should be submitted on or before [insert date 21 days from publication in the Federal Register].

For the Commission, by the Division of Trading and Markets, pursuant to

delegated authority.<sup>26</sup>

Eduardo A. Aleman  
Deputy Secretary

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<sup>26</sup> 17 CFR 200.30-3(a)(12).

Additions underscored

Deletions [bracketed]

Amendment No. 1 added text in ***bold italics double-underlined***

Amendment No. 1 deleted text in ~~strikethrough~~

## NYSE Arca Equities

### FEES AND CHARGES

**Effective Date:** [~~August 1~~**December 16**], ~~2019~~

\* \* \* \* \*

### CO-LOCATION FEES

\* \* \* \* \*

### General Notes

\* \* \* \* \*

4. When a User purchases ***a service that includes*** access to the LCN or IP network, it receives the ability to access the trading and execution systems of the NYSE, NYSE American, NYSE Arca, NYSE Chicago, Inc. (NYSE Chicago), and NYSE National (together, the Exchange Systems) as well as of Global OTC (the “Global OTC System”), subject, in each case, to authorization by the NYSE, NYSE American, NYSE Arca, NYSE Chicago, NYSE National or Global OTC, as applicable. Such access includes access to the customer gateways that provide for order entry, order receipt (i.e. confirmation that an order has been received), receipt of drop copies and trade reporting (i.e. whether a trade is executed or cancelled), as well as for sending information to shared data services for clearing and settlement. A User can change the access it receives at any time, subject to authorization by NYSE, NYSE American, NYSE Arca, NYSE Chicago, NYSE National or Global OTC. NYSE, NYSE American, NYSE Arca, NYSE Chicago and NYSE National also offer access to Exchange Systems to their members, such that a User does not have to purchase access to the LCN or IP network to obtain access to Exchange Systems. Global OTC offers access to the Global OTC System to its subscribers, such that a User does not have to purchase access to the LCN or IP network to obtain access to the Global OTC System.

5. When a User purchases ***a service that includes*** access to the LCN or IP network it receives connectivity to any of the Included Data Products that it selects, subject to any technical provisioning requirements and authorization from the provider of the data feed. Market data fees for the Included Data Products are charged by the provider of the data feed. A User can change the Included Data Products to which it receives connectivity at

any time, subject to authorization from the provider of the data feed. The Exchange is not the exclusive method to connect to the Included Data Products.

The Included Data Products are as follows:

NMS feeds <u>CTA</u> <u>CQ</u> <u>OPRA</u>
NYSE: NYSE Alerts NYSE BBO NYSE Integrated Feed NYSE OpenBook NYSE Order Imbalances NYSE Trades
NYSE American: NYSE American Alerts NYSE American BBO NYSE American Integrated Feed NYSE American OpenBook NYSE American Order Imbalances NYSE American Trades
NYSE American Options
NYSE Arca: NYSE ArcaBook NYSE Arca BBO NYSE Arca Integrated Feed NYSE Arca Order Imbalances NYSE Arca Trades
NYSE Arca Options
NYSE Best Quote and Trades (BQT)
NYSE Bonds
NYSE Chicago
NYSE National

**6. When a User purchases a service that includes access to the NMS network, upon its request it will receive connectivity to the NMS network and any of the NMS feeds that it selects, subject to any technical provisioning requirements and authorization from the provider of the data feed. Market data fees for the NMS feeds are charged by the provided of the NMS feed. The NMS network provides connectivity to the NMS feeds only.**

<u>NMS feeds</u> <u>CTA</u> <u>CQ</u>
---

<u>OPRA</u>
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~~A User authorized to receive connectivity to one or more NMS feeds may request to connect to the NMS feeds via an alternate network that is dedicated to the NMS feeds (the “NMS network”).~~

~~If a User purchases access to the LCN or IP network and requests a connection to the NMS network, that User and its Affiliates, taken together, will not be charged for up to eight corresponding NMS network connections (each, a “No Fee NMS Network Connection”) if such User, together with its Affiliates, purchases access to an LCN or IP network and:~~

- ~~1. designates no more than four No Fee NMS Network Connections as corresponding to the LCN connections of the User, together with its Affiliates, on a one-to-one basis;~~
- ~~2. designates no more than four No Fee NMS Network Connections as corresponding to the IP network connections of the User, together with its Affiliates, on a one-to-one basis;~~
- ~~3. does not use the LCN or IP network connections that correspond to No Fee NMS Network Connections to access the NMS feeds; and~~
- ~~4. each of the No Fee NMS Network Connections is of equal size or smaller than the corresponding LCN and IP network connection purchased by the User or its Affiliates.~~

~~In addition, a User may purchase an NMS network connection at the same fee as the same-sized 10 Gb or 40 Gb IP network circuits.~~

~~With respect to the No Fee NMS Network Connection:~~

- ~~• A User receiving one or more NMS networks will be required to certify to the Exchange whether any other Users or Hosted Customers are Affiliates of the certifying User. The certifying User will be required to inform the Exchange immediately of any event that causes another User or Hosted Customer to become an Affiliate. The Exchange will review available information regarding the entities and may request additional information to verify the Affiliate status of a User or Hosted Customer. The Exchange will provide No Fee NMS Network Connections to the certifying User, unless it determines that the certification is not accurate.~~
- ~~• A User that has one or more NMS networks may become affiliated with one or more other Users or Hosted Customers such that the User and its Affiliates will exceed the limit of No Cost NMS Network Connections. In such case, for each NMS network connection the User has that exceeds the No Fee NMS Network Connections, the Exchange will charge the User for each NMS network~~

connection at the same rate as the IP Network Access charges for the same size. Such change would be effective as of the date that the User became affiliated with the other Users or Hosted Customers, as applicable.

\* \* \* \* \*

Type of Service	Description	Amount of Charge
*****	*****	*****
<p><u>LCN and NMS Network Access</u></p>	<p>10 Gb LX <u>LCN Circuit</u> <u>and 10 Gb NMS Network Circuit</u></p>	<p>\$15,000 <u>initial charge</u> per connection [initial charge] <u>to both the LCN and NMS Network</u> plus \$22,000 monthly <u>charge</u> per connection <u>to both the LCN and NMS Network</u>.</p> <p><u>For purposes of these charges, the LCN Circuit and NMS Network Circuit are together considered to be one connection, and so Users are not subject to two initial or two monthly charges.</u></p>
<p><u>LCN and NMS Network Access</u></p>	<p>40 Gb <u>LCN Circuit</u> <u>and 40 Gb NMS Network Circuit</u></p>	<p>\$15,000 <u>initial charge</u> per connection [initial charge] <u>to both the LCN and NMS Network</u> plus \$22,000 <u>monthly charge per connection to both the LCN and NMS Network</u>.</p> <p><u>For purposes of these charges, the LCN Circuit and NMS Network Circuit are together considered to be one connection, and so Users are not subject to two initial or two monthly charges.</u></p>

<p>Partial Cabinet Solution bundles</p> <p>Note: A User and its Affiliates are limited to one Partial Cabinet Solution bundle at a time. A User and its Affiliates must have an Aggregate Cabinet Footprint of 2 kW or less to qualify for a Partial Cabinet Solution bundle. See Note 2 under “General Notes.”</p>	<p>No change</p>	<p>No change</p>
	<p>No change</p>	<p>No change</p>
	<p>Option C: 1 kW partial cabinet, 1 LCN connection (10 Gb LX), 1 IP network connection (10 Gb), <u>2 NMS Network connections (10 Gb each)</u>, 2 fiber cross connections and either the Network Time Protocol Feed or Precision Timing Protocol</p>	<p>No change</p>
	<p>Option D: 2 kW partial cabinet, 1 LCN connection (10 Gb LX), 1 IP network connection (10 Gb), <u>2 NMS Network connections (10 Gb each)</u>, 2 fiber cross connections and either the Network Time Protocol Feed or Precision Timing Protocol</p>	<p>No change</p>
<p>*****</p>	<p>*****</p>	<p>*****</p>

<p>IP Network <u>and NMS Network</u> Access</p>	<p>10 Gb <u>IP Network</u> Circuit <u>and 10 Gb NMS Network Circuit</u></p>	<p>\$10,000 <u>initial charge</u> per connection [initial charge] <u>to both the IP Network and NMS Network</u> plus \$11,000 monthly <u>charge</u> per connection <u>to both the IP Network and NMS Network</u>.</p> <p><u>For purposes of these charges, the IP Network Circuit and NMS Network Circuit are together considered to be one connection, and so Users are not subject to two initial or two monthly charges.</u></p>
<p>IP Network <u>and NMS Network</u> Access</p>	<p>40 Gb <u>IP Network</u> Circuit <u>and 40 Gb NMS Network Circuit</u></p>	<p>\$10,000 <u>initial charge</u> per connection [initial charge] <u>to both the IP Network and NMS Network</u> plus \$18,000 monthly <u>charge</u> per connection <u>to both the IP Network and NMS Network</u>.</p> <p><u>For purposes of these charges, the IP Network Circuit and NMS Network Circuit are together considered to be one connection, and so Users are not subject to two initial or two monthly charges.</u></p>
<p>*****</p>	<p>*****</p>	<p>*****</p>

## NYSE Arca Options Fees and Charges

\* \* \* \* \*

Effective Date: [~~July 11~~December 16], 2019

\* \* \* \* \*

NYSE Arca OPTIONS: FLOOR and EQUIPMENT and CO-LOCATION FEES

\* \* \* \* \*

### CO-LOCATION FEES

\* \* \* \* \*

#### General Notes

\* \* \* \* \*

4. When a User purchases a service that includes access to the LCN or IP network, it receives the ability to access the trading and execution systems of the NYSE, NYSE American, NYSE Arca, NYSE Chicago, Inc. (NYSE Chicago), and NYSE National (together, the Exchange Systems) as well as of Global OTC (the “Global OTC System”), subject, in each case, to authorization by the NYSE, NYSE American, NYSE Arca, NYSE Chicago, NYSE National or Global OTC, as applicable. Such access includes access to the customer gateways that provide for order entry, order receipt (i.e. confirmation that an order has been received), receipt of drop copies and trade reporting (i.e. whether a trade is executed or cancelled), as well as for sending information to shared data services for clearing and settlement. A User can change the access it receives at any time, subject to authorization by NYSE, NYSE American, NYSE Arca, NYSE Chicago, NYSE National or Global OTC. NYSE, NYSE American, NYSE Arca, NYSE Chicago and NYSE National also offer access to Exchange Systems to their members, such that a User does not have to purchase access to the LCN or IP network to obtain access to Exchange Systems. Global OTC offers access to the Global OTC System to its subscribers, such that a User does not have to purchase access to the LCN or IP network to obtain access to the Global OTC System.

5. When a User purchases a service that includes access to the LCN or IP network it receives connectivity to any of the Included Data Products that it selects, subject to any technical provisioning requirements and authorization from the provider of the data feed. Market data fees for the Included Data Products are charged by the provider of the data feed. A User can change the Included Data Products to which it receives connectivity at any time, subject to authorization from the provider of the data feed. The Exchange is not the exclusive method to connect to the Included Data Products.

The Included Data Products are as follows:

NMS feeds <u>CTA</u> <u>CQ</u> <u>OPRA</u>
NYSE: NYSE Alerts NYSE BBO NYSE Integrated Feed NYSE OpenBook NYSE Order Imbalances NYSE Trades
NYSE American: NYSE American Alerts NYSE American BBO NYSE American Integrated Feed NYSE American OpenBook NYSE American Order Imbalances NYSE American Trades
NYSE American Options
NYSE Arca: NYSE ArcaBook NYSE Arca BBO NYSE Arca Integrated Feed NYSE Arca Order Imbalances NYSE Arca Trades
NYSE Arca Options
NYSE Best Quote and Trades (BQT)
NYSE Bonds
NYSE Chicago
NYSE National

**6. When a User purchases a service that includes access to the NMS network, upon its request it will receive connectivity to the NMS network and any of the NMS feeds that it selects, subject to any technical provisioning requirements and authorization from the provider of the data feed. Market data fees for the NMS feeds are charged by the provided of the NMS feed. The NMS network provides connectivity to the NMS feeds only.**

<u>NMS feeds</u> <u>CTA</u> <u>CQ</u> <u>OPRA</u>
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~~A User authorized to receive connectivity to one or more NMS feeds may request to connect to the NMS feeds via an alternate network that is dedicated to the NMS feeds (the “NMS network”).~~

~~If a User purchases access to the LCN or IP network and requests a connection to the NMS network, that User and its Affiliates, taken together, will not be charged for up to eight corresponding NMS network connections (each, a “No Fee NMS Network Connection”) if such User, together with its Affiliates, purchases access to an LCN or IP network and:~~

- ~~1. designates no more than four No Fee NMS Network Connections as corresponding to the LCN connections of the User, together with its Affiliates, on a one to one basis;~~
- ~~2. designates no more than four No Fee NMS Network Connections as corresponding to the IP network connections of the User, together with its Affiliates, on a one to one basis;~~
- ~~3. does not use the LCN or IP network connections that correspond to No Fee NMS Network Connections to access the NMS feeds; and~~
- ~~4. each of the No Fee NMS Network Connections is of equal size or smaller than the corresponding LCN and IP network connection purchased by the User or its Affiliates.~~

~~In addition, a User may purchase an NMS network connection at the same fee as the same sized 10 Gb or 40 Gb IP network circuits.~~

~~With respect to the No Fee NMS Network Connection:~~

- ~~• A User receiving one or more NMS networks will be required to certify to the Exchange whether any other Users or Hosted Customers are Affiliates of the certifying User. The certifying User will be required to inform the Exchange immediately of any event that causes another User or Hosted Customer to become an Affiliate. The Exchange will review available information regarding the entities and may request additional information to verify the Affiliate status of a User or Hosted Customer. The Exchange will provide No Fee NMS Network Connections to the certifying User, unless it determines that the certification is not accurate.~~
- ~~• A User that has one or more NMS networks may become affiliated with one or more other Users or Hosted Customers such that the User and its Affiliates will exceed the limit of No Cost NMS Network Connections. In such case, for each NMS network connection the User has that exceeds the No Fee NMS Network Connections, the Exchange will charge the User for each NMS network connection at the same rate as the IP Network Access charges for the same size.~~

Such change would be effective as of the date that the User became affiliated with the other Users or Hosted Customers, as applicable.

\* \* \* \* \*

Type of Service	Description	Amount of Charge
*****	*****	*****
<p>LCN <u>and NMS Network</u> Access</p>	<p>10 Gb LX <u>LCN Circuit</u> <u>and 10 Gb NMS Network Circuit</u></p>	<p>\$15,000 <u>initial charge</u> per connection [initial charge] <u>to both the LCN and NMS Network</u> plus \$22,000 monthly <u>charge</u> per connection <u>to both the LCN and NMS Network</u>.</p> <p><u>For purposes of these charges, the LCN Circuit and NMS Network Circuit are together considered to be one connection, and so Users are not subject to two initial or two monthly charges.</u></p>
<p>LCN <u>and NMS Network</u> Access</p>	<p>40 Gb <u>LCN Circuit</u> <u>and 40 Gb NMS Network Circuit</u></p>	<p>\$15,000 <u>initial charge</u> per connection [initial charge] <u>to both the LCN and NMS Network</u> plus \$22,000 <u>monthly charge per connection to both the LCN and NMS Network</u>.</p> <p><u>For purposes of these charges, the LCN Circuit and NMS Network Circuit are together considered to be one connection, and so Users are not subject to two initial or two monthly charges.</u></p>

<p>Partial Cabinet Solution bundles</p> <p>Note: A User and its Affiliates are limited to one Partial Cabinet Solution bundle at a time. A User and its Affiliates must have an Aggregate Cabinet Footprint of 2 kW or less to qualify for a Partial Cabinet Solution bundle. See Note 2 under “General Notes.”</p>	<p>No change</p>	<p>No change</p>
	<p>No change</p>	<p>No change</p>
	<p>Option C: 1 kW partial cabinet, 1 LCN connection (10 Gb LX), 1 IP network connection (10 Gb), <u>2 NMS Network connections (10 Gb each)</u>, 2 fiber cross connections and either the Network Time Protocol Feed or Precision Timing Protocol</p>	<p>No change</p>
	<p>Option D: 2 kW partial cabinet, 1 LCN connection (10 Gb LX), 1 IP network connection (10 Gb), <u>2 NMS Network connections (10 Gb each)</u>, 2 fiber cross connections and either the Network Time Protocol Feed or Precision Timing Protocol</p>	<p>No change</p>
<p>*****</p>	<p>*****</p>	<p>*****</p>

<p>IP Network <u>and NMS Network</u> Access</p>	<p>10 Gb <u>IP Network</u> Circuit <u>and 10 Gb NMS Network Circuit</u></p>	<p>\$10,000 <u>initial charge</u> per connection [initial charge] <u>to both the IP Network and NMS Network</u> plus \$11,000 monthly <u>charge</u> per connection <u>to both the IP Network and NMS Network</u>.</p> <p><u>For purposes of these charges, the IP Network Circuit and NMS Network Circuit are together considered to be one connection, and so Users are not subject to two initial or two monthly charges.</u></p>
<p>IP Network <u>and NMS Network</u> Access</p>	<p>40 Gb <u>IP Network</u> Circuit <u>and 40 Gb NMS Network Circuit</u></p>	<p>\$10,000 <u>initial charge</u> per connection [initial charge] <u>to both the IP Network and NMS Network</u> plus \$18,000 monthly <u>charge</u> per connection <u>to both the IP Network and NMS Network</u>.</p> <p><u>For purposes of these charges, the IP Network Circuit and NMS Network Circuit are together considered to be one connection, and so Users are not subject to two initial or two monthly charges.</u></p>
<p>*****</p>	<p>*****</p>	<p>*****</p>

Additions underscored

Deletions [bracketed]

## NYSE Arca Equities

### FEES AND CHARGES

**Effective Date: [December 16, 2019]●**

\* \* \* \* \*

#### CO-LOCATION FEES

\* \* \* \* \*

#### General Notes

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4. When a User purchases a service that includes access to the LCN or IP network, it receives the ability to access the trading and execution systems of the NYSE, NYSE American, NYSE Arca, NYSE Chicago, Inc. (NYSE Chicago), and NYSE National (together, the Exchange Systems) as well as of Global OTC (the “Global OTC System”), subject, in each case, to authorization by the NYSE, NYSE American, NYSE Arca, NYSE Chicago, NYSE National or Global OTC, as applicable. Such access includes access to the customer gateways that provide for order entry, order receipt (i.e. confirmation that an order has been received), receipt of drop copies and trade reporting (i.e. whether a trade is executed or cancelled), as well as for sending information to shared data services for clearing and settlement. A User can change the access it receives at any time, subject to authorization by NYSE, NYSE American, NYSE Arca, NYSE Chicago, NYSE National or Global OTC. NYSE, NYSE American, NYSE Arca, NYSE Chicago and NYSE National also offer access to Exchange Systems to their members, such that a User does not have to purchase access to the LCN or IP network to obtain access to Exchange Systems. Global OTC offers access to the Global OTC System to its subscribers, such that a User does not have to purchase access to the LCN or IP network to obtain access to the Global OTC System.

5. When a User purchases a service that includes access to the LCN or IP network it receives connectivity to any of the Included Data Products that it selects, subject to any technical provisioning requirements and authorization from the provider of the data feed. Market data fees for the Included Data Products are charged by the provider of the data feed. A User can change the Included Data Products to which it receives connectivity at any time, subject to authorization from the provider of the data feed. The Exchange is not the exclusive method to connect to the Included Data Products.

The Included Data Products are as follows:

NMS feeds <u>CTA</u> <u>CQ</u> <u>OPRA</u>
NYSE: NYSE Alerts NYSE BBO NYSE Integrated Feed NYSE OpenBook NYSE Order Imbalances NYSE Trades
NYSE American: NYSE American Alerts NYSE American BBO NYSE American Integrated Feed NYSE American OpenBook NYSE American Order Imbalances NYSE American Trades
NYSE American Options
NYSE Arca: NYSE ArcaBook NYSE Arca BBO NYSE Arca Integrated Feed NYSE Arca Order Imbalances NYSE Arca Trades
NYSE Arca Options
NYSE Best Quote and Trades (BQT)
NYSE Bonds
NYSE Chicago
NYSE National

6. When a User purchases a service that includes access to the NMS network, upon its request it will receive connectivity to the NMS network and any of the NMS feeds that it selects, subject to any technical provisioning requirements and authorization from the provider of the data feed. Market data fees for the NMS feeds are charged by the provided of the NMS feed. The NMS network provides connectivity to the NMS feeds only.

<u>NMS feeds</u> <u>CTA</u> <u>CQ</u> <u>OPRA</u>
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Type of Service	Description	Amount of Charge
*****	*****	*****
<p><u>LCN and NMS Network Access</u></p>	<p>10 Gb LX <u>LCN Circuit</u> and 10 Gb <u>NMS Network Circuit</u></p>	<p>\$15,000 <u>initial charge</u> per connection [initial charge]to both the <u>LCN and NMS Network</u> plus \$22,000 <u>monthly charge</u> per connection to both the <u>LCN and NMS Network</u>.</p> <p><u>For purposes of these charges, the LCN Circuit and NMS Network Circuit are together considered to be one connection, and so Users are not subject to two initial or two monthly charges.</u></p>
<p><u>LCN and NMS Network Access</u></p>	<p>40 Gb <u>LCN Circuit</u> and 40 Gb <u>NMS Network Circuit</u></p>	<p>\$15,000 <u>initial charge</u> per connection [initial charge]to both the <u>LCN and NMS Network</u> plus \$22,000 <u>monthly charge</u> per connection to both the <u>LCN and NMS Network</u>.</p> <p><u>For purposes of these charges, the LCN Circuit and NMS Network Circuit are together considered to be one connection, and so Users are not subject to two initial or two monthly charges.</u></p>

<p>Partial Cabinet Solution bundles</p> <p>Note: A User and its Affiliates are limited to one Partial Cabinet Solution bundle at a time. A User and its Affiliates must have an Aggregate Cabinet Footprint of 2 kW or less to qualify for a Partial Cabinet Solution bundle. See Note 2 under “General Notes.”</p>	<p>No change</p>	<p>No change</p>
	<p>No change</p>	<p>No change</p>
	<p>Option C: 1 kW partial cabinet, 1 LCN connection (10 Gb LX), 1 IP network connection (10 Gb), <u>2 NMS Network connections (10 Gb each)</u>, 2 fiber cross connections and either the Network Time Protocol Feed or Precision Timing Protocol</p>	<p>No change</p>
	<p>Option D: 2 kW partial cabinet, 1 LCN connection (10 Gb LX), 1 IP network connection (10 Gb), <u>2 NMS Network connections (10 Gb each)</u>, 2 fiber cross connections and either the Network Time Protocol Feed or Precision Timing Protocol</p>	<p>No change</p>
<p>*****</p>	<p>*****</p>	<p>*****</p>

<p><u>IP Network and NMS Network Access</u></p>	<p><u>10 Gb IP Network Circuit and 10 Gb NMS Network Circuit</u></p>	<p><u>\$10,000 initial charge per connection [initial charge]to both the IP Network and NMS Network plus \$11,000 monthly charge per connection to both the IP Network and NMS Network.</u></p> <p><u>For purposes of these charges, the IP Network Circuit and NMS Network Circuit are together considered to be one connection, and so Users are not subject to two initial or two monthly charges.</u></p>
<p><u>IP Network and NMS Network Access</u></p>	<p><u>40 Gb IP Network Circuit and 40 Gb NMS Network Circuit</u></p>	<p><u>\$10,000 initial charge per connection [initial charge]to both the IP Network and NMS Network plus \$18,000 monthly charge per connection to both the IP Network and NMS Network.</u></p> <p><u>For purposes of these charges, the IP Network Circuit and NMS Network Circuit are together considered to be one connection, and so Users are not subject to two initial or two monthly charges.</u></p>
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## NYSE Arca Options Fees and Charges

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**Effective Date: [December 16, 2019]●**

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NYSE Arca OPTIONS: FLOOR and EQUIPMENT and CO-LOCATION FEES

\* \* \* \* \*

### CO-LOCATION FEES

\* \* \* \* \*

#### General Notes

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4. When a User purchases a service that includes access to the LCN or IP network, it receives the ability to access the trading and execution systems of the NYSE, NYSE American, NYSE Arca, NYSE Chicago, Inc. (NYSE Chicago), and NYSE National (together, the Exchange Systems) as well as of Global OTC (the “Global OTC System”), subject, in each case, to authorization by the NYSE, NYSE American, NYSE Arca, NYSE Chicago, NYSE National or Global OTC, as applicable. Such access includes access to the customer gateways that provide for order entry, order receipt (i.e. confirmation that an order has been received), receipt of drop copies and trade reporting (i.e. whether a trade is executed or cancelled), as well as for sending information to shared data services for clearing and settlement. A User can change the access it receives at any time, subject to authorization by NYSE, NYSE American, NYSE Arca, NYSE Chicago, NYSE National or Global OTC. NYSE, NYSE American, NYSE Arca, NYSE Chicago and NYSE National also offer access to Exchange Systems to their members, such that a User does not have to purchase access to the LCN or IP network to obtain access to Exchange Systems. Global OTC offers access to the Global OTC System to its subscribers, such that a User does not have to purchase access to the LCN or IP network to obtain access to the Global OTC System.

5. When a User purchases a service that includes access to the LCN or IP network it receives connectivity to any of the Included Data Products that it selects, subject to any technical provisioning requirements and authorization from the provider of the data feed. Market data fees for the Included Data Products are charged by the provider of the data feed. A User can change the Included Data Products to which it receives connectivity at any time, subject to authorization from the provider of the data feed. The Exchange is not the exclusive method to connect to the Included Data Products.

The Included Data Products are as follows:

NMS feeds <u>CTA</u> <u>CQ</u> <u>OPRA</u>
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NYSE American Options
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NYSE Arca Options
NYSE Best Quote and Trades (BQT)
NYSE Bonds
NYSE Chicago
NYSE National

6. When a User purchases a service that includes access to the NMS network, upon its request it will receive connectivity to the NMS network and any of the NMS feeds that it selects, subject to any technical provisioning requirements and authorization from the provider of the data feed. Market data fees for the NMS feeds are charged by the provided of the NMS feed. The NMS network provides connectivity to the NMS feeds only.

<u>NMS feeds</u> <u>CTA</u> <u>CQ</u> <u>OPRA</u>
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Type of Service	Description	Amount of Charge
*****	*****	*****
<p><u>LCN and NMS Network Access</u></p>	<p>10 Gb LX <u>LCN Circuit</u> and 10 Gb <u>NMS Network Circuit</u></p>	<p>\$15,000 <u>initial charge</u> per connection [initial charge]to <u>both the LCN and NMS Network</u> plus \$22,000 <u>monthly charge</u> per connection to <u>both the LCN and NMS Network</u>.</p> <p><u>For purposes of these charges, the LCN Circuit and NMS Network Circuit are together considered to be one connection, and so Users are not subject to two initial or two monthly charges.</u></p>
<p><u>LCN and NMS Network Access</u></p>	<p>40 Gb <u>LCN Circuit</u> and <u>40 Gb NMS Network Circuit</u></p>	<p>\$15,000 <u>initial charge</u> per connection [initial charge]to <u>both the LCN and NMS Network</u> plus \$22,000 <u>monthly charge</u> per connection to <u>both the LCN and NMS Network</u>.</p> <p><u>For purposes of these charges, the LCN Circuit and NMS Network Circuit are together considered to be one connection, and so Users are not subject to two initial or two monthly charges.</u></p>

<p>Partial Cabinet Solution bundles</p> <p>Note: A User and its Affiliates are limited to one Partial Cabinet Solution bundle at a time. A User and its Affiliates must have an Aggregate Cabinet Footprint of 2 kW or less to qualify for a Partial Cabinet Solution bundle. See Note 2 under “General Notes.”</p>	<p>No change</p>	<p>No change</p>
	<p>No change</p>	<p>No change</p>
	<p>Option C: 1 kW partial cabinet, 1 LCN connection (10 Gb LX), 1 IP network connection (10 Gb), <u>2 NMS Network connections (10 Gb each)</u>, 2 fiber cross connections and either the Network Time Protocol Feed or Precision Timing Protocol</p>	<p>No change</p>
	<p>Option D: 2 kW partial cabinet, 1 LCN connection (10 Gb LX), 1 IP network connection (10 Gb), <u>2 NMS Network connections (10 Gb each)</u>, 2 fiber cross connections and either the Network Time Protocol Feed or Precision Timing Protocol</p>	<p>No change</p>
<p>*****</p>	<p>*****</p>	<p>*****</p>

<p><u>IP Network and NMS Network Access</u></p>	<p><u>10 Gb IP Network Circuit and 10 Gb NMS Network Circuit</u></p>	<p><u>\$10,000 initial charge per connection [initial charge]to both the IP Network and NMS Network plus \$11,000 monthly charge per connection to both the IP Network and NMS Network.</u></p> <p><u>For purposes of these charges, the IP Network Circuit and NMS Network Circuit are together considered to be one connection, and so Users are not subject to two initial or two monthly charges.</u></p>
<p><u>IP Network and NMS Network Access</u></p>	<p><u>40 Gb IP Network Circuit and 40 Gb NMS Network Circuit</u></p>	<p><u>\$10,000 initial charge per connection [initial charge]to both the IP Network and NMS Network plus \$18,000 monthly charge per connection to both the IP Network and NMS Network.</u></p> <p><u>For purposes of these charges, the IP Network Circuit and NMS Network Circuit are together considered to be one connection, and so Users are not subject to two initial or two monthly charges.</u></p>
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