

Required fields are shown with yellow backgrounds and asterisks.

Page 1 of \* 256

SECURITIES AND EXCHANGE COMMISSION  
WASHINGTON, D.C. 20549  
Form 19b-4

File No. \* SR 2024 - \* 01

Amendment No. (req. for Amendments \*)

Filing by MIAX Emerald, LLC

Pursuant to Rule 19b-4 under the Securities Exchange Act of 1934

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

<input type="checkbox"/> 19b-4(f)(1)	<input type="checkbox"/> 19b-4(f)(4)
<input checked="" 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  
Section 806(e)(1) \*

Section 806(e)(2) \*

Security-Based Swap Submission pursuant to the Securities Exchange Act of 1934  
Section 3C(b)(2) \*

Exhibit 2 Sent As Paper Document

Exhibit 3 Sent As Paper Document

**Description**

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

Amend the Fee Schedule to Adopt Consolidated Audit Trail Funding Fees

**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 \* Tanya Last Name \* Kitaigorovski

Title \* AVP, Associate Counsel

E-mail \* tkitaigorovski@MIAXGlobal.com

Telephone \* (609) 413-5787 Fax

**Signature**

Pursuant to the requirements of the Securities Exchange of 1934, MIAX Emerald, LLC has duly caused this filing to be signed on its behalf by the undersigned thereunto duly authorized.

Date 1/2/2024 (Title \*)

By Tanya Kitaigorovski AVP, Associate Counsel  
(Name \*)

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

Date: 2024.01.02  
09:44:05 AM  
*Tanya Kitaigorovski*

Required fields are shown with yellow backgrounds and astericks.

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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SR-EMERALD-2024-01- Exhibit 1.doc

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 Advanced 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 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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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 Sent As Paper Document

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

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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 Sent As Paper Document

**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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SR-EMERALD-2024-01 - Exhibit 5.doc

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) MIAX Emerald, LLC (“MIAX Emerald” or “Exchange”), 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> proposes to amend the Exchange’s Fee Schedule (“Fee Schedule”) to establish fees for Industry Members<sup>3</sup> related to certain historical costs of the National Market System Plan Governing the Consolidated Audit Trail (the “CAT NMS Plan” or “Plan”) incurred prior to January 1, 2022. These fees would be payable to Consolidated Audit Trail, LLC (“CAT LLC” or “the Company”)<sup>4</sup> and referred to as Historical CAT Assessment 1, and would be described in a section of the Exchange’s fee schedule entitled “Consolidated Audit Trail Funding Fees.” The fee rate for Historical CAT Assessment 1 will be \$0.000015 per executed equivalent share. CAT Executing Brokers will receive their first monthly invoice for Historical CAT Assessment 1 in April 2024 calculated based on their transactions as CAT Executing Brokers for the Buyer (“CEBB”) and/or CAT Executing Brokers for the Seller (“CEBS”) in March 2024.

A notice of the proposed rule change for publication in the Federal Register is attached hereto as Exhibit 1, and a copy of the applicable section of the Fee Schedule is attached hereto as Exhibit 5.

(b) Inapplicable.

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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> An “Industry Member” is defined as “a member of a national securities exchange or a member of a national securities association.” *See* Miami International Securities Exchange LLC (“MIAX Rule”) Rule 1701(u). The Exchange notes that MIAX Chapter XVII is incorporated by reference into the Exchange’s rulebook. As such, MIAX Chapter XVII also applies to the Exchange. *See also* Section 1.1 of the CAT NMS Plan. Unless otherwise specified, capitalized terms used in this rule filing are defined as set forth in the CAT NMS Plan and/or the CAT Compliance Rule. *See* MIAX Rule 1701.

<sup>4</sup> The term “CAT LLC” may be used to refer to Consolidated Audit Trail, LLC or CAT NMS, LLC, depending on the context.

(c) Inapplicable.

## 2. **Procedures of the Self-Regulatory Organization**

The proposed rule change was approved by the Chief Executive Officer of the Exchange or his designee pursuant to authority delegated by the Exchange Board of Directors on February 2, 2023. Exchange staff will advise the Board of Directors of any action taken pursuant to delegated authority. No other action by the Exchange is necessary for the filing of the proposed rule change.

Questions and comments on the proposed rule change may be directed to Tanya Kitaigorovski, AVP, Associate Counsel, at (609) 413-5787.

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

### a. Purpose

On July 11, 2012, the Commission adopted Rule 613 of Regulation NMS, which required the self-regulatory organizations (“SROs”) to submit a national market system (“NMS”) plan to create, implement and maintain a consolidated audit trail that would capture customer and order event information for orders in NMS securities across all markets, from the time of order inception through routing, cancellation, modification or execution.<sup>5</sup> On November 15, 2016, the Commission approved the CAT NMS Plan.<sup>6</sup> Under the CAT NMS Plan, the Operating Committee has the discretion to establish funding for CAT LLC to operate the CAT, including establishing fees for Industry Members to be assessed by CAT LLC that would be implemented on behalf of CAT LLC by the Participants.<sup>7</sup> The Operating Committee adopted a revised

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<sup>5</sup> Securities Exchange Act Rel. No. 67457 (July 18, 2012), 77 Fed. Reg. 45721 (Aug. 1, 2012).

<sup>6</sup> Securities Exchange Act Rel. No. 79318 (Nov. 15, 2016), 81 Fed. Reg. 84696 (Nov. 23, 2016) (“CAT NMS Plan Approval Order”).

<sup>7</sup> Section 11.1(b) of the CAT NMS Plan.

funding model to fund the CAT (“CAT Funding Model”). On September 6, 2023, the Commission approved the CAT Funding Model, after concluding that the model was reasonable and that it satisfied the requirements of Section 11A of the Exchange Act and Rule 608 thereunder.<sup>8</sup>

The CAT Funding Model provides a framework for the recovery of the costs to create, develop and maintain the CAT, including providing a method for allocating costs to fund the CAT among Participants and Industry Members. The CAT Funding Model establishes two categories of fees: (1) CAT fees assessed by CAT LLC and payable by certain Industry Members to recover a portion of historical CAT costs previously paid by the Participants (“Historical CAT Assessment” fees); and (2) CAT fees assessed by CAT LLC and payable by Participants and Industry Members to fund prospective CAT costs (“Prospective CAT Costs” fees).<sup>9</sup>

Under the CAT Funding Model, “[t]he Operating Committee will establish one or more fees (each a ‘Historical CAT Assessment’) to be payable by Industry Members with regard to CAT costs previously paid by the Participants (‘Past CAT Costs’).”<sup>10</sup> In establishing a Historical CAT Assessment, the Operating Committee will determine a “Historical Recovery Period” and calculate a “Historical Fee Rate” for that Historical Recovery Period. Then, for each month in which a Historical CAT Assessment is in effect, each CEBB and CEBS would be

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<sup>8</sup> Securities Exchange Act Rel. No. 98290 (Sept. 6, 2023), 88 Fed. Reg. 62628 (Sept. 12, 2023) (“CAT Funding Model Approval Order”).

<sup>9</sup> Under the CAT Funding Model, the Operating Committee may establish one or more Historical CAT Assessments. Section 11.3(b) of the CAT NMS Plan. This filing only establishes Historical CAT Assessment I related to certain Historical CAT Costs as described herein; it does not address any other potential Historical CAT Assessment related to other Historical CAT Costs. In addition, under the CAT Funding Model, the Operating Committee also may establish CAT Fees related to CAT costs going forward. Section 11.3(a) of the CAT NMS Plan. This filing does not address any potential CAT Fees related to CAT costs going forward. Any such other fee for any other Historical CAT Assessment or CAT Fee for Prospective CAT Costs will be subject to a separate fee filing.

<sup>10</sup> Section 11.3(b) of the CAT NMS Plan.

required to pay the fee – the Historical CAT Assessment – for each transaction in Eligible Securities executed by the CEBB or CEBS from the prior month as set forth in CAT Data, where the Historical CAT Assessment for each transaction will be calculated by multiplying the number of executed equivalent shares in the transaction by one-third and by the Historical Fee Rate.<sup>11</sup>

Each Historical CAT Assessment to be paid by CEBBs and CEBSs is designed to contribute toward the recovery of two-thirds of the Historical CAT Costs. Because the Participants previously have paid Past CAT Costs via loans to the Company, the Participants would not be required to pay any Historical CAT Assessment. In lieu of a Historical CAT Assessment, the Participants' one-third share of Historical CAT Costs will be paid by the cancellation of loans made by the Participants to the Company on a pro rata basis based on the outstanding loan amounts due under the loans, instead of through the payment of a CAT fee.<sup>12</sup> In addition, Participants also will be 100% responsible for certain Excluded Costs (as discussed below).

CAT LLC proposes to charge CEBBs and CEBSs (as described in more detail below) Historical CAT Assessment 1 to recover certain historical CAT costs incurred prior to January 1, 2022, in accordance with the CAT Funding Model. To implement this fee on behalf of CAT LLC, the CAT NMS Plan requires the Participants to “file with the SEC under Section 19(b) of the Exchange Act any such fees on Industry Members that the Operating Committee approves,

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<sup>11</sup> In approving the CAT Funding Model, the Commission stated that, “[i]n the Commission’s view, the proposed recovery of the Past CAT Costs via the Historical CAT Assessment is reasonable.” CAT Funding Model Approval Order at 62662.

<sup>12</sup> Section 11.3(b)(ii) of the CAT NMS Plan.

and such fees shall be labeled as ‘Consolidated Audit Trail Funding Fees.’<sup>13</sup> The Plan further states that “Participants will be required to file with the SEC pursuant to Section 19(b) of the Exchange Act a filing for each Historical CAT Assessment.”<sup>14</sup> Accordingly, the purpose of this filing is to implement a Historical CAT Assessment on behalf of CAT LLC for Industry Members, referred to as Historical CAT Assessment 1, in accordance with the CAT NMS Plan.<sup>15</sup>

### **(1) CAT Executing Brokers**

Historical CAT Assessment 1 will be charged to each CEBB and CEBS for each applicable transaction in Eligible Securities.<sup>16</sup> The CAT NMS Plan defines a “CAT Executing Broker” to mean:

(a) with respect to a transaction in an Eligible Security that is executed on an exchange, the Industry Member identified as the Industry Member responsible for the order on the buy-side of the transaction and the Industry Member responsible for the sell-side of the transaction in the equity order trade event and option trade event in the CAT Data submitted to the CAT by the relevant exchange pursuant to the Participant Technical Specifications; and (b) with respect to a transaction in an Eligible Security that is executed otherwise than on an exchange and required to be

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<sup>13</sup> Section 11.1(b) of the CAT NMS Plan.

<sup>14</sup> Section 11.3(b)(iii)(B)(I) of the CAT NMS Plan.

<sup>15</sup> Note that there may be one or more Historical CAT Assessments depending on the timing of the completion of the Financial Accountability Milestones, among other things. Section 11.3(b) of the CAT NMS Plan.

<sup>16</sup> In its approval of the CAT Funding Model, the Commission determined that charging CAT fees to CAT Executing Brokers was reasonable. In reaching this conclusion the Commission noted that the use of CAT Executing Brokers is appropriate because the CAT Funding Model is based upon the calculation of *executed* equivalent shares, and, therefore, charging CAT Executing Brokers would reflect their executing role in each transaction. Furthermore, the Commission noted that, because CAT Executing Brokers are already identified in transaction reports from the exchanges and FINRA’s equity trade reporting facilities recorded in CAT Data, charging CAT Executing Brokers could streamline the billing process. CAT Funding Model Approval Order at 62629.

reported to an equity trade reporting facility of a registered national securities association, the Industry Member identified as the executing broker and the Industry Member identified as the contra-side executing broker in the TRF/ORF/ADF transaction data event in the CAT Data submitted to the CAT by FINRA pursuant to the Participant Technical Specifications; provided, however, in those circumstances where there is a non-Industry Member identified as the contra-side executing broker in the TRF/ORF/ADF transaction data event or no contra-side executing broker is identified in the TRF/ORF/ADF transaction data event, then the Industry Member identified as the executing broker in the TRF/ORF/ADF transaction data event would be treated as CAT Executing Broker for the Buyer and for the Seller.<sup>17</sup>

The following fields of the Participant Technical Specifications indicate the CAT Executing Brokers for the transactions executed on an exchange.

#### Equity Order Trade (EOT)<sup>18</sup>

#	Field Name	Data Type	Description	Include Key
12.n.8/ 13.n.8	member	Member Alias	The identifier for the member firm that is responsible for the order on this side of the trade.  Not required if there is no order for the side as indicated by the NOBUYID/NOSELLID instruction.	C

<sup>17</sup> Section 1.1 of the CAT NMS Plan. Note that CEBBs and CEBs may, but are not required to, pass-through their CAT fees to their clients, who may, in turn, pass their fees to their clients until they are imposed ultimately on the account that executed the transaction. See CAT Funding Model Approval Order at 62649.

<sup>18</sup> See Table 23, Section 4.7 (Order Trade Event) of the CAT Reporting Technical Specifications for Plan Participants, Version 4.1.0-r20 (Sept. 25, 2023), [https://www.catnmsplan.com/sites/default/files/2023-09/9.25.2023-CAT\\_Reporting\\_Technical\\_Specifications\\_for\\_Participants\\_4.1.0-r20.pdf](https://www.catnmsplan.com/sites/default/files/2023-09/9.25.2023-CAT_Reporting_Technical_Specifications_for_Participants_4.1.0-r20.pdf) (“CAT Reporting Technical Specifications for Plan Participants”).



			This must be provided if orderID is provided.	
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### Option Trade (OT)<sup>19</sup>

#	Field Name	Data Type	Description	Include Key
16.n.13 / 17.n.13	member	Member Alias	The identifier for the member firm that is responsible for the order	R

In addition, the following fields of the Participant Technical Specifications would indicate the CAT Executing Brokers for the transactions executed otherwise than on an exchange.

### TRF/ORF/ADF Transaction Data Event (TRF)<sup>20</sup>

#	Field Name	Data Type	Description	Include Key
26	reportingExecutingMpid	Member Alias	MPID of the executing party	R
28	contraExecutingMpid	Member Alias	MPID of the contra-side executing party.	C

## (2) Calculation of Historical Fee Rate 1

The Operating Committee determined the Historical Fee Rate to be used in calculating Historical CAT Assessment 1 (“Historical Fee Rate 1”) by dividing the Historical CAT Costs for Historical CAT Assessment 1 (“Historical CAT Costs 1”) by the projected total executed share volume of all transactions in Eligible Securities for the Historical Recovery Period for Historical CAT Assessment 1 (“Historical Recovery Period 1”), as discussed in detail below. Based on this calculation, the Operating Committee has determined that Historical Fee Rate 1 would be

<sup>19</sup> See Table 51, Section 5.2.5.1 (Simple Option Trade Event) of the CAT Reporting Technical Specifications for Plan Participants.

<sup>20</sup> See Table 61, Section 6.1 (TRF/ORF/ADF Transaction Data Event) of the CAT Reporting Technical Specifications for Plan Participants.

\$0.0000439371316687066 per executed equivalent share. This rate is then divided by three and rounded to determine the fee rate of \$0.000015 per executed equivalent share that will be assessed to CEBBs and CEBSs, as also discussed in detail below.

**(A) Executed Equivalent Shares for Transactions in Eligible Securities**

Under the CAT NMS Plan, for purposes of calculating each Historical CAT Assessment, executed equivalent shares in a transaction in Eligible Securities will be reasonably counted as follows: (1) each executed share for a transaction in NMS Stocks will be counted as one executed equivalent share; (2) each executed contract for a transaction in Listed Options will be counted based on the multiplier applicable to the specific Listed Options (*i.e.*, 100 executed equivalent shares or such other applicable multiplier); and (3) each executed share for a transaction in OTC Equity Securities shall be counted as 0.01 executed equivalent share.<sup>21</sup>

**(B) Historical CAT Costs 1**

The CAT NMS Plan states that “[t]he Operating Committee will reasonably determine the Historical CAT Costs sought to be recovered by each Historical CAT Assessment, where the Historical CAT Costs will be Past CAT Costs minus Past CAT Costs reasonably excluded from Historical CAT Costs by the Operating Committee. Each Historical CAT Assessment will seek to recover from CAT Executing Brokers two-thirds of Historical CAT Costs incurred during the period covered by the Historical CAT Assessment.”<sup>22</sup> As described in detail below, Historical CAT Costs 1 would be \$337,688,610. This figure includes Past CAT Costs of \$401,312,909 minus certain Excluded Costs of \$63,624,299. Participants collectively will remain responsible

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<sup>21</sup> Section 11.3(a)(i)(B) and 11.3(b)(i)(B) of the CAT NMS Plan. In approving the CAT Funding Model, the Commission concluded that “the use of executed equivalent share volume as the basis of the proposed cost allocation methodology is reasonable and consistent with the approach taken by the funding principles of the CAT NMS Plan.” CAT Funding Model Approval Order at 62640.

<sup>22</sup> Section 11.3(b)(i)(C) of the CAT NMS Plan.

for one-third of Historical CAT Costs 1 (which is \$112,562,870), plus the Excluded Costs of \$63,624,299. CEBBs collectively will be responsible for one-third of Historical CAT Costs 1 (which is \$112,562,870), and CEBSs collectively will be responsible for one-third of Historical CAT Costs 1 (which is \$112,562,870).

The following describes in detail Historical CAT Costs 1 with regard to four separate historical time periods as well as Past CAT Costs excluded from Historical CAT Costs 1 (“Excluded Costs”). The following cost details are provided in accordance with the requirement in the CAT NMS Plan to provide in the fee filing “a brief description of the amount and type of Historical CAT Costs, including (1) the technology line items of cloud hosting services, operating fees, CAIS operating fees, change request fees, and capitalized developed technology costs, (2) legal, (3) consulting, (4) insurance, (5) professional and administration and (6) public relations costs.”<sup>23</sup> Each of the costs described below are reasonable, appropriate and necessary for the creation, implementation and maintenance of CAT.

**(i) Historical CAT Costs Incurred Prior to June 22, 2020 (Pre-FAM Costs)**

Historical CAT Costs 1 would include costs incurred by CAT prior to June 22, 2020 (“Pre-FAM Period”) and already funded by the Participants, excluding Excluded Costs (described further below). Historical CAT Costs 1 would include costs for the Pre-FAM Period of \$143,919,521. The Participants would remain responsible for one-third of this cost (which they have previously paid) (\$47,973,174), and Industry Members would be responsible for the remaining two-thirds, with CEBBs paying one-third (\$47,973,174) and CEBSs paying one-third (\$47,973,174). These costs do not include Excluded Costs, as discussed further below. The

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<sup>23</sup> Section 11.3(b)(iii)(B)(II)(B) of the CAT NMS Plan.

following table breaks down Historical CAT Costs 1 for the Pre-FAM Period into the categories set forth in Section 11.3(b)(iii)(B)(II) of the CAT NMS Plan.

<b>Operating Expense</b>	<b>Historical CAT Costs 1 for Pre-FAM Period (Prior to June 22, 2020)<sup>24</sup></b>
Capitalized Developed Technology Costs and Transition Fee*	\$71,475,941
<b><i>Technology Costs:</i></b>	<b>\$33,568,579</b>
Cloud Hosting Services	\$10,268,840
Operating Fees	\$21,085,485
CAIS Operating Fees	\$2,072,908
Change Request Fees	\$141,346
Legal	\$19,674,463
Consulting	\$17,013,414
Insurance	\$880,419
Professional and administration	\$1,082,036
Public relations	\$224,669
<b>Total Operating Expenses</b>	<b>\$143,919,521</b>

\* The non-cash amortization of these capitalized developed technology costs of \$2,115,545 incurred during the period prior to June 22, 2020 have been appropriately excluded from the above table.<sup>25</sup>

The Pre-FAM Period includes a broad range of CAT-related activity from 2012 through June 22, 2020, including the evaluation of the requirements of SEC Rule 613, the development of the CAT NMS Plan, the evaluation and selection of the initial and successor Plan Processors, the commencement of the creation and implementation of the CAT to comply with Rule 613 and

<sup>24</sup> The costs described in this table of costs for the Pre-FAM Period were calculated based upon CAT LLC's review of applicable bills and invoices and related financial statements. CAT LLC financial statements are available on the CAT website. In addition, in accordance with Section 6.6(a)(i) of the CAT NMS Plan, in 2018 CAT LLC provided the SEC with "an independent audit of fees, costs, and expenses incurred by the Participants on behalf of the Company prior to the Effective Date of the Plan that will be publicly available." The audit is available on the CAT website.

<sup>25</sup> With respect to certain costs that were "appropriately excluded," such excluded costs relate to the amortization of capitalized technology costs, which are amortized over the life of the Plan Processor Agreement. As such costs have already been otherwise reflected in the filing, their inclusion would double count the capitalized technology costs. In addition, amortization is a non-cash expense.

the CAT NMS Plan, including technical specifications for transaction reporting and regulatory access, and related technology and the commencement of reporting to the CAT. The following describes the costs for each of the categories for the Pre-FAM Period.

(a) *Technology Costs – Cloud Hosting Services.*

The \$10,268,840 in technology costs for cloud hosting services represent costs incurred for services provided by the cloud services provider for the CAT, Amazon Web Services, Inc. (“AWS”), during the Pre-FAM Period.

As part of its proposal for acting as the successor Plan Processor for the CAT, FCAT selected AWS as a subcontractor to provide cloud hosting services. In 2019, after reviewing the capabilities of other cloud services providers, FCAT determined that AWS was the only cloud services provider at that time sufficiently mature and capable of providing the full suite of necessary cloud services for the CAT, including, for example, the security, resiliency and complexity necessary for the CAT computing requirements. The use of cloud hosting services is standard for this type of high-volume data activity and reasonable and necessary for implementation of the CAT, particularly given the substantial data volumes associated with the CAT.

Under the Plan Processor Agreement with FCAT, CAT LLC is required to pay FCAT the fees incurred by the Plan Processor for cloud hosting services provided by AWS as FCAT’s subcontractor on a monthly basis for the cloud hosting services, and FCAT, in turn, pays such fees to AWS. The fees for cloud hosting services were negotiated by FCAT on an arm’s length basis with the goals of managing cost and receiving services required to comply with the CAT NMS Plan and Rule 613, taking into consideration a variety of factors, including the expected volume of data, the breadth of services provided and market rates for similar services. The fees for cloud

hosting services during the Pre-FAM Period were paid to FCAT by CAT NMS LLC<sup>26</sup> and subsequently Consolidated Audit Trail, LLC (as previously noted, both entities are referred to generally as “CAT LLC”),<sup>27</sup> and FCAT, in turn, paid AWS. CAT LLC was funded via loan contributions by the Participants.<sup>28</sup>

AWS was engaged by FCAT to provide a broad array of cloud hosting services for the CAT, including data ingestion, data management, and analytic tools. Services provided by AWS include storage services, databases, compute services and other services (such as networking, management tools and DevOps tools). AWS also was engaged to provide various environments for CAT, such as development, performance testing, test and production environments.

The cost for AWS services for the CAT is a function of the volume of CAT Data. The greater the amount of CAT Data, the greater the cost of AWS services to the CAT. During the Pre-FAM Period from the engagement of AWS in February 2019 through June 2020, AWS provided cloud hosting services for volumes of CAT Data far in excess of the volume predictions set forth in the CAT NMS Plan. The CAT NMS Plan states, when all CAT Reporters are submitting their data to the CAT, it “must be sized to receive[,] process and load more than 58 billion records per day,”<sup>29</sup> and that “[i]t is expected that the Central Repository will grow to

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<sup>26</sup> CAT NMS, LLC was formed by FINRA and the U.S. national securities exchanges to implement the requirements of SEC Rule 613 under the Exchange Act. SEC Rule 613 required the SROs to jointly submit to the SEC the CAT NMS Plan to create, implement and maintain the CAT. The SEC approved the CAT NMS Plan on November 15, 2016. CAT NMS Plan Approval Order.

<sup>27</sup> On August 29, 2019, the Participants formed a new Delaware limited liability company named Consolidated Audit Trail, LLC for the purpose of conducting activities related to the CAT from and after the effectiveness of the proposed amendment of the CAT NMS Plan to replace CAT NMS, LLC. *See* Securities Exchange Act Rel. No. 87149 (Sept. 27, 2019), 84 Fed. Reg. 52905 (Oct. 3, 2019).

<sup>28</sup> For each of the costs paid by CAT NMS, LLC and Consolidated Audit Trail, LLC as discussed throughout this filing, CAT NMS, LLC and Consolidated Audit Trail, LLC paid these costs via loan contributions by the Participants to CAT NMS, LLC and Consolidated Audit Trail, LLC, respectively.

<sup>29</sup> Appendix D-4 of the CAT NMS Plan at n.262.

more than 29 petabytes of raw, uncompressed data.”<sup>30</sup> However, the volume of CAT Data for the Pre-FAM Period was far in excess of these predicted levels. By the end of this period, data submitted to the CAT included options and equities Participant Data,<sup>31</sup> Phase 2a and Phase 2b Industry Member Data<sup>32</sup> (including certain linkages), as well as SIP Data,<sup>33</sup> reference data and other types of Other Data.<sup>34</sup> The following chart provides data regarding the average daily volume, cumulative total events, total compute hours and storage footprint of the CAT during the Pre-FAM Period.<sup>35</sup>

	Date Range: 3/29/19 to 4/12/20*	Date Range: 4/13/20 to 6/21/20**
Average Daily Volume in Billions		
Participant - Equities	5	5
Participant - Options	80	981
Industry Member - Equities	-	3
Industry Member - Options	-	0.04
SIP – Options & Equities	64	70
Average Total Daily Volume	149	166
Cumulative Total Events for the Period	3,890	4,990
Total Compute Hours for the Period	N/A <sup>36</sup>	5,663,247

<sup>30</sup> Appendix D-5 of the CAT NMS Plan.

<sup>31</sup> See Section 6.3(d) of the CAT NMS Plan.

<sup>32</sup> See Securities Exchange Rel. No. 88702 (Apr. 20, 2020), 85 Fed. Reg. 23075 (Apr. 24, 2020) (“Phased Reporting Exemptive Relief Order”) for a description of Phase 2a and Phase 2b Industry Member Data.

<sup>33</sup> See Section 6.5(a)(ii) of the CAT NMS Plan.

<sup>34</sup> See Appendix C-108 of the CAT NMS Plan.

<sup>35</sup> Note that the volume data described in this table does not include CAIS data.

<sup>36</sup> Note that, although there were compute hours during this period, data related to such compute hours are no longer available in current data.

Storage Footprint at End of Period (Petabytes)	30.57	47.96
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\* The Participant Equities in RSA format.

\*\* Start of Industry Member reporting on 4/13/2020

(b) *Technology Costs – Operating Fees*

The \$21,085,485 in technology costs related to operating fees represent costs incurred with regard to activities of FCAT as the Plan Processor. Operating fees are those fees paid by CAT LLC to FCAT as the Plan Processor to operate and maintain the CAT and to perform business operations related to the system, including compliance, security, testing, training, communications with the industry (*e.g.*, management of the FINRA CAT Helpdesk, FAQs, website and webinars) and program management as required by the CAT NMS Plan.

FCAT was selected to assume the role of the successor Plan Processor. Prior to this selection, the Participants engaged in discussions with two prior Bidders<sup>37</sup> for the successor Plan Processor role. The Operating Committee formed a Selection Subcommittee in accordance with Section 4.12 of the CAT NMS Plan to evaluate and review Bids and to make a recommendation to the Operating Committee with respect to the selection of the successor Plan Processor. In an April 9, 2019 letter to the Commission, the Participants described the reasons for its selection of the successor Plan Processor:

The Selection Subcommittee considered factors including, but not limited to, the following, in recommending FINRA to the Operating Committee as the successor Plan Processor:

- a. FINRA’s specialized technical expertise and capabilities in the area of broker-dealer technology;

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<sup>37</sup> The term “Bidder” is defined in Section 1.1 of the CAT NMS Plan.



- b. The need to appoint a successor Plan Processor with specialized expertise to develop, implement, and maintain the CAT System in accordance with the CAT NMS Plan and SEC Rule 613;
- c. FINRA's detailed proposal in response to CATLLC's recent inquiries; and
- d. FINRA's data query and analytics systems demonstration to the Participants.

Based on these and other factors, the Selection Subcommittee determined that FINRA was the most appropriate Bidder to become the successor Plan Processor.<sup>38</sup>

On February 26, 2019, the Operating Committee (with FINRA recusing itself) voted to select FINRA as the successor Plan Processor pursuant to Section 6.1(t) of the CAT NMS Plan.<sup>39</sup> On March 29, 2019, CAT LLC and FCAT (a wholly owned subsidiary of FINRA) entered into a Plan Processor Agreement pursuant to which FCAT would perform the functions and duties of the Plan Processor contemplated by the CAT NMS Plan, including the management and operation of the CAT.

Under the Plan Processor Agreement with FCAT, CAT LLC is required to pay FCAT a negotiated monthly fixed price for the operation of the CAT. This fixed price contract was negotiated on an arm's length basis with the goals of managing costs and receiving services required to comply with the CAT NMS Plan and Rule 613, taking into consideration a variety of

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<sup>38</sup> Letter from Michael J. Simon, Chair, CAT NMS, LLC Operating Committee, to Brent J. Fields, Secretary, SEC (Apr. 9, 2019), <https://www.sec.gov/divisions/marketreg/rule613-info-notice-of-plan-processor-selection-040919.pdf>.

<sup>39</sup> *Id.*

factors, including the breadth of services provided and market rates for similar types of activity.

The operating fees during the Pre-FAM Period were paid to FCAT by CAT LLC.

From March 29, 2019 (the commencement of the Plan Processor Agreement with FCAT) through June 22, 2020 (the end of the Pre-FAM Period), the Plan Processor's activities with respect to the CAT included the following:

- Commenced user acceptance testing with market data provided by Exegy Incorporated (“Exegy”), a market data provider;<sup>40</sup>
- Published Technical Specifications and related reporting scenarios documents for Phase 2a, 2b and 2c reporting for Industry Members, after substantial engagement with SEC staff, Industry Members and Participants on the Technical Specifications;
- Facilitated testing for Phase 2a and 2b reporting for Industry Members;
- Began developing Technical Specifications and related reporting scenarios documents for Phase 2d reporting for Industry Members, after substantial engagement with SEC staff, Industry Members and Participants on the Technical Specifications;
- Published Central Repository Access Technical Specifications, and provided regulator access to test data from Industry Members;
- Facilitated Participant exchanges that support options market makers sending Quote Sent Time to the CAT;
- Facilitated the introduction of OPRA and Options NBBO Other Data to CAT;
- Addressed compliance items, including drafting CAT policies and procedures, and addressing requirements under Regulation SCI;

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<sup>40</sup> The use of Exegy to provide market data, including the costs and market data provided, is discussed below in Section 3(a)(2)(B)(i)(i).

- Provided support to the Operating Committee, the Compliance Subcommittee and CAT working groups;
- Assisted with interpretive efforts and exemptive requests regarding the CAT NMS Plan;
- Oversaw the security of the CAT;
- Monitored the operation of the CAT, including with regard to Participant and Industry Member reporting;
- Provided support to subcontractors under the Plan Processor Agreement;
- Provided support in discussions with Participants, SEC and its staff;
- Operated the FINRA CAT Helpdesk, which is the primary source for answers to questions about CAT, including questions regarding: clock synchronization, firm reporting responsibilities, interpretive questions, technical specifications for reporting to CAT and more;
- Facilitated communications with the industry, including via FAQs, CAT Alerts, meetings, presentations and webinars;
- Administered the CAT website and all of its content;<sup>41</sup> and
- Provided technical support and assistance with connectivity, data access, and user support, including the use of CAT Data and query tools, for Participants and the SEC staff.

*(c) Technology Costs – CAIS Operating Fees*

The \$2,072,908 in technology costs related to CAIS operating fees represent the fees paid for FCAT’s subcontractor charged with the development and operation of CAT’s Customer and Account Information System (“CAIS”). The CAT is required under the CAT NMS Plan to

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<sup>41</sup> The CAT website is <https://www.catnmsplan.com>.

capture and store Customer Identifying Information and Customer Account Information in a database separate from the transactional database and to create a CAT-Customer-ID for each Customer.

During the Pre-FAM Period, the CAIS-related services were provided by the Plan Processor through the Plan Processor's subcontractor, Kingland Systems Incorporation ("Kingland"). Kingland had experience operating in the securities regulatory technology space, and as a part of its proposal for acting as the Plan Processor for the CAT, FCAT selected Kingland as a subcontractor to provide certain CAIS-related services.

Under the Plan Processor Agreement with FCAT, CAT LLC is required to pay to the Plan Processor the fees incurred by the FCAT for CAIS-related services provided by FCAT through Kingland on a monthly basis. FCAT negotiated the fees for Kingland's CAIS-related services on an arm's length basis with the goals of managing costs and receiving services required to comply with the CAT NMS Plan, taking into consideration a variety of factors, including the services to be provided and market rates for similar types of activity. The fees for CAIS-related services during the Pre-FAM Period were paid by CAT LLC to FCAT. FCAT, in turn, paid Kingland.

During the Pre-FAM Period, Kingland began development of the CAIS Technical Specifications and the building of CAIS. In addition, Kingland also worked on the build related to the CCID Alternative, an alternative approach to customer information that was not included in the CAT NMS Plan as originally adopted.<sup>42</sup> Furthermore, Kingland also worked on the

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<sup>42</sup> For a discussion of the CCID Alternative, *see* Securities Exchange Act Rel. No. 88393 (Mar. 17, 2020), 85 Fed. Reg. 16152 (Mar. 20, 2020).

acceleration of the reporting of large trader identifiers (“LTID”) earlier than originally contemplated during this period, in accordance with exemptive relief granted by the SEC.<sup>43</sup>

*(d) Technology Costs – Change Request Fees*

The technology costs related to change request fees include costs related to certain modifications, upgrades or other changes to the CAT. Change requests are standard practice and necessary to reflect operational changes, including changes related to new market developments, such as new market participants. In general, if CAT LLC determines that a modification, upgrade or other changes to the functionality or service is necessary and appropriate, CAT LLC will submit a request for such a change to the Plan Processor. The Plan Processor will then respond to the request with a proposal for implementing the change, including the cost (if any) of such a change. CAT LLC then determines whether to approve the proposed change. The change request costs were paid by CAT LLC to FCAT. During the Pre-FAM Period, CAT LLC incurred costs of \$141,346 related to change requests implemented by FCAT. Such change requests related to a development fee regarding the OPRA and SIP data feeds, and the reprocessing of certain exchange data.<sup>44</sup>

*(e) Technology Costs – Capitalized Developed Technology Costs*

This category of costs includes capitalizable application development costs incurred in the development of the CAT. The capitalized developed technology costs for the Pre-FAM Period of \$71,475,941 relate to technology provided by the Initial Plan Processor and the successor Plan Processor.

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<sup>43</sup> Phased Reporting Exemptive Relief Order at 23079-80.

<sup>44</sup> Note that CAT LLC also has incurred costs related to specific Industry Members (*e.g.*, reprocessing costs related to Industry Member reporting errors).

*Initial Plan Processor: Thesys CAT, LLC.* The capitalized developed technology costs related to the Initial Plan Processor include costs incurred with regard to testing for Participant reporting, Participant reporting to the CAT, a security assessment of the CAT, the development of the billing function for the CAT, and a Plan Processor transition fee.

On January 17, 2017, the Selection Committee of the CAT NMS Plan selected the Initial Plan Processor, Thesys Technologies, LLC, for the CAT NMS Plan pursuant to Article V of the CAT NMS Plan.<sup>45</sup> The Participants utilized a request for proposal (“RFP”) to seek proposals to build and operate the CAT, receiving a number of proposals in response to the RFP. The Participants carefully reviewed and considered each of the proposals, including holding in-person meetings with each of the Bidders. After several rounds of review, the Participants selected the Initial Plan Processor in accordance with the CAT NMS Plan, taking into consideration that the Initial Plan Processor had experience operating in the securities regulatory technology space, among other considerations. On April 6, 2017, CAT LLC entered into an agreement with Thesys CAT LLC (“Thesys CAT”), a Thesys affiliate, to perform the functions and duties of the Plan Processor contemplated by the CAT NMS Plan, including the management and operation of the CAT. Under the agreement, CAT LLC would pay Thesys CAT a negotiated, fixed price fee for its role as the Initial Plan Processor. Effective January 30, 2019, the Plan Processor Agreement with Thesys CAT was terminated, and FCAT was subsequently selected as the successor Plan Processor.

From January 17, 2017 through January 30, 2019, the time in which the Thesys CAT was engaged for the CAT, but excluding the period from November 15, 2017 through November 15,

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<sup>45</sup> Letter from the Participants to Brent J. Fields, Secretary, SEC (Jan. 18, 2017), <https://www.sec.gov/divisions/marketreg/rule613-info-notice-of-plan-processor-selection.pdf>.

2018, the Initial Plan Processor engaged in various activities with respect to the CAT, including preparing iterative drafts of Participant Technical Specifications, Industry Member Technical Specifications and the Central Repository Access Technical Specifications. Thesys CAT initiated and maintained the Participant reporting per the Participant Technical Specifications. In addition, Thesys CAT also developed CAT technology, addressed compliance items, including drafting CAT policies and procedures, addressing Regulation SCI requirements, establishing a CAT Compliance Officer and a Chief Information Security Officer, and addressed security-related matters for the CAT. Furthermore, Thesys CAT performed transition services related to the transition from Thesys CAT to FCAT as the successor Plan Processor from January 30, 2019 through April 15, 2019.

*Successor Plan Processor: FCAT.* The capitalized developed technology costs related to FCAT include: (1) development costs incurred during the application development stage to meet various agreed-upon milestones regarding the CAT, including the completion of go-live functionality related to options ingestion and validation, equities regulatory services agreement query tool updates and unlinked options data query, options linkages release, Industry Member Phase 2a file submission and data integrity (including error corrections), and Industry Member testing, including reporting relationships, ATS order type management, basic reporting statistics, SFTP data integrity feedback and error correction; (2) costs related to certain modifications, upgrades, or other changes to the CAT that were not contemplated by the agreement between CAT LLC and the Plan Processor, including a one-time development fee for a secure analytics workspace, a one-time development fee of an Industry Member connectivity solution, and a one-time development fee for the acceleration of multi-factor authentication; (3) CAIS implementation fees; and (4) license fees.

(f) *Legal Costs*

The legal costs of \$19,674,463 represent the fees paid for legal services provided by two law firms, Wilmer Cutler Pickering Hale and Dorr LLP (“WilmerHale”) and Pillsbury Winthrop Shaw Pittman LLP (“Pillsbury”), during the Pre-FAM Period. The legal costs exclude those costs incurred from November 15, 2017 through November 15, 2018.

*Law Firm: WilmerHale.* Following the adoption of Rule 613, the Participants determined it was necessary to engage external legal counsel to advise the Participants with respect to corporate and regulatory legal matters related to the CAT, including drafting and developing the CAT NMS Plan. The Participants considered a variety of factors in their analysis of prospective law firms, including (1) the firm’s qualifications, resources and expertise, (2) the firm’s relevant experience and understanding of the regulatory matters raised by the CAT and in advising on matters of similar scope, (3) the composition of the legal team, and (4) professional fees. Following a series of interviews, the Participants acting as a consortium determined that WilmerHale was well qualified given the balance of these considerations and engaged WilmerHale in February 2013.

WilmerHale’s billing rates are negotiated on an annual basis and are determined with reference to the rates charged by other leading law firms for similar work. The Participants assess WilmerHale’s performance and review prospective budgets and staffing plans submitted by WilmerHale on an annual basis. WilmerHale’s compensation arrangements are reasonable and appropriate, and in line with the rates charged by other leading law firms for similar work.

The legal costs for WilmerHale during the Pre-FAM Period included costs incurred from 2013 until June 22, 2020 to address corporate and regulatory legal matters related to the CAT. The legal fees for this law firm during the period from February 2013 until the formation of the



CAT NMS, LLC on November 15, 2016 were paid directly by the exchanges and FINRA to WilmerHale. After the formation of CAT NMS LLC, the legal fees were paid by CAT LLC to WilmerHale.

After WilmerHale was engaged in 2013 through the end of the Pre-FAM Period on June 22, 2020 (excluding the legal costs from November 15, 2017 through November 15, 2018), WilmerHale provided legal assistance to the CAT on a variety of matters, including with regard to the following:

- Analyzed various legal matters associated with the Selection Plan, and drafted an amendment to Selection Plan;
- Assisted with the RFP and bidding process for the CAT Plan Processor;
- Analyzed legal matters related to the Development Advisory Group (“DAG”);
- Drafted the CAT NMS Plan, analyzed various items related to the CAT NMS Plan, and responded to comment letters on CAT NMS Plan;
- Provided legal support for the formation of the legal entity, the governance of the CAT, including governance support prior to the adoption of the CAT NMS Plan, which involved support for the full committee of exchanges and FINRA as well as subcommittees of this group (*e.g.*, Joint Subcommittee Group, Technical, Industry Outreach, Cost and Funding and Other Products) and the DAG, governance support during the transition to the new governance structure under the CAT NMS Plan; and governance support after the adoption of the CAT NMS Plan, which involved support for the Operating Committee, Advisory Committee, Compliance Subcommittee and CAT working groups;

- Assisted with the development of the CAT funding model and drafted related amendments of the CAT NMS Plan and related filings;
- Negotiated and drafted the plan processor agreements with the Initial Plan Processor and the successor Plan Processor;
- Provided assistance with compliance with Regulation SCI;
- Assisted with clock synchronization study;
- Provided assistance with respect to the establishment of CAT security;
- Drafted exemptive requests from CAT NMS Plan requirements, including with regard to options market maker quotes, Customer IDs, CAT Reporter IDs, linking allocations to executions, CAT reporting timeline, FDIDs, customer and account information, timestamp granularity, small industry members, data facility reporting and linkage, allocation reports, SRO-assigned market participant identifiers and cancelled trade indicators, thereby seeking to implement changes that would be cost effective and benefit Industry Members and Participants;
- Assisted with the Implementation Plan required pursuant to Section 6.6(c)(i) of the CAT NMS Plan;
- Provided advice regarding CAT policies and procedures;
- Analyzed the SEC's amendment of the CAT NMS Plan regarding financial accountability;
- Provided interpretations of and related to the CAT NMS Plan;
- Provided support with regard to discussions with the SEC and its staff, including with respect to addressing interpretive and implementation issues; and
- Assisted with third party vendor agreements.

*Law Firm: Pillsbury.* The legal costs for CAT during the Pre-FAM Period include costs related to the legal services performed by Pillsbury. The Participants interviewed this law firm as well as other potential law firms to provide legal assistance regarding certain liability matters. After considering a variety of factors in its analysis, including the relevant expertise and fees of the firm, CAT LLC determined to hire Pillsbury in April 2019. The hourly fee rates for this law firm were in line with market rates for specialized legal expertise. The legal fees were paid by CAT LLC to Pillsbury. The legal costs for Pillsbury during the Pre-FAM Period included costs incurred from April 2019 until June 22, 2020 to address legal matters regarding the agreements between CAT Reporters and CAT LLC concerning certain terms associated with CAT Reporting (the “Reporter Agreement”). During that period, Pillsbury advised CAT LLC regarding applicable legal matters, participated in negotiations between the Participants and Industry Members, participated in meetings with senior SEC staff, the Chairman, and Commissioners, represented CAT LLC and the Participants in an SEC administrative proceeding, and drafted a proposed amendment to the CAT NMS Plan regarding liability matters. Liability issues related to the CAT are important matters that needed to be resolved and clarified. CAT LLC’s efforts to seek such resolution and clarity work to the benefit of Participants, Industry Members and other market participants. Moreover, litigation involving CAT LLC is an expense of operating the CAT, and, therefore, is appropriately an obligation of both Participants and Industry Members under the CAT Funding Model.

(g) *Consulting Costs*

The consulting costs of \$17,013,414 represent the fees paid to the consulting firm Deloitte & Touche LLP (“Deloitte”) as project manager during the Pre-FAM Period, from October 2012 until June 22, 2020. These consulting costs include costs for advisory services

related to the operation of the CAT, and meeting facilitation and communications coordination, vendor support and financial analyses.

To help facilitate project management given the unprecedented complexity and scope of the CAT project, the Participants determined it was necessary to engage a consulting firm to assist with the CAT project in 2012, following the adoption of Rule 613. A variety of factors were considered in the analysis of prospective consulting firms, including (1) the firm's qualifications, resources, and expertise, (2) the firm's relevant experience and understanding of the regulatory issues raised by the CAT and in coordinating matters of similar scope, (3) the composition of the consulting team, and (4) professional fees. Following a series of interviews, the exchanges and FINRA as a consortium determined that Deloitte was well qualified given the balance of these considerations and engaged Deloitte on October 1, 2012.

Deloitte's fee rates are negotiated on an annual basis and are in line with market rates for this type of specialized consulting work. CAT LLC assesses Deloitte's performance and reviews prospective budgets and staffing plans submitted by Deloitte on an annual basis. Deloitte's compensation arrangements are reasonable and appropriate, and in line with the rates charged by other leading consulting firms for similar work.

The consulting costs for CAT during the period from 2012 until the formation of the CAT NMS, LLC were paid directly by the Participants to Deloitte. After the formation of CAT NMS, LLC, the consulting fees were paid by CAT LLC to Deloitte. CAT LLC reviewed the consulting fees each month and approved the invoices.

After Deloitte was hired in 2012 through the end of the Pre-FAM Period on June 22, 2020 (excluding the consulting costs from November 15, 2017 through November 15, 2018), Deloitte provided a variety of consulting services, including the following:

- Established and implemented program operations for the CAT project, including the program management office and workstream design;
- Assisted with the Plan Processor selection process, including but not limited to, the development of the RFP and the bidder evaluation process, and facilitation and consolidation of the Participant's independent reviews;
- Assisted with the development and drafting of the CAT NMS Plan, including conducting cost-benefit studies, analyzing OATS and CAT requirements, and drafting appendices to the Plan;
- Assisted with cost and funding-related activities for the CAT, including the development of the CAT funding model and assistance with loans and the CAT bank account for CAT funding;
- Provided governance support to the CAT, including governance support prior to the adoption of the CAT NMS Plan, which involved support for the full committee of exchanges and FINRA as well as subcommittees of this group (*e.g.*, Joint Subcommittee Group, Technical, Industry Outreach, Cost and Funding and Other Products) and the DAG, governance support during the transition to the new governance structure under the CAT NMS Plan and governance support after the adoption of the CAT NMS Plan, which involved support for the Operating Committee, Advisory Committee, Compliance Subcommittee and CAT working groups;
- Provided support to the Operating Committee, the Chair of the Operating Committee and the Leadership Team, including project management support, coordination and planning for meetings and communications, and interfacing with law firms and the SEC;

- Assisted with industry outreach and communications regarding the CAT, including assistance with industry outreach events, the development of the CAT website, frequently asked questions, and coordinating with the CAT LLC's public relations firm;
- Provided support for updating the SEC on the progress of the development of the CAT;
- Provided active planning and coordination with and support for the Initial Plan Processor with regard to the development of the CAT, and reported to the Participants on the progress;
- Coordinated efforts regarding the selection of the successor Plan Processor;
- Assisted with the transition from the Initial Plan Processor to the successor Plan Processor, including support for the Operating Committee and successor Plan Processor for the new role; and
- Provided support for third party vendors for the CAT, including FCAT, Anchin and the law firms engaged by CAT LLC.

*(h) Insurance*

The insurance costs of \$880,419 represent the cost incurred for insurance for CAT during the Pre-FAM Period. Commencing in 2020, CAT LLC performed an evaluation of various potential alternatives for CAT insurance policies, which included engaging in discussions with different insurance companies and conducting cost comparisons of various alternative approaches to insurance. Based on an analysis of a variety of factors, including coverage and premiums, CAT LLC determined to purchase cyber security liability insurance, directors' and officers' liability insurance, and errors and omissions liability insurance from USI Insurance Services LLC ("USI"). Such policies are standard for corporate entities, and cyber security liability insurance is important for the CAT System. The annual premiums for these policies

were competitive for the coverage provided. The annual premiums were paid by CAT LLC to USI.

(i) *Professional and Administration Costs*

In adopting the CAT NMS Plan, the Commission amended the Plan to add a requirement that CAT LLC's financial statements be prepared in compliance with GAAP, audited by an independent public accounting firm, and made publicly available.<sup>46</sup> The professional and administration costs include costs related to accounting and accounting advisory services to support the operating and financial functions of CAT, financial statement audit services by an independent accounting firm, preparation of tax returns, and various cash management and treasury functions. In addition, professional and administration costs for the Pre-FAM Period include costs related to the receipt of market data and a security assessment. The costs for these professional and administration services were \$1,082,036 for the Pre-FAM Period.

*Financial Advisory Firm: Anchin Accountants & Advisors ("Anchin").* CAT LLC determined to hire a financial advisory firm, Anchin, to assist with financial matters for the CAT in April 2018. CAT LLC interviewed Anchin as well as other potential financial advisory firms to assist with the CAT project, considering a variety of factors in its analysis, including the firm's relevant expertise and fees. The hourly fee rates for this firm were in line with market rates for these financial advisory services. The fees for these services were paid by CAT LLC to Anchin.

After Anchin was hired in April 2018 through the end of the Pre-FAM Period on June 22, 2020 (excluding the period from April 2018 through November 15, 2018), Anchin provided a variety of services, including the following:

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<sup>46</sup> Section 9.2 of the CAT NMS Plan.

- Developed, updated and maintained internal controls;
- Provided cash management and treasury functions;
- Facilitated bill payments;
- Provided monthly bookkeeping;
- Reviewed vendor invoices and documentation in support of cash disbursements;
- Provided accounting research and consultations on various accounting, financial reporting and tax matters;
- Addressed not-for-profit tax and accounting considerations;
- Prepared tax returns;
- Addressed various accounting, financial and operating inquiries from Participants;
- Developed and maintained quarterly and annual operating and financial budgets, including budget to actual fluctuation analyses;
- Addressed accounting and financial reporting matters relating to the transition from CAT NMS, LLC to Consolidated Audit Trail, LLC, including supporting the dissolution of CAT NMS, LLC;
- Supported compliance with the CAT NMS Plan;
- Worked with and provided support to the Operating Committee and various CAT working groups;
- Prepared monthly, quarterly and annual financial statements;
- Supported the annual financial statement audits by an independent auditor;
- Reviewed historical costs from inception; and
- Provided accounting and financial information in support of SEC filings.



*Accounting Firm: Grant Thornton LLP (“Grant Thornton”).* In February 2020, CAT LLC determined to engage an independent accounting firm, Grant Thornton, to complete the audit of CAT LLC’s financial statements, in accordance with the requirements of the CAT NMS Plan. CAT LLC interviewed this firm as well as another potential accounting firm to audit CAT LLC’s financial statements, considering a variety of factors in its analysis, including the relevant expertise and fees of each of the firms. CAT LLC determined that Grant Thornton was well-qualified for the proposed role given the balance of these considerations. Grant Thornton’s fixed fee rate compensation arrangement was reasonable and appropriate, and in line with the market rates charged for these types of accounting services. The fees for these services were paid by CAT LLC to Grant Thornton.

*Market Data Provider: Exegy.* The professional and administrative costs for the Pre-FAM Period included costs related to the receipt of certain market data for the CAT pursuant to an agreement with the CAT LLC, and then with FCAT. Exegy provided SIP Data required by the CAT NMS Plan.

After performing an analysis of the available market data vendors to confirm that the data provided met the SIP Data requirements of the CAT NMS Plan and comparing the costs of the vendors providing the required SIP Data, CAT LLC determined to purchase market data from Exegy from July 2018 through March 2019. CAT LLC determined that, unlike certain other vendors, Exegy provided market data that included all data elements required by the CAT NMS Plan.<sup>47</sup> In addition, the fees were reasonable and in line with market rates for the market data received. Accordingly, the professional and administrative costs for the Pre-FAM Period include the Exegy costs from November 2018 through March 2019. The cost of the market data was

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<sup>47</sup> See Section 6.5(a)(ii) of the CAT NMS Plan.

reasonable for the market data received. The fees for the market data were paid directly by CAT LLC to Exegy.

Upon the termination of the contract between CAT LLC and Exegy, FCAT entered into a contract with Exegy to purchase the required market data from Exegy in July 2019. All costs under the contract were treated as a direct pass through cost to CAT LLC. Therefore, the fees for the market data were paid by CAT LLC to FCAT, who, in turn, paid Exegy for the market data.

*Security Assessment: RSM US LLP (“RSM”).* The operating costs for the Pre-FAM Period include costs related to a third party security assessment of the CAT performed by RSM. The assessment was designed to verify and validate the effective design, implementation, and operation of the controls specified by NIST Special Publication 800-53, Revision 4 and related standards and guidelines. Such a security assessment is in line with industry practice and important given the data included in the CAT. CAT LLC determined to engage RSM to perform the security assessment, after considering a variety of factors in its analysis, including the firm’s relevant expertise and fees. The fees were reasonable and in line with market rates for such an assessment. RSM performed the assessment from October 2018 through December 2018. Accordingly, the costs for the Pre-FAM Period include the costs incurred in November and December 2018. The cost for the security assessment were paid directly to RSM by CAT LLC.

*(j) Public Relations Costs*

The public relations costs of \$224,669 represent the fees paid to public relations firms during the Pre-FAM Period for professional communications services to CAT, including media relations consulting, strategy and execution. By engaging a public relations firm, CAT LLC was better positioned to understand and address CAT matters to the benefit of all market participants. Specifically, the public relations firms provided services related to communications with the

public regarding the CAT, including monitoring developments related to the CAT (e.g., congressional efforts, public comments and reaction to proposals, press coverage of the CAT), reporting such developments to CAT LLC, and drafting and disseminating communications to the public regarding such developments as well as reporting on developments related to the CAT (e.g., amendments to the CAT NMS Plan). Public relations services were important for various reasons, including monitoring comments made by market participants about CAT and understanding issues related to the CAT discussed on the public record.

The services performed by each of the public relations firms were comparable. The fees for such services were reasonable and in line with market rates. Only one public relations firm was engaged at a time; the three firms were engaged sequentially as the primary public relations contact moved among the three firms during this time period.

*Public Relations Firm: Peppercomm, Inc. (“Peppercomm”).* The national securities exchanges and FINRA, acting as a consortium, determined to hire the public relations firm Peppercomm in October 2014 and continued to engage this firm through September 2017. The exchanges and FINRA made this engagement decision after considering a variety of factors in its analysis, including the firm’s relevant expertise and fees. The fee rates for this public relations firm were negotiated on an arm’s length basis and were in line with market rates for these types of services. The public relations costs during the period from October 2014 until the formation of the CAT NMS LLC were paid directly by the exchanges and FINRA to the public relations firm. After the formation of CAT NMS, LLC, the consulting fees were paid by CAT LLC.

*Public Relations Firm: Sloane & Company (“Sloane”).* CAT LLC determined to hire a new public relations firm, Sloane, in March 2018, based on, among other things, their expertise

and the primary contact’s history with the project. The fee rates for this public relations firm were in line with market rates for these types of services. The fees during the Pre-FAM Period were paid by CAT LLC to Sloane. CAT LLC continued the engagement with Sloane until February 2020.

*Public Relations Firm: Peak Strategies.* CAT LLC determined to hire a new public relations firm, Peak Strategies, in March 2020, based on, among other things, their expertise and the primary contact’s history with the project. The fee rates for this public relations firm were in line with market rates for these types of services. The fees during the Pre-FAM Period were paid by CAT LLC to Peak Strategies.

**(ii) Historical CAT Costs Incurred in Financial  
Accountability Milestone Period 1**

Historical CAT Costs 1 would include costs incurred by CAT and already funded by the Participants during Period 1 of the Financial Accountability Milestones (“FAM Period 1”),<sup>48</sup> which covers the period from June 22, 2020 – July 31, 2020. Historical CAT Costs 1 would include costs for FAM Period 1 of \$6,377,343. The Participants would remain responsible for one-third of this cost (which they have previously paid) (\$2,125,781), and Industry Members would be responsible for the remaining two-thirds, with CEBBs paying one-third (\$2,125,781) and CEBSs paying one-third (\$2,125,781). The following table breaks down Historical CAT Costs 1 for FAM Period 1 into the categories set forth in Section 11.3(b)(iii)(B)(II) of the CAT NMS Plan.

<b>Operating Expense</b>	<b>Historical CAT Costs for FAM Period 1<sup>49</sup></b>
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<sup>48</sup> Section 11.6(a)(i)(A) of the CAT NMS Plan.

<sup>49</sup> The costs described in this table of costs for FAM Period 1 were calculated based upon CAT LLC’s review of applicable bills and invoices and related financial statements. CAT LLC financial statements are available on the CAT website.

Capitalized Developed Technology Costs*	\$1,684,870
<b>Technology Costs:</b>	\$3,996,800
Cloud Hosting Services	\$2,642,122
Operating Fees	\$1,099,680
CAIS Operating Fees	\$254,998
Change Request Fees	-
Legal	\$481,687
Consulting	\$137,209
Insurance	-
Professional and administration	\$69,077
Public relations	\$7,700
<b>Total Operating Expenses</b>	<b>\$6,377,343</b>

\* The non-cash amortization of these capitalized developed technology costs of \$362,121 incurred during FAM Period 1 have been appropriately excluded from the above table.<sup>50</sup>

By the completion of FAM Period 1, CAT LLC was required to implement the reporting by Industry Members (excluding Small Industry Members that are not OATS reporters) of equities transaction data and options transaction data, excluding Customer Account Information, Customer-ID and Customer Identifying Information.<sup>51</sup> CAT LLC completed the requirements of FAM Period 1 by July 31, 2020. The following describes the costs for each of the categories for FAM Period 1.

(a) *Technology Costs – Cloud Hosting Services*

CAT LLC continued to utilize AWS in FAM Period 1 to provide a broad array of cloud hosting services for the CAT, including data ingestion, data management, and analytic tools. AWS continued to provide storage services, databases, compute services and other services (such

<sup>50</sup> As discussed above, with respect to certain costs that were “appropriately excluded,” such excluded costs relate to the amortization of capitalized technology costs, which are amortized over the life of the Plan Processor Agreement. As such costs have already been otherwise reflected in the filing, their inclusion would double count the capitalized technology costs. In addition, amortization is a non-cash expense.

<sup>51</sup> See definition of “Initial Industry Member Core Equity and Options Reporting” in Section 1.1 of the CAT NMS Plan.

as networking, management tools and DevOps tools), as well as various environments for CAT, such as development, performance testing, test, and production environments, during the FAM 1 Period. Accordingly, the \$2,642,122 in technology costs for cloud hosting services represent costs incurred for services provided by AWS, as the cloud services provider, during FAM Period 1. The fee arrangement for AWS described above with regard to the Pre-FAM Period continued in place during FAM Period 1 pursuant to the Plan Processor Agreement. Moreover, CAT LLC continued to believe that AWS's maturity in the cloud services space as well as the significant cost and time necessary to move the CAT to a different cloud services provider supported the continued engagement of AWS.

The cost for AWS cloud services for the CAT continued to be a function of the volume of CAT Data. During the FAM 1 Period, the volume of CAT Data continued to far exceed the original predictions for the CAT as set forth in the CAT NMS Plan. During this period, data submitted to the CAT included options and equities Participant Data, Phase 2a and Phase 2b Industry Member Data (including certain linkages) as well as SIP Data, reference data and other types of Other Data. The following chart provides data regarding the average daily volume, cumulative total events, total compute hours and storage footprint of the CAT during FAM Period 1.<sup>52</sup>

Date Range: 6/22/20-7/31/20

Average Daily Volume in Billions	
Participant - Equities	6
Participant - Options	103
Industry Member - Equities	7
Industry Member - Options	0.31

<sup>52</sup> Note that the volume data described in this table does not include CAIS data.

SIP – Options & Equities	74
Average Total Daily Volume	185
Cumulative Total Events for the Period	5,190
Total Compute Hours for the Period	2,612,082
Storage Footprint at End of Period (Petabytes)	57.47

*(b) Technology Costs – Operating Fees*

Pursuant to the Plan Processor Agreement discussed above, FCAT continued in its role as the Plan Processor for the CAT during FAM Period 1. Accordingly, the \$1,099,680 in technology costs for operating fees represent costs incurred for the services provided by FCAT under the Plan Processor Agreement during FAM Period 1. The fee arrangement for FCAT described above with regard to the Pre-FAM Period continued in place during FAM Period 1 pursuant to the Plan Processor Agreement. During FAM Period 1, FCAT’s activities with respect to the CAT included the following:

- Published iterative drafts of draft Technical Specifications for Phase 2d, after substantial engagement with SEC staff, Industry Members and Participants on the Technical Specifications;
- Published iterative drafts of CAIS Technical Specifications, after substantial engagement with SEC staff, Industry Members and Participants on the Technical Specifications;
- Facilitated Industry Member reporting of Quote Sent Time on Options Market Maker quotes;

- Addressed compliance items, including drafting CAT policies and procedures, and addressing Regulation SCI requirements;
- Provided support to the Operating Committee, the Compliance Subcommittee and CAT working groups;
- Assisted with interpretive efforts and exemptive requests regarding the CAT NMS Plan;
- Oversaw the security of the CAT;
- Monitored the operation of the CAT, including with regard to Participant and Industry Member reporting;
- Provided support to subcontractors under the Plan Processor Agreement;
- Provided support in discussions with Participants and the SEC and its staff;
- Operated the FINRA CAT Helpdesk;
- Facilitated communications with the industry, including via FAQs, CAT Alerts, meetings, presentations and webinars;
- Administered the CAT website and all of its content; and
- Provided technical support and assistance with connectivity, data access, and user support, including the use of CAT Data and query tools, for Participants and the SEC staff.

*(c) Technology Costs – CAIS Operating Fees*

Pursuant to the Plan Processor Agreement discussed above, Kingland continued in its role as a subcontractor for the development and implementation of CAIS during FAM Period 1. Accordingly, the \$254,998 in technology costs for CAIS operating fees represent costs incurred for services provided by Kingland during FAM Period 1. The fee arrangement for Kingland described above with regard to the Pre-FAM Period continued in place during FAM Period 1



pursuant to the Plan Processor Agreement. During FAM Period 1, Kingland continued the development of the CAIS Technical Specifications and building of CAIS. In addition, Kingland continued to work on the CAIS Technical Specifications and build related to CCID Alternative, as well as the acceleration of the reporting of LTIDs.

*(d) Technology Costs – Change Request Fees*

CAT LLC did not incur costs related to change requests during FAM Period 1.

*(e) Technology Costs – Capitalized Developed Technology Costs*

Capitalized developed technology costs for FAM Period 1 of \$1,684,870 include capitalizable application development costs incurred in the development of the CAT by FCAT. Such costs include: (1) costs related to certain modifications, upgrades, or other changes to the CAT that were not contemplated by the agreement between CAT LLC and the Plan Processor, including separate production and industry test entitlements, and reprocessing of exchange event timestamps; (2) implementation fees; and (3) license fees.

*(f) Legal Costs*

The legal costs of \$481,687 represent the fees paid for legal services provided by two law firms, WilmerHale and Pillsbury during FAM Period 1.

*Law Firm: WilmerHale.* CAT LLC continued to employ WilmerHale during FAM Period 1 based on, among other things, their expertise and long history with the project. The hourly fee rates for this law firm were in line with market rates for specialized legal expertise. The legal fees during FAM Period 1 were paid by CAT LLC to WilmerHale. During FAM Period 1, WilmerHale provided legal assistance to the CAT including with regard to the following:

- Assisted with the development of the CAT funding model and drafted related amendments and fee filings;
- Drafted exemptive requests from CAT NMS Plan requirements regarding, for example, verbal activity, options market maker quote sent time, TRF linkages, and allocations;
- Provided interpretations related to CAT NMS Plan requirements, including the Financial Accountability Milestone amendment;
- Assisted with compliance with Regulation SCI;
- Provided support for the Operating Committee, Compliance Subcommittee, working groups and Leadership Team, including with regard to meetings with the SEC staff;
- Assisted with the drafting of the Implementation Plan required pursuant to Section 6.6(c)(i) of the CAT NMS Plan;
- Assisted with communications and presentations for the industry regarding CAIS;
- Drafted SRO rule filings related to the CAT Compliance Rule;
- Provided support for Compliance Subcommittee, including with regard to response to OCIE examinations and the annual assessment;
- Provided guidance regarding CAT technical specifications;
- Assisted with third party vendor agreements; and
- Provided support with regard to discussions with the SEC and its staff, including with respect to addressing interpretive and implementation issues.

*Law Firm: Pillsbury.* CAT LLC continued to employ Pillsbury during FAM Period 1 based on, among other things, their expertise and history with the project. The hourly fee rates for this law firm were in line with market rates for specialized legal expertise. The legal fees during FAM Period 1 were paid by CAT LLC to Pillsbury. During FAM Period 1, Pillsbury

provided legal assistance to the CAT regarding the CAT Reporter Agreement. During that period, Pillsbury advised CAT LLC regarding applicable legal matters and drafted a proposed amendment to the CAT NMS Plan regarding liability matters. Liability issues related to the CAT are important matters that needed to be resolved and clarified. CAT LLC's efforts to seek such resolution and clarity work to the benefit of Participants, Industry Members and other market participants.

*(g) Consulting Costs*

The consulting costs of \$137,209 represent the fees paid to Deloitte as project manager during FAM Period 1. CAT LLC continued to employ Deloitte during FAM Period 1 based on, among other things, their expertise and cumulative experience with the CAT. The fee rates for Deloitte during FAM Period 1 were negotiated and in line with market rates for this type of specialized consulting work. The consulting fees during FAM Period 1 were paid by CAT LLC to the consulting firm. CAT LLC reviewed the consulting fees each month and approved the invoices. During FAM Period 1, Deloitte's CAT-related activities included the following:

- Implemented program operations for the CAT project;
- Provided support to the Operating Committee, the Chair of the Operating Committee and the Leadership Team, including project management support, coordination and planning for meetings and communications, and interfacing with law firms and the SEC;
- Assisted with cost and funding matters for the CAT, including the development of the CAT funding model and assistance with loans and the CAT bank account for CAT funding;
- Provided support for updating the SEC on the progress of the development of the CAT;

- Assisted with the transition from the Initial Plan Processor to the successor Plan Processor; and
- Provided support for third party vendors for the CAT, including FCAT, Anchin and the law firms engaged by CAT LLC.

(h) *Insurance*

Although insurance was in effect during FAM Period 1, CAT LLC did not incur costs related to insurance during FAM Period 1.

(i) *Professional and Administration Costs*

*Financial Advisory Firm: Anchin.* The professional and administration costs of \$69,077 represent the fees paid to Anchin during FAM Period 1. CAT LLC continued to employ Anchin during FAM Period 1 based on, among other things, their expertise and history with the project. The hourly fee rates for this firm were in line with market rates for these type of financial advisory services. The fees for these services during FAM Period 1 were paid by CAT LLC to Anchin. During FAM Period 1, Anchin provided a variety of services, including the following:

- Maintained internal controls;
- Provided cash management and treasury functions;
- Facilitated bill payments;
- Provided monthly bookkeeping;
- Reviewed vendor invoices and documentation in support of cash disbursements;
- Provided accounting research and consultations on various accounting, financial reporting and tax matters;
- Addressed various accounting, financial reporting and operating inquiries from Participants;

- Developed and maintained quarterly and annual operating and financial budgets, including budget to actual fluctuation analyses;
- Supported compliance with the CAT NMS Plan;
- Worked with and provided support to the Operating Committee and various CAT working groups; and
- Prepared monthly and quarterly financial statements.

(j) *Public Relations Costs*

The public relations costs of \$7,700 represent the fees paid to Peak Strategies during FAM Period 1. CAT LLC continued to employ Peak Strategies during FAM Period 1 based on, among other things, their expertise and history with the project. The fee rates for this firm were reasonable and in line with market rates for these types of services. The fees for these services during FAM Period 1 were paid by CAT LLC to Peak Strategies. During FAM Period 1, Peak Strategies continued to provide professional communications services to CAT LLC, including media relations consulting, strategy and execution. Specifically, the public relations firm provided services related to communications with the public regarding the CAT, including monitoring developments related to the CAT (*e.g.*, congressional efforts, public comments and reaction to proposals, press coverage of the CAT), reporting such developments to CAT LLC, and drafting and disseminating communications to the public regarding such developments as well as reporting on developments related to the CAT (*e.g.*, amendments to the CAT NMS Plan). As discussed above, such public relations services were important for various reasons, including monitoring comments made by market participants about the CAT and understanding issues related to the CAT discussed on the public record. By engaging a public relations firm, CAT

LLC was better positioned to understand and address CAT matters to the benefit of all market participants.

**(iii) Historical CAT Costs Incurred in Financial Accountability Milestone Period 2**

Historical CAT Costs 1 would include costs incurred by CAT LLC and already funded by Participants during Period 2 of the Financial Accountability Milestones (“FAM Period 2”),<sup>53</sup> which covers the period from August 1, 2020 – December 31, 2020. Historical CAT Costs 1 would include costs for FAM Period 2 of \$42,976,478. The Participants would remain responsible for one-third of this cost (which they have previously paid) (\$14,325,493), and Industry Members would be responsible for the remaining two-thirds, with CEBBs paying one-third (\$14,325,493) and CEBSs paying one-third (\$14,325,493). The following table breaks down Historical CAT Costs 1 for FAM Period 2 into the categories set forth in Section 11.3(b)(iii)(B)(II) of the CAT NMS Plan.

<b>Operating Expense</b>	<b>Historical CAT Costs for FAM Period 2<sup>54</sup></b>
Capitalized Developed Technology Costs*	\$6,761,094
<b><i>Technology Costs:</i></b>	<b>\$31,460,033</b>
Cloud Hosting Services	\$20,709,212
Operating Fees	\$9,108,700
CAIS Operating Fees	\$1,590,298
Change Request Fees	\$51,823
Legal	\$2,766,644
Consulting	\$532,146
Insurance	\$976,098
Professional and administration	\$438,523
Public relations	\$41,940
<b>Total Operating Expenses</b>	<b>\$42,976,478</b>

<sup>53</sup> Section 11.6(a)(i)(B) of the CAT NMS Plan.

<sup>54</sup> The costs described in this table of costs for FAM Period 2 were calculated based upon CAT LLC’s review of applicable bills and invoices and related financial statements. CAT LLC financial statements are available on the CAT website.

\* The non-cash amortization of these capitalized developed technology costs of \$1,892,505 incurred during FAM Period 2 have been appropriately excluded from the above table.<sup>55</sup>

By the completion of FAM Period 2, CAT LLC was required to implement the following with regard to the CAT:

(a) Industry Member reporting (excluding reporting by Small Industry Members that are not OATS reporters) for equities transactions, excluding Customer Account Information, CustomerID, and Customer Identifying Information, is developed, tested, and implemented at a 5% Error Rate or less and with sufficient intra-firm linkage, inter-firm linkage, national securities exchange linkage, and trade reporting facilities linkage to permit the Participants and the Commission to analyze the full lifecycle of an order across the national market system, excluding linkage of representative orders, from order origination through order execution or order cancellation; and (b) the query tool functionality required by Section 6.10(c)(i)(A) and Appendix D, Sections 8.1.1-8.1.3 and Section 8.2.1 incorporates the Industry Member equities transaction data described in condition (a) and is available to the Participants and to the Commission.<sup>56</sup>

CAT LLC completed the requirements of FAM Period 2 by December 31, 2020. The following describes the costs for each of the categories for FAM Period 2.

(a) *Technology Costs – Cloud Hosting Services*

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<sup>55</sup> As discussed above, with respect to certain costs that were “appropriately excluded,” such excluded costs relate to the amortization of capitalized technology costs, which are amortized over the life of the Plan Processor Agreement. As such costs have already been otherwise reflected in the filing, their inclusion would double count the capitalized technology costs. In addition, amortization is a non-cash expense.

<sup>56</sup> See definition of “Full Implementation of Core Equity Reporting Requirements” in Section 1.1 of the CAT NMS Plan.

CAT LLC continued to utilize AWS in FAM Period 2 to provide a broad array of cloud hosting services for the CAT, including data ingestion, data management, and analytic tools. AWS continued to provide storage services, databases, compute services and other services (such as networking, management tools and DevOps tools), as well as various environments for CAT, such as development, performance testing, test, and production environments, during the FAM 2 Period. Accordingly, the \$20,709,212 in technology costs for cloud hosting services represent costs incurred for services provided by AWS, as the cloud services provider, during FAM Period 2. The fee arrangement for AWS described above with regard to the Pre-FAM Period and FAM Period 1 continued in place during FAM Period 2 pursuant to the Plan Processor Agreement.

The cost for AWS cloud services for the CAT continued to be a function of the volume of CAT Data. During the FAM 2 Period, the volume of CAT Data continued to far exceed the original predictions for the CAT as set forth in the CAT NMS Plan. During this period, data submitted to the CAT included options and equities Participant Data, Phase 2a and Phase 2b Industry Member Data (including certain linkages) as well as SIP Data, and Other Data, including reference data. In addition, Industry Members began reporting LTID account information. The following chart provides data regarding the average daily volume, cumulative total events, total compute hours and storage footprint of the CAT during FAM Period 2.<sup>57</sup>

	Date Range: 8/1/20 – 12/31/20
Average Daily Volume in Billions	
Participant - Equities	6
Participant - Options	116
Industry Member - Equities	11
Industry Member - Options	0.98

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<sup>57</sup>

Note that the volume data described in this table does not include CAIS data.



SIP – Options & Equities	80
Average Total Daily Volume	282
Cumulative Total Events for the Period	2,170
Total Compute Hours for the Period	15,660,392
Storage Footprint at End of Period (Petabytes)	114.59

*(b) Technology Costs – Operating Fees*

Pursuant to the Plan Processor Agreement discussed above, FCAT continued in its role as the Plan Processor for the CAT during FAM Period 2. Accordingly, the \$9,108,700 in technology costs for operating fees represent costs incurred for the services provided by FCAT under the Plan Processor Agreement during FAM Period 2. The fee arrangement for FCAT described above with regard to the Pre-FAM Period and FAM Period 1 continued in place during FAM Period 2 pursuant to the Plan Processor Agreement. During FAM Period 2, FCAT's activities with respect to the CAT included publishing the Technical Specifications for Phase 2d and overseeing the reporting of firm to firm and intrafirm linkages by Industry Members. In addition, FCAT also continued to engage in the following activities during FAM Period 2:

- Addressed compliance items, including drafting CAT policies and procedures, and addressing Regulation SCI requirements;
- Provided support to the Operating Committee, Compliance Subcommittee and CAT working groups;
- Assisted with interpretive efforts and exemptive requests regarding the CAT NMS Plan;
- Oversaw the development and implementation of the security of the CAT;

- Monitored the operation of the CAT, including with regard to Participant and Industry Member reporting;
- Provided support to subcontractors under the Plan Processor Agreement;
- Provided support in discussions with the Participants and the SEC and its staff;
- Operated the FINRA CAT Helpdesk;
- Facilitated communications with the industry, including via FAQs, CAT Alerts, meetings, presentations and webinars;
- Administered the CAT website and all of its content; and
- Provided technical support and assistance with connectivity, data access, and user support, including the use of CAT Data and query tools, for Participants and the SEC staff.

*(c) Technology Costs – CAIS Operating Fees*

Pursuant to the Plan Processor Agreement discussed above, Kingland continued in its role as a subcontractor for the development and implementation of CAIS during FAM Period 2. Accordingly, the \$1,590,298 in technology costs for CAIS operating fees represent costs incurred for services provided by Kingland during FAM Period 2. The fee arrangement for Kingland described above with regard to the Pre-FAM Period and FAM Period 1 continued in place during FAM Period 2 pursuant to the Plan Processor Agreement. During FAM Period 2, Kingland continued the development of the CAIS Technical Specifications and building of CAIS. In addition, Kingland continued to work on the CAIS Technical Specifications and build related to the CCID Alternative, as well as the acceleration of the reporting of LTIDs.

*(d) Technology Costs – Change Request Fees*

During FAM Period 2, CAT LLC engaged FCAT to pursue certain change requests in accordance with the Plan Processor Agreement. The change request costs were paid by CAT LLC to FCAT. Specifically, during FAM Period 2, CAT incurred costs of \$51,823 related to a change request regarding the addition of functionality for exchange Participants to report rejected messages to the CAT.

*(e) Technology Costs – Capitalized Developed  
Technology Costs*

Capitalized developed technology costs for FAM Period 2 of \$6,761,094 include capitalizable application development costs incurred in the development of the CAT by FCAT. Such costs include (1) development costs incurred during the application development stage to meet various agreed-upon milestones regarding the CAT, as defined in the agreement between CAT LLC and the Plan Processor; (2) costs related to certain modifications, upgrades, or other changes to the CAT that were not contemplated by the agreement between CAT LLC and the Plan Processor, including costs related to separate production and industry test entitlements, market maker reference data, and back-processing of exchange exception logic; (3) implementation fees; and (4) license fees.

*(f) Legal Costs*

The legal costs of \$2,766,644 represent the fees paid for legal services provided by two law firms, WilmerHale and Pillsbury during FAM Period 2.

*Law Firm: WilmerHale.* CAT LLC continued to employ WilmerHale during FAM Period 2 based on, among other things, their expertise and long history with the project. The hourly fee rates for this law firm were in line with market rates for specialized legal expertise. The legal fees during FAM Period 2 were paid by CAT LLC to WilmerHale. During FAM

Period 1, the legal assistance provided by WilmerHale included providing legal advice regarding the following:

- Assisted with the development of the CAT funding model and drafting related amendments and rule filings;
- Drafted exemptive requests from CAT NMS Plan requirements regarding, for example, allocations, exchange activity, OTQT, initial data validation, error corrections and recordkeeping;
- Provided interpretations related to CAT NMS Plan requirements, including with regard to the Financial Accountability Milestone amendment, FAQs and technical specifications;
- Provided support for the Operating Committee, Compliance Subcommittees, working groups and Leadership Team, including with regard to meetings with the SEC staff;
- Assisted with the Implementation Plan and Quarterly Progress Reports required pursuant to Section 6.6 of the CAT NMS Plan;
- Drafted SRO rule filings related to the CAT Compliance Rule;
- Provided support for the Compliance Subcommittee, including with regard to responses to OCIE examinations and the annual assessment;
- Provided guidance regarding the SEC's proposed security amendments to the CAT NMS Plan;
- Provided guidance regarding SRO rule filings for the retirement of systems;
- Provided legal support for Operating Committee meetings, including drafting resolutions and other materials and voting advice;
- Assisted with third party vendor agreements (*e.g.*, with regard to Anchin, Grant Thornton and insurance policies);

- Assisted with change requests; and
- Provided support with regard to discussions with the SEC and its staff, including with respect to addressing interpretive and implementation issues.

*Law Firm: Pillsbury.* CAT LLC continued to employ Pillsbury during FAM Period 2 based on, among other things, their expertise and history with the project. The hourly fee rates for this law firm were in line with market rates for specialized legal expertise. The legal fees during FAM Period 2 were paid by CAT LLC to Pillsbury. During FAM Period 2, Pillsbury provided legal assistance to the CAT regarding the CAT Reporter Agreement. During that period, Pillsbury advised CAT LLC regarding applicable legal matters and drafted and filed a proposed amendment to the CAT NMS plan regarding liability matters. As discussed above, liability issues related to the CAT are important matters that needed to be resolved and clarified. CAT LLC's efforts to seek such resolution and clarity work to the benefit of Participants, Industry Members and other market participants.

(g) *Consulting Costs*

The consulting costs of \$532,146 represent the fees paid to Deloitte as project manager during FAM Period 2. CAT LLC continued to employ Deloitte during FAM Period 2 based on, among other things, their expertise and long history with the project. The fee rates for Deloitte during FAM Period 2 were negotiated and in line with market rates for this type of specialized consulting work. The consulting fees during FAM Period 2 were paid to Deloitte by CAT LLC. CAT LLC reviewed the consulting fees each month and approved the invoices. During FAM Period 2, Deloitte's CAT-related activities included the following:

- Implemented program operations for the CAT project;

- Provided support to the Operating Committee, the Chair of the Operating Committee and the Leadership Team, including project management support, coordination and planning for meetings and communications, and interfacing with law firms and the SEC;
- Assisted with cost and funding matters for the CAT, including the development of the CAT funding model and assistance with loans and the CAT bank account for CAT funding;
- Provided support for updating the SEC on the progress of the development of the CAT; and
- Provided support for third party vendors for the CAT, including FCAT, Anchin and the law firms engaged by CAT LLC.

*(h) Insurance*

The insurance costs of \$976,098 represent the fees paid for insurance during FAM Period 2. CAT LLC continued to maintain cyber security liability insurance, directors' and officers' liability insurance, and errors and omissions liability insurance offered by USI. After engaging in a process for renewing the coverage, CAT LLC determined to purchase these insurance policies from USI. The annual premiums for these policies were competitive for the coverage provided. The annual premiums were paid by CAT LLC to USI.

*(i) Professional and Administration Costs*

The professional and administration costs of \$438,523 represent the fees paid to Anchin and Grant Thornton for financial services provided during FAM Period 2.

*Financial Advisory Firm: Anchin.* CAT LLC continued to engage Anchin during FAM Period 2 based on, among other things, their expertise and history with the project. The hourly fee rates for this firm were in line with market rates for these types of financial advisory services.

The fees for these services during FAM Period 2 were paid by CAT LLC to Anchin. During FAM Period 2, Anchin provided a variety of services, including the following:

- Updated and maintained internal controls;
- Provided cash management and treasury functions;
- Faciliated bill payments;
- Provided monthly bookkeeping;
- Reviewed vendor invoices and documentation in support of cash disbursements;
- Provided accounting research and consultations on various accounting, financial reporting and tax matters;
- Addressed not-for-profit tax and accounting considerations;
- Prepared tax returns;
- Addressed various accounting, financial reporting and operating inquiries from the Participants;
- Developed and maintained quarterly and annual operating and financial budgets, including budget to actual fluctuation analyses;
- Supported compliance with the CAT NMS Plan;
- Worked with and provided support to the Operating Committee and various CAT working groups;
- Prepared monthly, quarterly and annual financial statements;
- Supported the annual financial statement audit by an independent auditor; and
- Reviewed historical costs from inception.

*Accounting Firm: Grant Thornton.* CAT LLC continued to employ the accounting firm Grant Thornton during FAM Period 2 based on, among other things, its expertise and cumulative

knowledge of CAT LLC. CAT LLC continued to believe that Grant Thornton was well qualified for its role and its fee rates were in line with with market rates for these accounting services. The fees for these services during FAM Period 2 were paid by CAT LLC to Grant Thornton. During FAM Period 2, Grant Thornton performed a financial statement audit for CAT LLC as an independent accounting firm.

*(j) Public Relations Costs*

The public relations costs of \$41,940 represent the fees paid to Peak Strategies during FAM Period 2. CAT LLC continued to employ Peak Strategies during FAM Period 2 based on, among other things, their expertise and history with the project. The fee rates for this firm were in line with market rates for these types of services. The fees for these services during FAM Period 2 were paid by CAT LLC to Peak Strategies. During FAM Period 2, Peak Strategies continued to provide professional communications services to CAT, including media relations consulting, strategy and execution. Specifically, the public relations firm provided services related to communications with the public regarding the CAT, including monitoring developments related to the CAT (*e.g.*, congressional efforts, public comments and reaction to proposals, press coverage of the CAT), reporting such developments to CAT LLC, and drafting and disseminating communications to the public regarding such developments as well as reporting on developments related to the CAT (*e.g.*, amendments to the CAT NMS Plan). As discussed above, such public relations services were important for various reasons, including monitoring comments made by market participants about the CAT and understanding issues related to the CAT discussed on the public record. By engaging a public relations firm, CAT LLC was better positioned to understand and address CAT matters to the benefit of all market participants.



**(iv) Historical CAT Costs Incurred in Financial  
Accountability Milestone Period 3**

Historical CAT Costs 1 would include costs incurred by CAT and already funded by the Participants during Period 3 of the Financial Accountability Milestones (“FAM Period 3”),<sup>58</sup> which covers the period from January 1, 2021 – December 31, 2021. Historical CAT Costs 1 would include costs for FAM Period 3 of \$144,415,268. The Participants would remain responsible for one-third of this cost (which they have previously paid) (\$48,138,423), and Industry Members would be responsible for the remaining two-thirds, with CEBBs paying one-third (\$48,138,423) and CEBs paying one-third (\$48,138,423). The following table breaks down Historical CAT Costs 1 for FAM Period 3 into the categories set forth in Section 11.3(b)(iii)(B)(II) of the CAT NMS Plan.

<b>Operating Expense</b>	<b>Historical CAT Costs for FAM Period 3<sup>59</sup></b>
Capitalized Developed Technology Costs*	\$10,763,372
<b><i>Technology Costs:</i></b>	<b>\$123,639,402</b>
Cloud Hosting Services	\$94,574,759
Operating Fees	\$23,106,091
CAIS Operating Fees	\$5,562,383
Change Request Fees	\$396,169
Legal	\$6,333,248
Consulting	\$1,408,209
Insurance	\$1,582,714
Professional and administration	\$595,923
Public relations	\$92,400
<b>Total Operating Expenses</b>	<b>\$144,415,268</b>

<sup>58</sup> Section 11.6(a)(i)(C) of the CAT NMS Plan.

<sup>59</sup> The costs described in this table of costs for FAM Period 3 were calculated based upon CAT LLC’s review of applicable bills and invoices and related financial statements. CAT LLC financial statements are available on the CAT website.

\* The non-cash amortization of these capitalized developed technology costs of \$5,108,044 incurred during FAM Period 3 have been appropriately excluded from the above table.<sup>60</sup>

By the completion of FAM Period 3, CAT LLC was required to implement the following requirements with regard the CAT:

(a) reporting to the Order Audit Trail System (“OATS”) is no longer required for new orders; (b) Industry Member reporting for equities transactions and simple electronic options transactions, excluding Customer Account Information, Customer-ID, and Customer Identifying Information, with sufficient intra-firm linkage, inter-firm linkage, national securities exchange linkage, trade reporting facilities linkage, and representative order linkages (including any equities allocation information provided in an Allocation Report) to permit the Participants and the Commission to analyze the full lifecycle of an order across the national market system, from order origination through order execution or order cancellation, is developed, tested, and implemented at a 5% Error Rate or less; (c) Industry Member reporting for manual options transactions and complex options transactions, excluding Customer Account Information, Customer-ID, and Customer Identifying Information, with all required linkages to permit the Participants and the Commission to analyze the full lifecycle of an order across the national market system, from order origination through order execution or order cancellation, including any options allocation information provided in an

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As discussed above, with respect to certain costs that were “appropriately excluded,” such excluded costs relate to the amortization of capitalized technology costs, which are amortized over the life of the Plan Processor Agreement. As such costs have already been otherwise reflected in the filing, their inclusion would double count the capitalized technology costs. In addition, amortization is a non-cash expense.

Allocation Report, is developed, tested, and fully implemented; (d) the query tool functionality required by Section 6.10(c)(i)(A) and Appendix D, Sections 8.1.1-8.1.3, Section 8.2.1, and Section 8.5 incorporates the data described in conditions (b)-(c) and is available to the Participants and to the Commission; and (e) the requirements of Section 6.10(a) are met.<sup>61</sup>

CAT LLC completed the requirements of FAM Period 3 by December 31, 2021. The following describes the costs for each of the categories for FAM Period 3.

*(a) Technology Costs – Cloud Hosting Services*

CAT LLC continued to utilize AWS in FAM Period 3 to provide a broad array of cloud hosting services for the CAT, including data ingestion, data management, and analytic tools. AWS continued to provide storage services, databases, compute services and other services (such as networking, management tools and DevOps tools), as well as various environments for CAT, such as development, performance testing, test, and production environments, during the FAM 3 Period. Accordingly, the \$94,574,759 in technology costs for cloud hosting services represents costs incurred for services provided by AWS, as the cloud services provider, during FAM Period 3. The fee arrangement for AWS described above for the earlier periods continued in place during FAM Period 3 pursuant to the Plan Processor Agreement.

The cost for AWS cloud services for the CAT continued to be a function of the volume of CAT Data. During FAM Period 3, the volume of CAT Data continued to far exceed the original predictions for the CAT as set forth in the CAT NMS Plan. During this period, data submitted to the CAT included options and equities Participant Data, Phase 2a, Phase 2b, Phase 2c and Phase

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<sup>61</sup> See definition of “Full Availability and Regulatory Utilization of Transactional Database Functionality” in Section 1.1 of the CAT NMS Plan.

2d Industry Member Data (including certain linkages), SIP Data, Other Data, including reference data, and LTID account information. The following chart provides data regarding the average daily volume, cumulative total events, total compute hours and storage footprint of the CAT during FAM Period 3.<sup>62</sup>

	Date Range: 1/1/21 to 4/25/21	Date Range: 4/26/21/ to 12/31/21*
Average Daily Volume in Billions		
Participant - Equities	9	9
Participant - Options	135	136
Industry Member - Equities	20	19
Industry Member - Options	2	2
SIP – Options & Equities	129	137
Average Total Daily Volume	297	304
Cumulative Total Events for the Period	7,480	5,310
Total Compute Hours for the Period	15,860,304	33,487,318
Storage Footprint at End of Period (Petabytes)	180.22	284.62

\* Start of Participant Equities in CAT format and SIP Equities on 4/26/21

*(b) Technology Costs – Operating Fees*

Pursuant to the Plan Processor Agreement discussed above, FCAT continued in its role as the Plan Processor for the CAT during FAM Period 3. Accordingly, the \$23,106,091 in technology costs for operating fees represent costs incurred for the services provided by FCAT under the Plan Processor Agreement during FAM Period 3. The fee arrangement for FCAT described above with regard to the prior Periods continued in place during FAM Period 3

<sup>62</sup> Note that the volume data described in this table does not include CAIS data.

pursuant to the Plan Processor Agreement. During FAM Period 3, FCAT's activities with respect to the CAT included the following:

- Facilitated Phase 2c and Phase 2d testing for Industry Members;
- Oversaw creation of linkages of the lifecycle of order events based on the received data through Phase 2d;
- Addressed compliance items, including drafting CAT policies and procedures, and addressing Regulation SCI requirements;
- Provided support to the Operating Committee, the Compliance Subcommittee and CAT working groups;
- Assisted with interpretive efforts and exemptive requests regarding the CAT NMS Plan;
- Oversaw the security of the CAT;
- Monitored the operation of the CAT, including with regard to Participant and Industry Member reporting;
- Provided support to subcontractors under the Plan Processor Agreement;
- Provided support in discussions with the Participants and the SEC and its staff;
- Operated the FINRA CAT Helpdesk;
- Facilitated communications with the industry, including via FAQs, CAT Alerts, meetings, presentations and webinars;
- Administered the CAT website and all of its content; and
- Provided technical support and assistance with connectivity, data access, and user support, including the use of CAT Data and query tools, for Participants and the SEC staff.

(c) *Technology Costs – CAIS Operating Fees*

Pursuant to the Plan Processor Agreement with FCAT discussed above, Kingland continued in its role as a subcontractor for the development and implementation of CAIS during FAM Period 3. Accordingly, the \$5,562,383 in technology costs for CAIS operating fees represents costs incurred for services provided by Kingland during FAM Period 3. The fee arrangement for Kingland described above with regard to the prior Periods continued in place during FAM Period 3 pursuant to the Plan Processor Agreement. During FAM Period 3, Kingland continued the development of the CAIS Technical Specifications and building of CAIS. In addition, Kingland continued to work on the CAIS Technical Specifications and build related to the CCID Alternative, as well as the acceleration of the reporting of LTIDs. The full CAIS Technical Specifications were published during FAM Period 3.

*(d) Technology Costs – Change Request Fees*

During FAM Period 3, CAT LLC engaged FCAT to pursue certain change requests in accordance with the Plan Processor Agreement. The change request costs were paid by CAT LLC to FCAT. Specifically, during FAM Period 3, CAT incurred costs of \$396,169 related to change requests, including the following: (1) the addition of functionality for exchange Participants to report rejected messages to the CAT; (2) the migration of MIRS query engine to AWS to reduce operational costs and increase resiliency; and (3) updating the Participant Technical Specifications to allow for two-sided Participant option quote reporting.

*(e) Technology Costs – Capitalized Developed Technology Costs*

Capitalized developed technology costs for FAM Period 3 of \$10,763,372 include capitalizable application development costs incurred in the development of the CAT by FCAT. Such costs include (1) development costs incurred during the application development stage to meet various agreed-upon milestones regarding the CAT, as defined in the agreement between

CAT LLC and the Plan Processor, including the transition from equity data received by FINRA pursuant to various regulatory services agreements between FINRA and Participant exchanges to the equity CAT Data, and the completion of the Industry Member Phase 2d options manual and complex orders go-live requirements; (2) costs related to certain modifications, upgrades, or other changes to the CAT that were not contemplated by the agreement between CAT LLC and the Plan Processor, including costs related to off-exchange volume concentration, Participant 24-hour trading and an external metastore; (3) implementation fees; and (4) license fees.

*(f) Legal Costs*

The legal costs of \$6,333,248 represent the fees paid for legal services provided by three law firms, WilmerHale, Pillsbury and Covington & Burling LLP (“Covington”) during FAM Period 3.

*Law Firm: WilmerHale.* CAT LLC continued to employ WilmerHale during FAM Period 3 based on, among other things, their expertise and long history with the project. The hourly fee rates for this law firm were in line with market rates for specialized legal expertise. The legal fees during FAM Period 3 were paid by CAT LLC to WilmerHale. During FAM Period 3, the legal assistance provided by WilmerHale included providing legal advice regarding the following:

- Assisted with the development of the CAT funding model and drafting related amendments and rule filings;
- Drafted exemptive requests from CAT NMS Plan requirements, including, for example, verbal activity regarding Phase 2c cutover, error reports, error corrections, Phase 2d Reporting, unique Order-ID on internal route events, reporting addresses, recordkeeping, and unique CCID for foreign customers;

- Provided interpretations related to CAT NMS Plan requirements, including with regard to the Financial Accountability Milestone amendment, FAQs, CAIS requirements, ADF, and technical specifications;
- Provided support for the Operating Committee, Compliance Subcommittee, working groups and Leadership Team, including with regard to meetings with the SEC staff;
- Assisted with the Implementation Plan and Quarterly Progress Reports required pursuant to Section 6.6(c) of the CAT NMS Plan;
- Drafted SRO rule filings related to the CAT Compliance Rule;
- Provided support for Compliance Subcommittee, including with regard to response to OCIE examinations and the annual assessment;
- Provided guidance regarding SEC's proposed security amendments to CAT NMS Plan;
- Provided guidance regarding SRO rule filings for the retirement of systems;
- Provided legal support for Operating Committee meetings, including drafting resolutions and other materials and voting advice;
- Provided assistance with change requests;
- Provided guidance and regulatory support for litigation regarding the response to SEC's exemptive orders;
- Assisted with communications with the industry, including CAT Alerts and presentations;
- Provided guidance regarding the confidentiality of CAT Data, including third-party information requests;
- Assisted with cost management analysis and proposals; and
- Provided support with regard to discussions with the SEC and its staff, including with respect to addressing interpretive and implementation issues.



*Law Firm: Pillsbury.* CAT LLC continued to employ Pillsbury during FAM Period 3 based on, among other things, their expertise and history with the project. The hourly fee rates for this law firm were in line with market rates for specialized legal expertise. The legal fees during FAM Period 3 were paid by CAT LLC to Pillsbury. During FAM Period 3, Pillsbury provided legal assistance to the CAT regarding the CAT Reporter Agreement. During this period, Pillsbury advised CAT LLC regarding applicable legal matters, reviewed and responded to comment letters regarding the proposed Plan amendment, participated in meetings with senior SEC staff, responded to comments submitted following the SEC's April 6, 2021 order instituting proceedings,<sup>63</sup> and assessed legal matters regarding the SEC's October 29, 2021 order denying the proposed Plan amendment.<sup>64</sup>

*Law Firm: Covington.* CAT LLC hired Covington for litigation with the SEC regarding certain exemptive orders related to the CAT, including orders issued in December 2020.<sup>65</sup> CAT LLC interviewed this law firm as well as other potential law firms, considering a variety of factors in its analysis for choosing legal assistance, including the relevant expertise and fees of the potential lawyers. CAT LLC approved the engagement of Covington in January 2021. The fee rates for this law firm, which were calculated based on hourly rates, were in line with market rates for specialized services. The legal fees for FAM Period 3 for this firm were paid by CAT LLC to Covington.

After Covington was hired in 2021 through the end of 2021, the firm provided legal assistance regarding the litigation with the SEC regarding the 2020 Orders. These services

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<sup>63</sup> Securities Exchange Act Rel. No. 91487 (Apr. 6, 2021), 86 Fed. Reg. 19054 (Apr. 12, 2021).

<sup>64</sup> Securities Exchange Act Rel. No. 93484 (Oct. 29, 2021), 86 Fed. Reg. 60933 (Nov. 4, 2021).

<sup>65</sup> See Securities Exchange Act Rel. No. 90688 (Dec. 16, 2020), 85 Fed. Reg. 83634 (Dec. 22, 2020); and Securities Exchange Act Rel. No. 90689 (Dec. 16, 2020), 85 Fed. Reg. 83667 (Dec. 22, 2020) (collectively, the "2020 Orders").

included researching, drafting, and filing motions to stay the 2020 orders and related materials in proceedings before the SEC, as well as researching, drafting, and filing petitions for judicial review of the 2020 Orders in proceedings before the U.S. Court of Appeals for the D.C. Circuit. Covington oversaw ongoing litigation proceedings on these matters, and also supported WilmerHale with respect to settlement negotiations with the SEC staff regarding the 2020 Orders.

In addition to these services, CAT LLC engaged Covington in November 2021 to provide assistance with respect to the SEC's disapproval of CAT NMS Plan amendments concerning a proposed limitation on liability in the event of a data breach or similar event. Covington provided advice concerning CAT's response to the SEC's disapproval order. This work accounted for a minority of Covington's fees in 2021.<sup>66</sup>

*(g) Consulting Costs*

The consulting costs of \$1,408,209 represent the fees paid to Deloitte as project manager during FAM Period 3. CAT LLC continued to employ Deloitte during FAM Period 3 based on, among other things, their expertise and long history with the project. The fee rates for Deloitte during FAM Period 3 were negotiated and in line with market rates for this type of specialized consulting work. The consulting fees during FAM Period 3 were paid to Deloitte by CAT LLC. CAT LLC reviewed the consulting fees each month and approved the invoices. During FAM Period 3, Deloitte's CAT-related activities included the following:

- Implemented program operations for the CAT project;

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<sup>66</sup> As discussed above with regard to Pillsbury's work on liability matters, liability issues related to the CAT are important matters that needed to be resolved and clarified. CAT LLC's efforts to seek such resolution and clarity work to the benefit of Participants, Industry Members and other market participants. Moreover, such activity is a necessary part of the operation of the CAT.

- Provided support to the Operating Committee, the Chair of the Operating Committee and the Leadership Team, including project management support, coordination and planning for meetings and communications, and interfacing with law firms and the SEC;
- Assisted with cost and funding matters for the CAT, including the development of the CAT funding model and assistance with loans and the CAT bank account for CAT funding;
- Provided support for updating the SEC on the progress of the development of the CAT; and
- Provided support for third party vendors for the CAT, including FCAT, Anchin and the law firms engaged by CAT LLC.

*(h) Insurance*

The insurance costs of \$1,582,714 represent the fees paid for insurance FAM Period 3. CAT LLC continued to maintain cyber security liability insurance, directors' and officers' liability insurance, and errors and omissions liability insurance offered by USI. After engaging in a process for renewing the coverage, CAT LLC determined to purchase these insurance policies from USI. The annual premiums for these policies were competitive for the coverage provided. The annual premiums were paid by CAT LLC to USI.

*(i) Professional and Administration Costs*

The professional and administration costs of \$595,923 represent the fees paid to Anchin and Grant Thornton for financial services during FAM Period 3.

*Financial Advisory Firm: Anchin.* CAT LLC continued to employ Anchin during FAM Period 3 based on, among other things, their expertise and history with the project. The hourly fee rates for this firm were in line with market rates for these financial advisory services. The

fees for these services during FAM Period 3 were paid by CAT LLC to Anchin. During FAM Period 3, Anchin provided a variety of services, including the following:

- Updated and maintained internal controls;
- Provided cash management and treasury functions;
- Faciliated bill payments;
- Provided monthly bookkeeping;
- Reviewed vendor invoices and documentation in support of cash disbursements;
- Provided accounting research and consultations on various accounting, financial reporting and tax matters;
- Addressed not-for-profit tax and accounting considerations;
- Prepared tax returns;
- Addressed various accounting, financial reporting and operating inquiries from Participants;
- Developed and maintained quarterly and annual operating and financial budgets, including budget to actual fluctuation analyses;
- Supported compliance with the CAT NMS Plan;
- Worked with and provided support to the Operating Committee and various CAT working groups;
- Prepared monthly, quarterly and annual financial statements;
- Supported the annual financial statement audits by an independent auditor;
- Reviewed historical costs from inception; and
- Provided accounting and financial information in support of SEC filings.

*Accounting Firm: Grant Thornton.* CAT LLC continued to employ the accounting firm Grant Thornton during FAM Period 3 based on, among other things, their expertise and cumulative knowledge of CAT LLC. CAT LLC determined that Grant Thornton was well qualified for its role and that its fixed fee rates were in line with market rates for these accountant services. The fees for these services during FAM Period 3 were paid by CAT LLC to Grant Thornton. During FAM Period 3, Grant Thornton provided audited financial statements for CAT LLC.

(j) *Public Relations Costs*

The public relations costs of \$92,400 represent the fees paid to Peak Strategies during FAM Period 3. CAT LLC continued to employ Peak Strategies during FAM Period 3 based on, among other things, their expertise and history with the project. The fee rates for this firm were in line with market rates for these types of services. The fees for these services during FAM Period 3 were paid by CAT LLC to Peak Strategies. During FAM Period 3, Peak Strategies continued to provide professional communications services to CAT, including media relations consulting, strategy and execution. Specifically, the public relations firm provided services related to communications with the public regarding the CAT, including monitoring developments related to the CAT (*e.g.*, congressional efforts, public comments and reaction to proposals, press coverage of the CAT), reporting such developments to CAT LLC, and drafting and disseminating communications to the public regarding such developments as well as reporting on developments related to the CAT (*e.g.*, amendments to the CAT NMS Plan). As discussed above, such public relations services were important for various reasons, including monitoring comments made by market participants about the CAT and understanding issues related to the CAT discussed on the public record. By engaging a public relations firm, CAT

LLC was better positioned to understand and address CAT matters to the benefit of all market participants.

**(v) Excluded Costs**

Historical CAT Costs 1 would not include two categories of CAT costs (“Excluded Costs”): (1) \$48,874,937, which are all CAT costs incurred from November 15, 2017 through November 15, 2018; and (2) \$14,749,362 of costs related to the termination of the relationship with the Initial Plan Processor. The Participants would remain responsible for 100% of these costs, which total \$63,624,299. CAT LLC determined that it was reasonable to exclude these Excluded Costs from Historical CAT Costs 1 because the excluded costs relate to the delay in the start of reporting to the CAT and the conclusion of the relationship with the Initial Plan Processor.<sup>67</sup>

First, Historical CAT Costs 1 would not include \$14,749,362 of costs related to the conclusion of the relationship with the Initial Plan Processor. Such costs include costs related to the American Arbitration Association, the legal assistance of Pillsbury with regard to the arbitration with Thesys CAT, and the settlement costs related to the arbitration with Thesys CAT. The Participants would remain responsible for 100% of these \$14,749,362 in costs.

Second, the Historical CAT Costs would exclude all CAT costs incurred from November 15, 2017 through November 15, 2018. CAT LLC determined to exclude all costs during this one-year period of \$48,874,937 from fees charged to Industry Members due to the delay in the start of reporting to the CAT. The Participants would remain responsible for 100% of these

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<sup>67</sup> In approving the CAT Funding Model, the Commission states that “the proposed exclusion of the ‘Excluded Costs’ from Past CAT Costs is reasonable in the Commission’s view because it would not require all costs incurred by the Participants to be recovered from Industry Members through the Historical CAT Assessment, specifically excluding those costs related to the delay in the start of reporting to the CAT and costs related to the conclusion of the relationship with the Initial Plan Processor.” CAT Funding Model Approval Order at 62663.

\$48,874,937 in costs. The following table breaks down these costs into the categories set forth in Section 11.3(b)(iii)(B)(II) of the CAT NMS Plan.

<b>Operating Expense</b>	<b>Excluded Costs for November 15, 2017 – November 15, 2018<sup>68</sup></b>
Capitalized Developed Technology Costs	\$37,852,083
<b><i>Technology Costs:</i></b>	-
Cloud Hosting Services	-
Operating Fees	-
CAIS Operating Fees	-
Change Request Fees	-
Legal	\$6,143,278
Consulting	\$4,452,106
Insurance	-
Professional and administration	\$340,145
Public relations	\$87,325
<b>Total Operating Expenses</b>	<b>\$48,874,937</b>

The following provides additional detail regarding the Excluded Costs.

- (a) *Technology Costs – Cloud Hosting Services, Operating Fees, CAIS Operating Fees and Change Request Fees*

CAT LLC did not incur technology costs related to the categories of cloud hosting services, operating fees, CAIS operating fees or change requests during the period from November 15, 2017 through November 15, 2018.

- (b) *Technology Costs – Capitalized Developed Technology Costs*

Capitalized developed technology costs for the period from November 15, 2017 through November 15, 2018 include capitalizable application development costs of \$37,852,083 incurred

<sup>68</sup> The costs described in this table of Excluded Costs were calculated based upon CAT LLC's review of applicable bills and invoices and related financial statements. CAT LLC financial statements are available on the CAT website.

in the development of the CAT by the Initial Plan Processor. Such costs include development costs incurred during the application development stage to meet various agreed-upon milestones regarding the CAT, as defined in the agreement between CAT LLC and the Initial Plan Processor. Such costs include costs related to Industry Member technical specifications for orders and transactions, the system security plan, testing and production for Participant CAT reporting, third-party security assessment and response, query portal, onboarding of the Chief Information Security Officer, and ingestion of FINRA TRF data and FINRA data related to halts and corporate actions.

*(c) Legal Costs*

The legal costs of \$6,143,278 represent the fees paid to WilmerHale for legal services from November 15, 2017 through November 15, 2018. During this period, WilmerHale provided legal assistance to the CAT including with regard to the following:

- Provided legal support for the governance of the CAT, including governance support for the Operating Committee, Advisory Committee, Compliance Subcommittee, and CAT working groups;
- Assisted with the development of the CAT funding model and drafted related amendments of the CAT NMS Plan;
- Provided assistance related to CAT security;
- Drafted exemptive requests, including requests related to PII;
- Assisted with the Implementation Plan required pursuant to Section 6.6(c)(i) of the CAT NMS Plan;
- Provided interpretations of and related to the CAT NMS Plan;
- Provided advice with regard to regulator access to the CAT;



- Assisted with the Plan Processor transition;
- Provided assistance regarding communications with the industry regarding the CAT;
- Provided advice regarding Customer Account Information and PII;
- Provided support for litigation related to SEC exemptive orders; and
- Provided support with regard to discussions with the SEC and its staff, including with respect to addressing interpretative and implementation issues.

*(d) Consulting Costs*

The consulting costs of \$4,452,106 represent the fees paid to Deloitte for their role as project manager for the CAT from November 15, 2017 through November 15, 2018. During this period, Deloitte engaged in the following activities with respect to the CAT:

- Implemented program operations for the CAT project;
- Provided governance support to the Operating Committee, including support for Subcommittees and working groups of the Operating Committee (*e.g.*, Compliance Subcommittee, Cost and Funding Working Group, Technical Working Group, Industry Outreach Working Group, Security Working Group and Steering Committee);
- Assisted with cost and funding issue for the CAT, including the development of the CAT funding model and assistance with loans and the CAT bank account for CAT funding;
- Provided support for updating the SEC on the progress of the development of the CAT; and
- Provided active planning and coordination with and support for the Initial Plan Processor with regard to the development of the CAT, and reported to the Participants on the progress.

*(e) Insurance*

CAT LLC did not incur costs related to insurance during the period from November 15, 2017 through November 15, 2018.

*(f) Professional and Administration Costs*

The professional and administration costs of \$340,145 represent the fees paid to Anchin, Exegy and RSM from November 15, 2017 through November 15, 2018.

*Financial Advisory Firm: Anchin.* From the commencement of its engagement in April 2018 through November 15, 2018, Anchin engaged in the following activities with respect to the CAT:

- Developed, updated and maintained internal controls;
- Provided cash management and treasury functions;
- Facilitated bill payments;
- Provided monthly bookkeeping;
- Reviewed vendor invoices and documentation in support of cash disbursements;
- Provided accounting research and consultations on various accounting, financial reporting and tax matters;
- Addressed not-for-profit tax and accounting considerations;
- Prepared tax returns;
- Addressed various accounting, financial reporting and operating inquiries from Participants;
- Developed and maintained quarterly and annual operating and financial budgets, including budget to actual fluctuation analyses;

- Addressed accounting and financial matters relating to the transition from CAT NMS, LLC to Consolidated Audit Trail, LLC, including supporting the dissolution of CAT NMS, LLC;
- Supported compliance with the CAT NMS Plan;
- Worked with and provided support to the Operating Committee and various CAT working groups;
- Prepared monthly, quarterly and annual financial statements;
- Supported the annual financial statement audits by an independent auditor;
- Reviewed historical costs from inception; and
- Provided accounting and financial information in support of SEC filings.

*Market Data Provider: Exegy.* From July 2018 through November 15, 2018, CAT LLC purchased market data from Exegy (as described in more detail above).

*Security Assessment: RSM.* From October 2018 through November 15, 2018, CAT LLC incurred costs for RSM's performance of a security assessment (as described in more detail above).

(g) *Public Relations Costs*

The public relations costs of \$87,325 represent the fees paid to Sloane from November 15, 2017 through November 15, 2018. From the commencement of its engagement in March 2018 through November 15, 2018, Sloane provided professional communications services to CAT, including media relations consulting, strategy and execution. Specifically, Sloane provided services related to communications with the public regarding the CAT, including monitoring developments related to the CAT (e.g., congressional efforts, public comments and reaction to proposals, press coverage of the CAT), reporting such developments to CAT LLC,

and drafting and disseminating communications to the public regarding such developments as well as reporting on developments related to the CAT (*e.g.*, amendments to the CAT NMS Plan).

**(C) Historical Recovery Period 1**

Under the CAT NMS Plan, the Operating Committee is required to reasonably establish the length of the Historical Recovery Period used in calculating each Historical Fee Rate based upon the amount of the Historical CAT Costs to be recovered by the Historical CAT Assessment, and to describe the reasons for its length.<sup>69</sup> The Historical Recovery Period used in calculating the Historical Fee Rate may not be less than 24 months or more than five years.<sup>70</sup> The Operating Committee has determined to establish a Historical Recovery Period 1 of 24 months for Historical CAT Assessment 1.

The Operating Committee determined that the length of Historical Recovery Period 1 appropriately weighs the need for a reasonable Historical Fee Rate 1 that spreads the Historical CAT Costs over an appropriate amount of time and the need to repay the loans to the Participants in a timely fashion. The Operating Committee determined that 24 months for Historical Recovery Period 1 would establish a fee rate that is lower than other transaction-based fees, including fees assessed pursuant to Section 31.<sup>71</sup> In addition, in establishing a Historical Recovery Period of 24 months, the Operating Committee recognized that the total costs for Historical CAT Assessment 1 were less than the total costs for 2022 and 2023,<sup>72</sup> and therefore it

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<sup>69</sup> Section 11.3(b)(i)(D)(I) and Section 11.3(b)(iii)(B)(II) of the CAT NMS Plan.

<sup>70</sup> Section 11.3(b)(i)(D)(I) of the CAT NMS Plan. In the CAT Funding Model Approval Order, the SEC stated that “[i]n the Commission’s view, it is reasonable for the Operating Committee to establish the length of the Historical Recovery Period to be no less than 24 months and no more than five years.” CAT Funding Model Approval Order at 62664.

<sup>71</sup> As the SEC noted in the CAT Funding Model Approval Order, recent Section 31 fees ranged from \$0.00009 per share to \$0.0004 per share. CAT Funding Model at 62682.

<sup>72</sup> The total CAT costs for 2022 were approximately \$186 million and the total CAT costs for 2023 are estimated to be approximately \$233 million.

would be reasonable and appropriate to recover costs subject to this filing over an approximate two-year period. Furthermore, the Operating Committee notes that 24 months is appropriate because it is not currently proposing that Industry Members be required to pay additional CAT fees with regard to another Historical CAT Assessment or CAT Fees with regard to Prospective CAT Costs at the same time.

The length of the Historical Recovery Period 1 and the reasons for its length are provided in this filing in accordance with the requirement in the CAT NMS Plan to provide such information in a fee filing for a Historical CAT Assessment.<sup>73</sup>

**(D) Projected Total Executed Equivalent Share Volume**

The calculation of Historical Fee Rate 1 also requires the determination of the projected total executed equivalent share volume of transactions in Eligible Securities for Historical Recovery Period 1. Under the CAT NMS Plan, the Operating Committee is required to “reasonably determine the projected total executed equivalent share volume of all transactions in Eligible Securities for each Historical Recovery Period based on the executed equivalent share volume of all transactions in Eligible Securities for the prior twelve months.”<sup>74</sup> The Operating Committee is required to base its projection on the prior twelve months, but it may use its discretion to analyze the likely volume for the upcoming year. Such discretion would allow the Operating Committee to use its judgment when estimating projected total executed equivalent share volume if the volume over the prior twelve months was unusual or otherwise unfit to serve as the basis of a future volume estimate.<sup>75</sup>

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<sup>73</sup> Section 11.3(b)(iii)(B)(II)(C) of the CAT NMS Plan.

<sup>74</sup> Section 11.3(b)(i)(E) of the CAT NMS Plan.

<sup>75</sup> CAT Funding Model Approval Order at 62664.

The total executed equivalent share volume of transactions in Eligible Securities for the period from December 2022 through November 2023 was 3,842,861,347,279.44 executed equivalent shares. The Operating Committee has determined to calculate the projected total executed equivalent share volume for the 24 months of Historical Recovery Period 1 by doubling the executed equivalent share volume for the prior 12 months. The Operating Committee determined that such an approach was reasonable as the CAT's annual executed equivalent share volume has remained relatively constant. For example, the executed equivalent share volume for 2021 was 3,963,697,612,395 executed equivalent shares, and the executed equivalent share volume for 2022 was 4,039,821,841,560.31 executed equivalent shares. Accordingly, the projected total executed equivalent share volume for Historical Recovery Period 1 is projected to be 7,685,722,694,558.88 executed equivalent shares.<sup>76</sup>

The projected total executed equivalent share volume of all transactions in Eligible Securities for Historical Recovery Period 1 and a description of the calculation of the projection is provided in this filing in accordance with the requirement in the CAT NMS Plan to provide such information in a fee filing for a Historical CAT Assessment.<sup>77</sup>

#### **(E) Historical Fee Rate 1**

Historical Fee Rate 1 would be calculated by dividing Historical CAT Costs 1 by the reasonably projected total executed equivalent share volume of all transactions in Eligible Securities for Historical Recovery Period 1, as described in detail above.<sup>78</sup> Specifically,

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<sup>76</sup> This projection was calculated by multiplying 3,842,861,347,279.44 executed equivalent shares by two.

<sup>77</sup> Section 11.3(b)(iii)(B)(II)(D) of the CAT NMS Plan.

<sup>78</sup> In approving the CAT Funding Model, the Commission stated that “[t]he calculation of the Historical Fee Rate by dividing the Historical CAT Costs by the projected total executed equivalent share volume of all transactions in Eligible Securities for the Historical Recovery Period is reasonable.” CAT Funding Model Approval Order at 62664.

Historical Fee Rate 1 would be calculated by dividing \$337,688,610 by 7,685,722,694,558.88.

As a result, the Historical Fee Rate 1 would be \$0.0000439371316687066 per executed equivalent share. Historical Fee Rate 1 is provided in this filing in accordance with the requirement in the CAT NMS Plan to provide the Historical Fee Rate in a fee filing for a Historical CAT Assessment.<sup>79</sup>

### (3) Past CAT Costs and Participants

Participants would not be required to pay any fees associated with Historical CAT Assessment 1 as the Participants previously have paid all Past CAT Costs. The CAT NMS Plan explains that:

Because Participants previously have paid Past CAT Costs via loans to the Company, Participants would not be required to pay any Historical CAT Assessment. In lieu of a Historical CAT Assessment, the Participants' one-third share of Historical CAT Costs and such other additional Past CAT Costs as reasonably determined by the Operating Committee will be paid by the cancellation of loans made to the Company on a pro rata basis based on the outstanding loan amounts due under the loans.<sup>80</sup>

The CAT NMS Plan further states that "Historical CAT Assessments are designed to recover two-thirds of the Historical CAT Costs."<sup>81</sup>

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<sup>79</sup> Section 11.3(b)(iii)(B)(II)(A) of the CAT NMS Plan.

<sup>80</sup> Section 11.3(b)(ii) of the CAT NMS Plan.

<sup>81</sup> *Id.* In approving the CAT Funding Model, the Commission stated that "[t]he proposed allocation of the Historical CAT Assessment solely to CEBs and CEBBs, and ultimately Industry Members, is reasonable. The Historical CAT Assessment will still be divided into thirds," as the Participants' one-third share of Historical CAT Costs will be paid by the cancellation of loans made to the Company. CAT Funding Model Approval Order at 62666.

**(4) Monthly Fees**

CEBBs and CEBSs would be required to pay fees for Historical CAT Assessment 1 on a monthly basis for the period in which Historical CAT Assessment 1 is in effect.<sup>82</sup> A CEBB or CEBS's fee for each month would be calculated based on the transactions in Eligible Securities executed by the CEBB or CEBS from the prior month.<sup>83</sup> Proposed paragraph a)i)A) of the fee schedule would state that each CAT Executing Broker would receive its first invoice in April 2024, and "would receive an invoice each month thereafter in which Historical CAT Assessment 1 is in effect." Proposed paragraph a)i)B) of the fee schedule would state that "Consolidated Audited Trail, LLC shall provide each CAT Executing Broker with an invoice for Historical CAT Assessment 1 on a monthly basis." In addition, proposed paragraph b)i) of the fee schedule states that each CEBB and CEBS is required to pay its CAT fees "each month."

**(5) Actual Recovery Period for Historical CAT Assessment 1**

The CAT NMS Plan states that, "[n]otwithstanding the length of the Historical Recovery Period used in calculating the Historical Fee Rate, each Historical CAT Assessment calculated using the Historical Fee Rate will remain in effect until all Historical CAT Costs for the Historical CAT Assessment are collected."<sup>84</sup> Accordingly, Historical CAT Assessment 1 will remain in effect until all Historical CAT Costs 1 have been collected. The actual recovery period for Historical CAT Assessment 1 may be shorter or longer than Historical Recovery Period 1

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<sup>82</sup> See Section 11.3(b)(iii)(A) of the CAT NMS Plan.

<sup>83</sup> See proposed paragraph a)i)B) of the fee schedule.

<sup>84</sup> Section 11.3(b)(i)(D)(II) of the CAT NMS Plan.



depending on the actual executed equivalent share volumes during the time that Historical CAT Assessment 1 is in effect.<sup>85</sup>

**(6) Consolidated Audit Trail Funding Fees**

To implement Historical CAT Assessment 1, a “Consolidated Audit Trail Funding Fees” section would be added to the Exchange’s fee schedule, to include the proposed paragraphs described below.

**(A) Fee Schedule for Historical CAT Assessment 1**

The CAT NMS Plan states that:

Each month in which a Historical CAT Assessment is in effect, each CEBB and each CEBS shall pay a fee for each transaction in Eligible Securities executed by the CEBB or CEBS from the prior month as set forth in CAT Data, where the Historical CAT Assessment for each transaction will be calculated by multiplying the number of executed equivalent shares in the transaction by one-third and by the Historical Fee Rate reasonably determined pursuant to paragraph (b)(i) of this Section 11.3.<sup>86</sup>

Accordingly, based on the factors discussed above, the Exchange proposes to add paragraph a)i) to the Consolidated Audit Trail Funding Fees section of its fee schedule. Proposed paragraph a)i) would state the following:

A) Each CAT Executing Broker shall receive its first invoice for Historical CAT Assessment 1 in April 2024, which shall set forth the Historical

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<sup>85</sup> In approving the CAT Funding Model, the Commission stated that “[i]n the Commission’s view, it is reasonable for Industry Members to be charged a Historical CAT Assessment until all Historical CAT Costs for the Historical CAT Assessment are collected.” CAT Funding Model Approval Order at 62665.

<sup>86</sup> Section 11.3(b)(iii)(A) of the CAT NMS Plan.

CAT Assessment 1 fees calculated based on transactions in March 2024, and shall receive an invoice for Historical CAT Assessment 1 for each month thereafter in which Historical CAT Assessment 1 is in effect.

B) Consolidated Audit Trail, LLC shall provide each CAT Executing Broker with an invoice for Historical CAT Assessment 1 on a monthly basis. Each month, such invoices shall set forth a fee for each transaction in Eligible Securities executed by the CAT Executing Broker in its capacity as a CAT Executing Broker for the Buyer (“CEBB”) and/or the CAT Executing Broker for the Seller (“CEBS”) (as applicable) from the prior month as set forth in CAT Data. The fee for each such transaction will be calculated by multiplying the number of executed equivalent shares in the transaction by the fee rate of \$0.000015 per executed equivalent share.

C) Historical CAT Assessment 1 will remain in effect until \$225,125,740 (two-thirds of Historical CAT Costs 1) are collected from CAT Executing Brokers collectively, which is estimated to be approximately two years, but could be for a longer or shorter period of time. Consolidated Audit Trail, LLC will provide notice when Historical CAT Assessment 1 will no longer be in effect.

D) Each CAT Executing Broker shall be required to pay each invoice for Historical CAT Assessment 1 in accordance with paragraph (b).

As noted in the Plan amendment for the CAT Funding Model, “as a practical matter, the fee filing for a Historical CAT Assessment would provide the exact fee per executed equivalent share to be paid for each Historical CAT Assessment, by multiplying the Historical Fee Rate by

one-third and describing the relevant number of decimal places for the fee rate.<sup>87</sup> Accordingly, proposed paragraph a)i)B) of the fee schedule would set forth a fee rate of \$0.000015 per executed equivalent share. This fee rate is calculated by multiplying Historical Fee Rate 1 of \$0.0000439371316687066 by one-third, and rounding the result to 6 decimal places.<sup>88</sup> The Operating Committee determined to use six decimal places to balance the accuracy of the calculation with the potential systems and other impracticalities of using additional decimal places in the calculation.

The proposed language in paragraph a)i)A) of the fee schedule would describe when CAT Executing Brokers would receive their first monthly invoice for Historical CAT Assessment 1. Specifically, CAT Executing Brokers would receive their first monthly invoice for Historical CAT Assessment 1 in April 2024 and the fees set forth in that invoice would be calculated based on transactions executed in the prior month, that is, transactions executed in March 2024. The payment for the first invoice would be required within 30 days after the receipt of the first invoice (unless a longer period is indicated), as described in proposed paragraph b)ii) of the fee schedule.

Proposed paragraph a)i)A) of the fee schedule also would describe the monthly cadence of the invoices for Historical CAT Assessment 1. Specifically, after the first invoices are provided to CAT Executing Brokers in April 2024, invoices will be sent to CAT Executing Brokers each month thereafter while Historical CAT Assessment 1 is in effect.

Proposed paragraph a)i)B) of the fee schedule would describe the invoices for Historical CAT Assessment 1. Proposed paragraph a)ii)B) of the fee schedule would state that

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<sup>87</sup> CAT Funding Model Approval Order at 62658, n.658.

<sup>88</sup> Dividing \$0.0000439371316687066 by three equals \$0.00001464571055623553. Rounding \$0.00001464571055623553 to six decimal places equals \$0.000015.

“Consolidated Audit Trail, LLC shall provide each CAT Executing Broker with an invoice for Historical CAT Assessment 1 on a monthly basis.” Proposed paragraph a)i)B) of the fee schedule also would describe the fees to be set forth in the invoices for Historical CAT Assessment 1. Specifically, it would state that “[e]ach month, such invoices shall set forth a fee for each transaction in Eligible Securities executed by the CAT Executing Broker in its capacity as a CAT Executing Broker for the Buyer (“CEBB”) and/or the CAT Executing Broker for the Seller (“CEBS”) (as applicable) from the prior month as set forth in CAT Data. The fee for each such transaction will be calculated by multiplying the number of executed equivalent shares in the transaction by the fee rate of \$0.000015 per executed equivalent share.”

Furthermore, proposed paragraph a)i)C) of the fee schedule would describe how long Historical CAT Assessment 1 would remain in effect. It would state that “Historical CAT Assessment 1 will remain in effect until \$225,125,740 (two-thirds of Historical CAT Costs 1) are collected from CAT Executing Brokers collectively, which is estimated to be approximately two years, but could be for a longer or shorter period of time.” This proposed paragraph would further state that “Consolidated Audit Trail, LLC will be provide notice when Historical CAT Assessment 1 will no longer be in effect.”

Historical CAT Assessment 1 will be assessed for all transactions executed in each month through the end of the month in which two-thirds of Historical CAT Costs 1 are assessed, and then CAT LLC will provide notice that Historical CAT Assessment 1 is no longer in effect. Since Historical CAT Assessment 1 is a monthly fee based on transaction volume from the prior month, Historical CAT Assessment 1 may collect more than two-thirds of Historical CAT Costs 1. To the extent that occurs, any excess money collected during the final month in which

Historical CAT Assessment 1 is in effect will be used to offset future fees and/or to fund the reserve for the CAT.

Finally, proposed paragraph a)i)D) of the fee schedule sets forth the requirement for the CAT Executing Brokers to pay the invoices for Historical CAT Assessment 1. It would state that “[e]ach CAT Executing Broker shall be required to pay each invoice for Historical CAT Assessment 1 in accordance with paragraph (b).”

**(B) Manner of Payment**

The Exchange proposes to add paragraph b)i) to the “Consolidated Audit Trail Funding Fees” section of its fee schedule to describe the manner of payment of Industry Member CAT fees. The CAT NMS Plan requires the Operating Committee to establish a system for the collection of CAT fees.<sup>89</sup> The Plan Processor has established a billing system for CAT fees.<sup>90</sup> Therefore, the Exchange proposes to require CAT Executing Brokers to pay Historical CAT Assessment 1 in accordance with such system. Accordingly, proposed paragraph b)i) would state that “[e]ach CAT Executing Broker shall pay its CAT fees as required pursuant to paragraph (a) each month to the Consolidated Audit Trail, LLC in the manner prescribed by the Consolidated Audit Trail, LLC.”

**(C) Failure to Pay CAT Fees**

The CAT NMS Plan further states that:

Participants shall require each Industry Member to pay all applicable fees authorized under this Article XI within thirty (30) days after receipt of an invoice

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<sup>89</sup> Section 11.4 of the CAT NMS Plan.

<sup>90</sup> The billing process and system are described in CAT Alert 2023-02 as well as the CAT FAQs related to the billing of CAT fees, the Industry Member CAT Reporter Portal User Guide, the FCAT Industry Member Onboarding Guide, the FCAT Connectivity Supplement for Industry Members and the CAT Billing Webinars (dated September 28, 2023 and November 7, 2023), each available on the CAT website.

or other notice indicating payment is due (unless a longer payment period is otherwise indicated). If an Industry Member fails to pay any such fee when due (as determined in accordance with the preceding sentence), such Industry Member shall pay interest on the outstanding balance from such due date until such fee is paid at a per annum rate equal to the lesser of: (a) the Prime Rate plus 300 basis points; or (b) the maximum rate permitted by applicable law.<sup>91</sup>

Accordingly, the Exchange proposes to add this requirement to the Exchange's fee schedule.

Proposed paragraph b)ii) of the fee schedule would state:

Each CAT Executing Broker shall pay the CAT fees required pursuant to paragraph (a) within thirty days after receipt of an invoice or other notice indicating payment is due (unless a longer payment period is otherwise indicated). If a CAT Executing Broker fails to pay any such CAT fee when due, such CAT Executing Broker shall pay interest on the outstanding balance from such due date until such fee is paid at a per annum rate equal to the lesser of (i) the Prime Rate plus 300 basis points, or (ii) the maximum rate permitted by applicable law.

#### **(7) Historical CAT Assessment Details**

The CAT NMS Plan states that:

Details regarding the calculation of a CAT Executing Broker's Historical CAT Assessment will be provided upon request to such CAT Executing Broker. At a minimum, such details would include each CAT Executing Broker's executed equivalent share volume and corresponding fee by (1) Listed Options, NMS Stocks and OTC Equity Securities, (2) by transactions executed on each exchange and

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<sup>91</sup> Section 11.4 of the CAT NMS Plan.

transactions executed otherwise than on an exchange, and (3) by buy-side transactions and sell-side transactions.<sup>92</sup>

Such information would provide CEBBs and CEBSs with the ability to understand the details regarding the calculation of their Historical CAT Assessment.<sup>93</sup> CAT LLC will provide CAT Executing Brokers with these details regarding the calculation of their Historical CAT Assessments on their monthly invoice for the Historical CAT Assessment.

In addition, CAT LLC will make certain aggregate statistics regarding Historical CAT Assessments publicly available. Specifically, the CAT NMS Plan states that, “[f]or each Historical CAT Assessment, at a minimum, CAT LLC will make publicly available the aggregate executed equivalent share volume and corresponding aggregate fee by (1) Listed Options, NMS Stocks and OTC Equity Securities, (2) by transactions executed on each exchange and transactions executed otherwise on an exchange, and (3) by buy-side transactions and sell-side transactions.”<sup>94</sup> Such aggregate statistics will be available on the CAT website.

Furthermore, CAT LLC will make publicly available on the CAT website the total amount invoiced each month that Historical CAT Assessment 1 is in effect as well as the total amount invoiced for Historical CAT Assessment 1 for all months since its commencement. CAT LLC also will make publicly available on the CAT website the total costs to be collected from Industry Members for Historical CAT Assessment 1. By reviewing statistics regarding how

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<sup>92</sup> Section 11.3(a)(iv)(A) of the CAT NMS Plan.

<sup>93</sup> In approving the CAT Funding Model, the Commission stated that, “[i]n the Commission’s view, providing CAT Execut[ing] Brokers information regarding the calculation of their CAT Fees will aid in transparency and permit CAT Execut[ing] Brokers to confirm the accuracy of their invoices for CAT Fees.” CAT Funding Model Approval Order at 62667.

<sup>94</sup> Section 11.3(a)(iv)(B) of the CAT NMS Plan. In approving the CAT Funding Model, the Commission stated that “[t]he publication of the aggregate executed equivalent share volume and aggregate fee is appropriate because it would allow Participants and CAT Executing Brokers a high-level validation of executed volume and fees.” CAT Funding Model Approval Order at 62667.

much has been invoiced and how much remains to be invoiced for Historical CAT Assessment 1, Industry Members would have sufficient information to reasonably track how much longer Historical CAT Assessment 1 is likely to be in place.

#### **(8) Implementation Assistance**

To assist Industry Members with compliance with the commencement of Historical CAT Assessment 1, CAT LLC will make available to CAT Executing Brokers four months of mock invoices prior to the commencement of Historical CAT Assessment 1. Specifically, CAT Executing Brokers will receive mock invoices based on transaction data from November 2023, December 2023, January 2024 and February 2024. The mock invoices will be in the same form as the actual, payable invoices, including both the relevant transaction data and the corresponding fee. However, no payments will be required in response to such mock invoices; they are to be used solely to assist CAT Executing Brokers with the development of their processes for paying the CAT fees. Such data will provide CAT Executing Brokers with a preview of the transaction data used in creating the invoices for Historical CAT Assessment 1 fees, as the data will be the same as data provided in actual invoices. Such data preview is intended to facilitate the payment of Historical CAT Assessment 1.

#### **(9) Financial Accountability Milestones**

The CAT NMS Plan states that “[n]o Participant will make a filing with the SEC pursuant to Section 19(b) of the Exchange Act regarding any Historical CAT Assessment until any applicable Financial Accountability Milestone described in Section 11.6 has been satisfied.”<sup>95</sup> The CAT NMS Plan further states that “in all filings submitted by the Participants to the Commission under Section 19(b) of the Exchange Act, to establish or implement Post-

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<sup>95</sup> Section 11.3(b)(iii)(B)(III) of the CAT NMS Plan.



Amendment Industry Member Fees pursuant to this Article, ... the Participants shall clearly indicate whether such fees are related to Post-Amendment Expenses incurred during Period 1, Period 2, Period 3, or Period 4.”<sup>96</sup> As discussed in detail below, all applicable Financial Accountability Milestones for Historical CAT Assessment 1 – that is, Period 1, Period 2 and Period 3 of the Financial Accountability Milestones – have been satisfied. Furthermore, as discussed below, this filing clearly indicates that Historical CAT Assessment 1 relates to Post-Amendment Expenses incurred during Periods 1, 2 and 3 of the Financial Accountability Milestones.

**(A) Period 1 of the Financial Accountability Milestones**

In accordance with Section 11.6(b) of the CAT NMS Plan, Historical CAT Assessment 1 seeks to recover costs that are related to “all fees, costs, and expenses (including legal and consulting fees, costs, and expenses) incurred by or for the Company in connection with the development, implementation and operation of the CAT from the effective date of [Section 11.6 of the CAT NMS Plan] until such time as Full Implementation of CAT NMS Plan Requirements has been achieved”<sup>97</sup> (“Post-Amendment Expenses”) incurred during FAM Period 1. FAM Period 1 began on June 22, 2020, the effective date of Section 11.6 of the CAT NMS Plan, and concluded on July 31, 2020, the date of Initial Industry Member Core Equity and Options Reporting. Section 1.1 of the CAT NMS Plan defines “Initial Industry Member Core Equity and Options Reporting” as:

The reporting by Industry Members (excluding Small Industry Members that are not OATS reporters) of both: (a) equities transaction data, excluding Customer

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<sup>96</sup> Section 11.6(b) of the CAT NMS Plan.

<sup>97</sup> Section 11.6 of the CAT NMS Plan.

Account Information, Customer-ID, and Customer Identifying Information; and (b) options transaction data, excluding Customer Account Information, Customer-ID and Customer Identifying Information.

Under Section 1.1 of the CAT NMS Plan, this Financial Accountability Milestone is considered complete as of the date identified in the Participants' Quarterly Progress Reports.<sup>98</sup> As indicated by the Participants' Quarterly Progress Report for the third quarter of 2020,<sup>99</sup> Initial Industry Member Core Equity and Option Reporting was completed on schedule on July 22, 2020, which is prior to the July 31, 2020 deadline.

Under the FAM Period 1 requirement of Initial Industry Member Core Equity and Options Reporting, Industry Members – excluding Small Industry Members that are not OATS reporters – were required to report two categories of data to the CAT: equities transaction data and options transaction data (both excluding Customer Account Information, Customer-ID, and Customer Identifying Information) by July 31, 2020. Pursuant to exemptive relief provided by the Commission, the Commission authorized the Participants' Compliance Rules to allow core equity reporting for Industry Members (Phase 2a) to begin on June 22, 2020 and core options reporting for Industry Members (Phase 2b) to begin on July 20, 2020.<sup>100</sup>

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<sup>98</sup> The Quarterly Progress Reports are available at <https://www.catnmsplan.com/implementation-plan>.

<sup>99</sup> See Q3 2020 Quarterly Progress Report (Oct. 30, 2020) and Updated Q3 2020 Quarterly Progress Report (Jan. 29, 2021).

<sup>100</sup> See Phased Reporting Exemptive Relief Order. Under the CAT NMS Plan as adopted, the Participants were required, through their Compliance Rules, to require their Large Industry Members to commence reporting Industry Member Data to the Central Repository by November 15, 2018, and to require their Small Industry Members to commence reporting Industry Member Data to the Central Repository by November 15, 2019. Sections 6.7(a)(v) and (vi) of the CAT NMS Plan. The SEC granted exemptive relief from these provisions of the CAT NMS Plan to allow for the phased implementation of Industry Member reporting via five phases addressing the reporting requirements for Phase 2a Industry Member Data, Phase 2b Industry Member Data, Phase 2c Industry Member Data, Phase 2d Industry Member Data and Phase 2e Industry Member Data.

In adopting the FAMS, the Commission stated that the equities transaction reporting required for FAM Period 1 “is consistent with the functionality that the Participants describe on the CAT NMS Plan website as ‘Production Go-Live for Equities 2a file submission and data integrity validations.’”<sup>101</sup> The Phase 2a Industry Member Data is described in detail in the SEC’s Phased Reporting Exemptive Relief Order, and includes the following data related to Eligible Securities that are equities:

- All events and scenarios covered by OATS, which includes information related to the receipt or origination of orders, order transmittal, and order modifications, cancellations and executions;
- Reportable Events for: (1) proprietary orders, including market maker orders, for Eligible Securities that are equities; (2) electronic quotes in listed equity Eligible Securities (*i.e.*, NMS stocks) sent to a national securities exchange or FINRA’s Alternative Display Facility (“ADF”); (3) electronic quotes in unlisted Eligible Securities (*i.e.*, OTC Equity Securities) received by an Industry Member operating an interdealer quotation system (“IDQS”); and (4) electronic quotes in unlisted Eligible Securities sent to an IDQS or other quotation system not operated by a Participant or Industry Member;
- Firm Designated IDs (“FDIDs”), which Industry Members must report to the CAT as required by Sections 6.3(d)(i)(A) and 6.4(d)(ii)(C) of the CAT NMS Plan.
- Industry Members would be required to report all street side representative orders, including both agency and proprietary orders and mark such orders as representative orders, except in certain limited exceptions as described in the Industry Member Technical Specifications;

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<sup>101</sup> Securities Exchange Act Rel. No. 88890, 85 Fed. Reg. 31322, 31330 n.97 (“FAM Adopting Release”).

- The link between the street side representative order and the order being represented when: (1) the representative order was originated specifically to represent a single order received either from a customer or another broker-dealer; and (2) there is (a) an existing direct electronic link in the Industry Member’s system between the order being represented and the representative order and (b) any resulting executions are immediately and automatically applied to the represented order in the Industry Member’s system;
- Manual and Electronic Capture Time for Manual Order Events;
- Special handling instructions for the original receipt or origination of an order during Phase 2a; and
- When routing an order, whether the order was routed as an intermarket sweep order (“ISO”).

In Phase 2a, Industry Members were not required to report modifications of a previously routed order in certain limited instances, nor were they required to report a cancellation of an order received from a Customer after the order has been executed.<sup>102</sup>

The Quarterly Progress Report for the third quarter of 2020 states that “Interim Step: Production Go-Live for Equities 2a file submission and data integrity validation (Large Industry Members and Small OATS Reporters)” was completed on June 22, 2020. Accordingly, the FAM Period 1 requirement of reporting by Industry Members (excluding Small Industry Members that are not OATS reporters) of “equities transaction data, excluding Customer Account Information, Customer-ID, and Customer Identifying Information” was completed on June 22, 2020.

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<sup>102</sup> Phased Reporting Exemptive Relief Order at 23076-78.

In adopting the FAMs, the Commission stated that the options transaction reporting required for FAM Period 1 is “consistent with the functionality that the Participants describe on the CAT NMS Plan website as ‘Production Go-Live for Options 2b file submission and data integrity validations.’”<sup>103</sup> The Phase 2b Industry Member Data is described in detail in the SEC’s Phased Reporting Exemptive Relief Order, and includes the Industry Member Data related to Eligible Securities that are options and related to simple electronic option orders, excluding electronic paired option orders. A simple electronic option order is an order to buy or sell a single option that is not related to or dependent on any other transaction for pricing and timing of execution that is either received or routed electronically by an Industry Member. Electronic receipt of an order is defined as the initial receipt of an order by an Industry Member in electronic form in standard format directly into an order handling or execution system. Electronic routing of an order is the routing of an order via electronic medium in standard format from one Industry Member’s order handling or execution system to an exchange or another Industry Member. An electronic paired option order is an electronic option order that contains both the buy and sell side that is routed to another Industry Member or exchange for crossing and/or price improvement as a single transaction on an exchange. Responses to auctions of simple orders and paired simple orders would be reportable in Phase 2b. Furthermore, combined orders in options would be treated in Phase 2b in the same way as equity representative orders are treated in Phase 2a. A combined order would mean, as permitted by SRO rules, a single, simple order in Listed Options created by combining individual, simple orders in Listed Options from a customer with the same exchange origin code before routing to an exchange. During Phase 2b, the single combined order sent to an exchange must be reported and marked as a

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<sup>103</sup> FAM Adopting Release at 31330, n.98.

combined order, but the linkage to the underlying orders is not required to be reported until Phase 2d.<sup>104</sup>

The Quarterly Progress Report for the third quarter of 2020 states that “Interim Step: Production Go-Live for Options 2b file submission and data integrity validations” was completed on July 20, 2020. Accordingly, the FAM Period 1 requirement of reporting by Industry Members (excluding Small Industry Members that are not OATS reporters) of “options transaction data, excluding Customer Account Information, Customer-ID and Customer Identifying Information” was completed on July 20, 2020.

As discussed above, the Historical CAT Costs 1 to be recovered via Historical CAT Assessment 1 would include fees, costs and expenses incurred by or for the Company in connection with the development, implementation and operation of the CAT during the period from June 22, 2020 through July 31, 2020. The total costs for this period, as discussed above, are \$6,377,343. Participants would remain responsible for one-third of this cost (which they have previously paid), and Industry Members would be responsible for the remaining two-thirds, with CEBBs paying one-third (\$2,125,781) and CEBSs paying one-third (\$2,125,781).

#### **(B) Period 2 of the Financial Accountability Milestones**

Historical CAT Assessment 1 seeks to recover costs that are related to Post-Amendment Expenses incurred during FAM Period 2. FAM Period 2 began on August 1, 2020, and concluded on December 31, 2020, the date of the Full Implementation of Core Equity Reporting. Section 1.1 of the CAT NMS Plan defines “Full Implementation of Core Equity Reporting” as:

the point at which: (a) Industry Member reporting (excluding reporting by Small Industry Members that are not OATS reporters) for equities transactions, excluding

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<sup>104</sup> Phased Reporting Exemptive Relief Order at 23078.

Customer Account Information, Customer-ID, and Customer Identifying Information, is developed, tested, and implemented at a 5% Error Rate or less and with sufficient intra-firm linkage, inter-firm linkage, national securities exchange linkage, and trade reporting facilities linkage to permit the Participants and the Commission to analyze the full lifecycle of an order across the national market system, excluding linkage of representative orders, from order origination through order execution or order cancellation; and (b) the query tool functionality required by Section 6.10(c)(i)(A) and Appendix D, Sections 8.1.1-8.1.3 and Section 8.2.1 incorporates the Industry Member equities transaction data described in condition (a) and is available to the Participants and to the Commission. This Financial Accountability Milestone shall be considered complete as of the date identified in a Quarterly Progress Report meeting the requirements of Section 6.6(c).

Under Section 1.1 of the CAT NMS Plan, this Financial Accountability Milestone is considered complete as of the date identified in the Participants' Quarterly Progress Reports. As indicated by the Participants' Quarterly Progress Report for the fourth quarter of 2020,<sup>105</sup> Full Implementation of Core Equity Reporting was completed on schedule by December 31, 2020.

Specifically, the Full Implementation of Core Equity Reporting requires the satisfaction of two prongs. The first prong requires Participants to have fully implemented the first phase of equities transaction reporting for Industry Members (excluding Small Industry Members that are not OATS reporters) at an Error Rate of less than 5%. In addition, equities transaction data produced by the CAT at this stage must also be sufficiently interlinked so as to permit full

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<sup>105</sup> Q4 2020 Quarterly Progress Report (Jan. 29, 2021).

analysis of an order's lifecycle across the national market, excluding full linkage of representative orders. As CAT LLC reported on its Quarterly Progress Reports, Phase 2a was fully implemented as of October 26, 2020, including intra-firm, inter-firm, national securities exchange, and trade reporting facilities linkages.<sup>106</sup> In addition to the reporting of Phase 2a Industry Member Data as described above with regard to FAM Period 1, the following linkage data was added to the CAT as described in the Quarterly Progress Reports for the third and fourth quarter of 2020:

- “Production Go-Live for Equities 2a Intrafirm Linkage validations” was completed on 7/27/2020;<sup>107</sup>
- “Production Go-Live for Firm to Firm Linkage validations for Equities 2a (Large Industry Members and Small OATS Reporters)” was completed on October 26, 2020; and
- “Production Go-Live for Equities 2a Exchange and TRF Linkage validations (Large Industry Members and Small OATS Reporters)” was completed on October 26, 2020.

Furthermore, as CAT LLC reported on its Quarterly Progress Report for the fourth quarter of 2020, the average overall error rate for Phase 2a Industry Member Data was less than 5% as of December 31, 2020. The average overall error rate was calculated by dividing the compliance errors by processed records.

The second prong of this FAM requires that the equities transaction data collected by the CAT at this stage be made available to regulators through two basic query tools required by the CAT NMS Plan – a targeted query tool that will enable regulators to retrieve data via an online

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<sup>106</sup> For a description of the requirements of Phases 2a, *see* Phased Reporting Exemptive Relief Order.

<sup>107</sup> Q3 2020 Quarterly Progress Report (Oct. 20, 2021).



query screen with a variety of predefined selection criteria, and a user-defined direct query tool that will provide regulators with the ability to query data using all available attributes and data sources.<sup>108</sup> As CAT LLC reported on its Quarterly Progress Reports, the query tool functionality incorporating the data from Phase 2a was available to the Participants and the Commission as of December 31, 2020.<sup>109</sup>

The Commission has determined that the Participants have sufficiently complied with the conditions set forth in the 2020 Orders and with the technical requirements for Quarterly Progress Reports set forth in Section 6.6(c) of the CAT NMS Plan for purposes of determining compliance with this FAM.<sup>110</sup>

As discussed above, Historical CAT Costs 1 to be recovered via Historical CAT Assessment 1 would include fees, costs and expenses incurred by or for the Company in connection with the development, implementation and operation of the CAT during the period from August 1, 2020 through December 31, 2020. The total costs for this period, as discussed above, are \$42,976,478. Participants would remain responsible for one-third of this cost (which they have previously paid), and Industry Members would be responsible for the remain two-thirds, with CEBBs paying one-third (\$14,325,492.70) and CEBSs paying one-third (\$14,325,492.70).

### **(C) Period 3 of the Financial Accountability Milestones**

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<sup>108</sup> Section 6.10(c)(i)(A) of the CAT NMS Plan requires the Plan Processor to “provide Participants and the SEC with access to all CAT Data stored in the Central Repository” via an “online targeted query tool.” Appendix D, Sections 8.1.1-8.1.3 of the CAT NMS Plan describes the required functionality associated with this regulatory tool. Appendix D, Section 8.2.1 describes the required functionality associated with a user-defined direct query tool that will “deliver large sets of data that can then be used in internal surveillance or market analysis applications.”

<sup>109</sup> See Q3 2020 Quarterly Progress Report (Oct. 30, 2020); Updated Q3 2020 Quarterly Progress Report (Jan. 29, 2021); and Q4 2020 Quarterly Progress Report (Jan. 29, 2021).

<sup>110</sup> Securities Exchange Act Rel. No. 98848 (Nov. 2, 2023), 88 Fed. Reg. 77128, 77129 n.13 (Nov. 8, 2023) (“Settlement Exemptive Order”).

Historical CAT Assessment 1 seeks to recover costs that are related to Post-Amendment Expenses incurred during FAM Period 3. FAM Period 3 began on January 1, 2021, and concluded on December 31, 2021, the date of the Full Availability and Regulatory Utilization of Transactional Database Functionality. Section 1.1 of the CAT NMS Plan defines “Full Availability and Regulatory Utilization of Transactional Database Functionality” as:

the point at which: (a) reporting to the Order Audit Trail System (“OATS”) is no longer required for new orders; (b) Industry Member reporting for equities transactions and simple electronic options transactions, excluding Customer Account Information, Customer-ID, and Customer Identifying Information, with sufficient intra-firm linkage, inter-firm linkage, national securities exchange linkage, trade reporting facilities linkage, and representative order linkages (including any equities allocation information provided in an Allocation Report) to permit the Participants and the Commission to analyze the full lifecycle of an order across the national market system, from order origination through order execution or order cancellation, is developed, tested, and implemented at a 5% Error Rate or less; (c) Industry Member reporting for manual options transactions and complex options transactions, excluding Customer Account Information, Customer-ID, and Customer Identifying Information, with all required linkages to permit the Participants and the Commission to analyze the full lifecycle of an order across the national market system, from order origination through order execution or order cancellation, including any options allocation information provided in an Allocation Report, is developed, tested, and fully implemented; (d) the query tool functionality required by Section 6.10(c)(i)(A) and Appendix D, Sections 8.1.1-

8.1.3, Section 8.2.1, and Section 8.5 incorporates the data described in conditions (b)-(c) and is available to the Participants and to the Commission; and (e) the requirements of Section 6.10(a) are met. This Financial Accountability Milestone shall be considered complete as of the date identified in a Quarterly Progress Report meeting the requirements of Section 6.6(c).

Under Section 1.1 of the CAT NMS Plan, this Financial Accountability Milestone is considered complete as of the date identified in the Participants' Quarterly Progress Reports. As indicated by the Participants' Quarterly Progress Report for the fourth quarter of 2021,<sup>111</sup> Full Availability and Regulatory Utilization of Transactional Database Functionality was completed on schedule by December 31, 2021.

Specifically, the "Full Availability and Regulatory Utilization of Transactional Database Functionality" requires the satisfaction of five prongs. The first prong requires that reporting to the Order Audit Trail System ("OATS") is no longer required for new orders. As CAT LLC reported on its Quarterly Progress Report for the fourth quarter of 2021,<sup>112</sup> FINRA retired OATS effective September 1, 2021.<sup>113</sup> Accordingly, after the retirement of OATS, reporting to OATS was no longer required.

In addition to Phase 2a and Phase 2b Industry Member Data, the second and third prongs of "Full Availability and Regulatory Utilization of Transactional Database Functionality" require Industry Member reporting of Phase 2c Industry Member Data and Phase 2d Industry Member Data. The Phase 2c Industry Member Data is described in detail in the SEC's Phased Reporting Exemptive Relief Order. That Order states that "Phase 2c Industry Member Data" is Industry

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<sup>111</sup> Q4 2021 Quarterly Progress Report (Jan. 17, 2022).

<sup>112</sup> *Id.*

<sup>113</sup> Securities Exchange Act Rel. No. 92239 (June 23, 2021), 86 Fed. Reg. 34293 (June 29, 2021).

Member Data related to Eligible Securities that are equities other than Phase 2a Industry Member Data, Phase 2d Industry Member Data, or Phase 2e Industry Member Data. Specifically, the Phase 2c Industry Member Data includes Industry Member Data that is related to Eligible Securities that are equities and that is related to: (1) Allocation Reports as required to be recorded and reported to the Central Repository pursuant to Section 6.4(d)(ii)(A)(1) of the CAT NMS Plan; (2) quotes in unlisted Eligible Securities sent to an IDQS operated by a CAT Reporter (reportable by the Industry Member sending the quotes) (except for quotes reportable in Phase 2d, as discussed below); (3) electronic quotes in listed equity Eligible Securities (*i.e.*, NMS stocks) that are not sent to a national securities exchange or FINRA's Alternative Display Facility; (4) reporting changes to client instructions regarding modifications to algorithms; (5) marking as a representative order any order originated to work a customer order in price guarantee scenarios, such as a guaranteed VWAP; (6) flagging rejected external routes to indicate a route was not accepted by the receiving destination; (7) linkage of duplicate electronic messages related to a Manual Order Event between the electronic event and the original manual route; (8) special handling instructions on order route reports (other than the ISO, which is required to be reported in Phase 2a); (9) quote identifier on trade events; (10) reporting of LTIDs (if applicable) for accounts with Reportable Events that are reportable to CAT as of and including Phase 2c; (11) reporting of date account opened or Account Effective Date<sup>71</sup> (as applicable) for accounts and reporting of a flag indicating the Firm Designated ID type as account or relationship; (12) order effective time for orders that are received by an Industry Member and do not become effective until a later time; (13) the modification or cancellation of an internal route of an order; and (14) linkages to the customer orders(s) being represented for representative order scenarios, including agency average price trades, net trades, aggregated

orders, and disconnected Order Management System (“OMS”) – Execution Management System (“EMS”) scenarios, as required in the Industry Member Technical Specifications.<sup>114</sup>

Phase 2c Industry Member Data also includes electronic quotes that are provided by or received in a CAT Reporter’s order/quote handling or execution systems in Eligible Securities that are equities and are provided by an Industry Member to other market participants off a national securities exchange under the following conditions: (1) an equity bid or offer is displayed publicly or has been communicated (a) for listed securities to the Alternative Display Facility (ADF) operated by FINRA; or (b) for unlisted equity securities to an “interdealer quotation system,” as defined in FINRA Rule 6420(c); or (2) an equity bid or offer which is accessible electronically by customers or other market participants and is immediately actionable for execution or routing; *i.e.*, no further manual or electronic action is required by the responder providing the quote in order to execute or cause a trade to be executed). With respect to OTC Equity Securities, OTC Equity Securities quotes sent by an Industry Member to an IDQS operated by an Industry Member CAT Reporter (other than such an IDQS that does not match and execute orders) are reportable by the Industry Member sending them in Phase 2c. Accordingly, any response to a request for quote or other form of solicitation response provided in a standard electronic format (*e.g.*, FIX) that meets this quote definition (*i.e.*, an equity bid or offer which is accessible electronically by customers or other market participants and is immediately actionable for execution or routing) would be reportable in Phase 2c.<sup>115</sup>

The Phase 2d Industry Member Data is described in detail in the SEC’s Phased Reporting Exemptive Relief Order. “Phase 2d Industry Member Data” is Industry Member Data that is

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<sup>114</sup> Phase Reporting Exemptive Relief Order at 23078-79.

<sup>115</sup> *Id.* at 23079.

related to Eligible Securities that are options other than Phase 2b Industry Member Data, Industry Member Data that is related to Eligible Securities that are equities other than Phase 2a Industry Member Data or Phase 2c Industry Member Data, and Industry Member Data other than Phase 2e Industry Member Data. Phase 2d Industry Member Data includes with respect to the Eligible Securities that are options: (1) simple manual orders; (2) electronic and manual paired orders; (3) all complex orders with linkages to all CAT-reportable legs; (4) LTIDs (if applicable) for accounts with Reportable Events for Phase 2d; (5) date account opened or Account Effective Date (as applicable) for accounts with an LTID and flag indicating the Firm Designated ID type as account or relationship for such accounts; (6) Allocation Reports as required to be recorded and reported to the Central Repository pursuant to Section 6.4(d)(ii)(A)(1) of the CAT NMS Plan; (7) the modification or cancellation of an internal route of an order; and (8) linkage between a combined order and the original customer orders. Phase 2d Industry Member Data also would include electronic quotes that are provided by or received in a CAT Reporter's order/quote handling or execution systems in Eligible Securities that are options and are provided by an Industry Member to other market participants off a national securities exchange under the following conditions: a listed option bid or offer which is accessible electronically by customers or other market participants and is immediately actionable (*i.e.*, no further action is required by the responder providing the quote in order to execute or cause a trade to be executed). Accordingly, any response to a request for quote or other form of solicitation response provided in standard electronic format (*e.g.*, FIX) that meets this definition is reportable in Phase 2d for options.<sup>116</sup>

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<sup>116</sup> *Id.*

Phase 2d Industry Member Data also includes with respect to Eligible Securities that are options or equities (1) receipt time of cancellation and modification instructions through Order Cancel Request and Order Modification Request events; (2) modifications of previously routed orders in certain instances; and (3) OTC Equity Securities quotes sent by an Industry Member to an IDQS operated by an Industry Member CAT Reporter that does not match and execute orders. In addition, subject to any exemptive or other relief, Phase 2d Industry Member Data will include verbal or manual quotes on an exchange floor or in the over-the-counter market, where verbal quotes and manual quotes are defined as bids or offers in Eligible Securities provided verbally or that are provided or received other than via a CAT Reporter's order handling and execution system (*e.g.*, quotations provided via email or instant messaging).<sup>117</sup>

The Quarterly Progress Report for the fourth quarter of 2021 states that "Phase 2a was fully implemented as of October 26, 2020;" "Phase 2b was fully implemented as of January 4, 2021;" "Phase 2c was implemented as of April 26, 2021;" and "Phase 2d was fully implemented as of December 13, 2021."<sup>118</sup> The Quarterly Progress Reports for 2021 provide additional detail regarding the implementation of these steps including the following:

- "Production Go-Live for Equities 2c reporting requirements (Large Industry Members)" was completed on April 26, 2021;
- "LTID Account Information Reporting Go-Live for Phases 2a, 2b and 2c (Large Industry Members)" was completed on April 26, 2021;

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<sup>117</sup> *Id.* at 23079-80.

<sup>118</sup> *See* Q4 2021 Quarterly Progress Report (Jan. 17, 2022).

- “FCAT Plan Processor creates linkages of the lifecycle of order events based on the received data through Phase 2d Production Go-Live for Options 2d reporting requirements (Large Industry Members)” was completed on December 13, 2021;
- “Production Go-Live for Options 2d reporting requirements (Large Industry Members)” was completed on December 13, 2021;
- “Production Go-Live for Options 2b reporting requirements (Small OATS Reporters and Small Non-OATS Reporters)” was completed on December 13, 2021;
- “Production Go-Live for Equities 2c reporting requirements (Small OATS Reporters and Small Non-OATS Reporters)” was completed on December 13, 2021;
- “Production Go-Live for Options 2d reporting requirements (Small OATS Reporters and Small Non-OATS Reporters)” was completed on December 13, 2021;
- “LTID Account Information Reporting Go-Live for Phases 2d (Large Industry Members)” was completed on December 13, 2021; and
- “LTID Account Information Reporting Go-Live for Phases 2a, 2b, 2c and 2d (Small Industry Members)” was completed on December 13, 2021.<sup>119</sup>

The third prong of “Full Availability and Regulatory Utilization of Transactional Database Functionality” also imposes an Error Rate requirement of 5% or less. The Quarterly Progress Report for the fourth quarter of 2021 states the average overall error rate was less than 5% as of December 31, 2021. The average overall error rate was calculated by dividing the compliance errors by processed records.

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<sup>119</sup> See Q2 2021 Quarterly Progress Report (July 27, 2021); and Q4 2021 Quarterly Progress Report (Jan. 17, 2022).



The fourth prong of “Full Availability and Regulatory Utilization of Transactional Database Functionality” requires that the data collected by the CAT at this stage be made available to regulators through an online targeted query tool and a user-defined direct query tool. As CAT LLC reported on its Quarterly Progress Report for the fourth quarter of 2021, the query tool functionality incorporating the data from Phases 2a, 2b, 2c and 2d was available to the Participants and to the Commission as of December 31, 2021.<sup>120</sup>

The fifth prong requires the requirements of Section 6.10(a) of the CAT NMS Plan to have been met. Section 6.10(a) of the CAT NMS Plan requires the Participants to use the tools described in Appendix D to “develop and implement a surveillance system, or enhance existing surveillance systems, reasonably designed to make use of the consolidated information contained in the Central Repository.” The Exchange implemented a surveillance system, or enhanced existing surveillance systems, reasonably designed to make use of the consolidated information contained in the Central Repository as of December 31, 2021 in accordance with Section 6.10(a) of the CAT NMS Plan.<sup>121</sup>

The Commission has determined that the Participants have sufficiently complied with the conditions set forth in the 2020 Orders and with the technical requirements for Quarterly Progress Reports set forth in Section 6.6(c) of the CAT NMS Plan for purposes of determining compliance with this FAM.<sup>122</sup>

As discussed above, Historical CAT Costs 1 to be recovered via Historical CAT Assessment 1 would include fees, costs and expenses incurred by or for the Company in

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<sup>120</sup> See Q4 2021 Quarterly Progress Report (Jan. 17, 2022).

<sup>121</sup> See Q1 2021 Quarterly Progress Report (April 30, 2021); Q2 2021 Quarterly Progress Report (July 27, 2021); Q3 2021 Quarterly Progress Report (Nov. 1, 2021); Q4 2021 Quarterly Progress Report (Jan. 17, 2022).

<sup>122</sup> Settlement Exemptive Order at 77129 n.13.

connection with the development, implementation and operation of the CAT during the period from January 1, 2021 through December 31, 2021. The total costs for this period, as discussed above, are \$144,415,268. Participants would remain responsible for one-third of this cost (which they have previously paid), and Industry Members would be responsible for the remaining two-thirds, with CEBBs paying one-third (\$48,138,422.70) and CBSs paying one-third (\$48,138,422.70).

b. Statutory Basis

The Exchange believes the proposed rule change is consistent with the requirements of the Exchange Act. The Exchange believes that the proposed rule change is consistent with Section 6(b)(5) of the Act,<sup>123</sup> which requires, among other things, that the Exchange's rules must be designed to prevent fraudulent and manipulative acts and practices, to promote just and equitable principles of trade, and, in general, to protect investors and the public interest, and not designed to permit unfair discrimination between customers, issuers, brokers and dealers. The Exchange also believes that the proposed rule change is consistent with the provisions of Section 6(b)(4) of the Act,<sup>124</sup> because it provides for the equitable allocation of reasonable dues, fees and other charges among members and issuers and other persons using its facilities and does not unfairly discriminate between customers, issuers, brokers or dealers. The Exchange further believes that the proposed rule change is consistent with Section 6(b)(8) of the Act,<sup>125</sup> which requires that the Exchange's rules not impose any burden on competition that is not necessary or appropriate in furtherance of the purpose of the Exchange Act. These provisions also require

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<sup>123</sup> 15 U.S.C. 78f(b)(6).

<sup>124</sup> 15 U.S.C. 78f(b)(4).

<sup>125</sup> 15 U.S.C. 78f(b)(8).

that the Exchange be “so organized and [have] the capacity to be able to carry out the purposes” of the Act and “to comply, and . . . to enforce compliance by its members and persons associated with its members,” with the provisions of the Exchange Act.<sup>126</sup> Accordingly, a reasonable reading of the Act indicates that it intended that regulatory funding be sufficient to permit an exchange to fulfill its statutory responsibility under the Act, and contemplated that such funding would be achieved through equitable assessments on the members, issuers, and other users of an exchange’s facilities.

The Exchange believes that this proposal is consistent with the Act because it implements provisions of the Plan and is designed to assist the Exchange in meeting regulatory obligations pursuant to the Plan. In approving the Plan, the SEC noted that the Plan “is necessary and appropriate in the public interest, for the protection of investors and the maintenance of fair and orderly markets, to remove impediments to, and perfect the mechanism of a national market system, or is otherwise in furtherance of the purposes of the Act.”<sup>127</sup> To the extent that this proposal implements the Plan and applies specific requirements to Industry Members, the Exchange believes that this proposal furthers the objectives of the Plan, as identified by the SEC, and is therefore consistent with the Act.

The Exchange believes that the proposed fees paid by the CEBBs and CEBSs are reasonable, equitably allocated and not unfairly discriminatory. First, the Historical CAT Assessment 1 fees to be collected are directly associated with the costs of establishing and maintaining the CAT, where such costs include Plan Processor costs and costs related to technology, legal, consulting, insurance, professional and administration, and public relations

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<sup>126</sup> See Section 6(b)(1) of the Exchange Act.

<sup>127</sup> CAT NMS Plan Approval Order at 84697.

costs. The Exchange has already incurred such development and implementation costs and the proposed Historical CAT Assessment 1 fees, therefore, would allow the Exchange to collect certain of such costs in a fair and reasonable manner from Industry Members, as contemplated by the CAT NMS Plan.

The proposed Historical CAT Assessment 1 fees would be charged to Industry Members in support of the maintenance of a consolidated audit trail for regulatory purposes. The proposed fees, therefore, are consistent with the Commission's view that regulatory fees be used for regulatory purposes and not to support the Exchange's business operations. The proposed fees would not cover Exchange services unrelated to the CAT. In addition, any surplus would be used as a reserve to offset future fees. Given the direct relationship between CAT fees and CAT costs, the Exchange believes that the proposed fees are reasonable, equitable and not unfairly discriminatory.

As further discussed below, the SEC approved the CAT Funding Model, finding it was reasonable and that it equitably allocates fees among Participants and Industry Members. The Exchange believes that the proposed fees adopted pursuant to the CAT Funding Model approved by the SEC are reasonable, equitably allocated and not unfairly discriminatory.

**(1) Implementation of CAT Funding Model in CAT NMS Plan**

Section 11.1(b) of the CAT NMS Plan states that “[t]he Participants shall file with the SEC under Section 19(b) of the Exchange Act any such fees on Industry Members that the Operating Committee approves.” Per Section 11.1(b) of the CAT NMS Plan, the Exchange has filed this fee filing to implement the Industry Member CAT fees included in the CAT Funding Model. The Exchange believes that this proposal is consistent with the Exchange Act because it is consistent with, and implements, the CAT Funding Model in the CAT NMS Plan, and is

designed to assist the Exchange and its Industry Members in meeting regulatory obligations pursuant to the CAT NMS Plan. In approving the CAT NMS Plan, the SEC noted that the Plan “is necessary and appropriate in the public interest, for the protection of investors and the maintenance of fair and orderly markets, to remove impediments to, and perfect the mechanism of a national market system, or is otherwise in furtherance of the purposes of the Act.”<sup>128</sup>

Similarly, in approving the CAT Funding Model, the SEC concluded that the CAT Funding Model met this standard.<sup>129</sup> As this proposal implements the Plan and the CAT Funding Model described therein, and applies specific requirements to Industry Members in compliance with the Plan, the Exchange believes that this proposal furthers the objectives of the Plan, as identified by the SEC, and is therefore consistent with the Exchange Act.

**(2) Calculation of Fee Rate for Historical CAT Assessment 1 is Reasonable**

The SEC has determined that the CAT Funding Model is reasonable and satisfies the requirements of the Exchange Act. Specifically, the SEC has concluded that the method for determining Historical CAT Assessments as set forth in Section 11.3 of the CAT NMS Plan, including the formula for calculating the Historical Fee Rate, the identification of the parties responsible for payment and the transactions subject to the fee rate for the Historical CAT Assessment, is reasonable and satisfies the Exchange Act.<sup>130</sup> In each respect, as discussed above, Historical CAT Assessment 1 is calculated, and would be applied, in accordance with the requirements applicable to Historical CAT Assessments as set forth in the CAT NMS Plan. Furthermore, as discussed below, the Exchange believes that each of the figures for the variables

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<sup>128</sup> CAT NMS Plan Approval Order at 84696.

<sup>129</sup> CAT Funding Model Approval Order at 62686.

<sup>130</sup> *Id.* at 62662-63.

in the SEC-approved formula for calculating the fee rate for Historical CAT Assessment 1 is reasonable and consistent with the Exchange Act. Calculation of the Historical Fee Rate for Historical CAT Assessment 1 requires the figures for the Historical CAT Costs 1, the executed equivalent share volume for the prior twelve months, the determination of Historical Recovery Period 1, and the projection of the executed equivalent share volume for Historical Recovery Period 1. Each of these variables is reasonable and satisfies the Exchange Act, as discussed throughout this filing.

**(A) Historical CAT Costs 1**

The formula for calculating a Historical Fee Rate requires the amount of Historical CAT Costs to be recovered. Specifically, Section 11.3(b)(iii)(B)(II) of the CAT NMS Plan requires a fee filing to provide:

a brief description of the amount and type of the Historical CAT Costs, including (1) the technology line items of cloud hosting services, operating fees, CAIS operating fees, change request fees, and capitalized developed technology costs, (2) legal, (3) consulting, (4) insurance, (5) professional and administration and (6) public relations costs.

In accordance with this requirement, the Exchange has set forth the amount and type of Historical CAT Costs 1 for each of these categories of costs above.

Section 11.3(b)(iii)(B)(II) of the CAT NMS Plan also requires that the fee filing provide “sufficient detail to demonstrate that the Historical CAT Costs are reasonable and appropriate.” As discussed below, the Exchange believes that the amounts set forth in this filing for each of these cost categories is “reasonable and appropriate.” Each of the costs included in Historical CAT Costs 1 are reasonable and appropriate because the costs are consistent with standard

industry practice, based on the need to comply with the requirements of the CAT NMS Plan, incurred subject to negotiations performed on an arm's length basis, and/or are consistent with the needs of any legal entity, particularly one with no employees.

**(i) Technology: Cloud Hosting Services**

In approving the CAT Funding Model, the Commission recognized that it is appropriate to recover costs related to cloud hosting services as a part of Historical CAT Assessments.<sup>131</sup> CAT LLC determined that the costs related to cloud hosting services described in this filing are reasonable and should be included as a part of Historical CAT Costs 1. As described above, the cloud hosting services costs reflect, among other things, the breadth of the CAT cloud activities, data volume far in excess of the original volume estimates, the need for specialized cloud services given the volume and unique nature of the CAT, the processing time requirements of the Plan, and regular efforts to seek to minimize costs where permissible under the Plan. CAT LLC determined that use of cloud hosting services is necessary for implementation of the CAT, particularly given the substantial data volumes associated with the CAT, and that the fees for cloud hosting services negotiated by FCAT were reasonable, taking into consideration a variety of factors, including the expected volume of data and the breadth of services provided and market rates for similar services.<sup>132</sup> Indeed, the actual costs of the CAT are far in excess of the original estimated costs of the CAT due to various factors, including the higher volumes and greater complexity of the CAT than anticipated when Rule 613 was originally adopted.

To comply with the requirements of the Plan, the breadth of the cloud activities related to the CAT is substantial. The cloud services not only include the production environment for the

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<sup>131</sup> Section 11.3(b)(iii)(B)(II)(B)(1) of the CAT NMS Plan.

<sup>132</sup> For a discussion of the amount and type of cloud hosting services fees, *see* Sections 3(a)(2)(B)(i)(a), 3(a)(2)(B)(ii)(a), 3(a)(2)(B)(iii)(a) and 3(a)(2)(B)(iv)(A) above.

CAT, but they also include two industry testing environments, support environments for quality assurance and stress testing and disaster recovery capabilities. Moreover, the cloud storage costs are driven by the requirements of the Plan, which requires the storage of multiple versions of the data, from the original submitted version of the data through various processing steps, to the final version of the data.

Data volume is a significant driver of costs for cloud hosting services. When the Commission adopted the CAT NMS Plan in 2016, it estimated that the CAT would need to receive 58 billion records per day<sup>133</sup> and that annual operating costs for the CAT would range from \$36.5 million to \$55 million.<sup>134</sup> Through 2021, the actual data volumes have been five times that original estimate. The data volumes for each period are set forth in detail above.<sup>135</sup>

In addition to the effect of the data volume on the cloud hosting costs, the processing timelines set forth in the Plan contribute to the cloud hosting costs. Although CAT LLC has proactively sought to manage cloud hosting costs while complying with the Plan, including through requests to the Commission for exemptive relief and an amendment to the CAT NMS Plan, stringent CAT NMS Plan requirements do not allow for any material flexibility in cloud architecture design choices, processing timelines (*e.g.*, the use of non-peak processing windows), or lower-cost storage tiers. As a result, the required CAT processing timelines contribute to the cloud hosting costs of the CAT.

The costs for cloud hosting services also reflect the need for specialized cloud hosting services given the data volume and unique processing needs of the CAT. The data volume as well as the data processing needs of the CAT necessitate the use of cloud hosting services. The

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<sup>133</sup> Appendix D-4 of the CAT NMS Plan at n.262.

<sup>134</sup> CAT NMS Plan Approval Order at 84801.

<sup>135</sup> *See* Sections 3(a)(2)(B)(i)(a), 3(a)(2)(B)(ii)(a), 3(a)(2)(B)(iii)(a) and 3(a)(2)(B)(iv)(A) above.



equipment, power and services required for an on-premises data model, the alternative to cloud hosting services, would be cost prohibitive. Moreover, as CAT was being developed, there were limited cloud hosting providers that could satisfy all the necessary CAT requirements, including the operational and security criteria. Over time more providers offering cloud hosting services that would satisfy these criteria have entered the market. CAT LLC will continue to evaluate alternative cloud hosting services, recognizing that the time and cost to move to an alternative cloud provider would be substantial.

The reasonableness of the cloud hosting services costs is further supported by key cost discipline mechanisms for the CAT – a cost-based funding structure, cost transparency, cost management efforts (including regular efforts to lower compute and storage costs where permitted by the Plan) and oversight. Together, these mechanisms help ensure the ongoing reasonableness of the CAT’s costs and the level of fees assessed to support those costs.<sup>136</sup>

#### **(ii) Technology: Operating Fees**

In approving the CAT Funding Model, the SEC recognized that it is appropriate to recover costs related to operating fees as a part of Historical CAT Assessments.<sup>137</sup> CAT LLC determined that the costs related to operating fees described in this filing are reasonable and should be included as a part of Historical CAT Costs 1. The operating fees include the negotiated fees paid by CAT LLC to the Plan Processor to operate and maintain the system for order-related information and to perform business operations related to the system, including compliance, security, testing, training, communications with the industry (*e.g.*, management of the FINRA CAT Helpdesk, FAQs, website and webinars) and program management. CAT LLC

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<sup>136</sup> See Securities Exchange Act Rel. No. 97151 (Mar. 15, 2023), 88 Fed. Reg. 17086, 17117 (Mar. 21, 2023) (describing key cost discipline mechanisms for the CAT).

<sup>137</sup> Section 11.3(b)(iii)(B)(II)(B)(1) of the CAT NMS Plan.

determined that the selection of FCAT as the Plan Processor was reasonable and appropriate given its expertise with securities regulatory reporting, after a process of considering other potential candidates.<sup>138</sup> CAT LLC also determined that the fixed price contract, negotiated on an arm's length basis with the goals of managing costs and receiving services required to comply with the CAT NMS Plan and Rule 613, was reasonable and appropriate, taking into consideration a variety of factors, including the breadth of services provided and market rates for similar types of activity.<sup>139</sup> The services performed by FCAT for each period and the costs related to such services are described above.<sup>140</sup>

**(iii) Technology: CAIS Operating Fees**

In approving the CAT Funding Model, the SEC recognized that it is appropriate to recover costs related to CAIS operating fees as a part of Historical CAT Assessments.<sup>141</sup> CAT LLC determined that the costs related to CAIS operating fees described in this filing are reasonable and should be included as a part of Historical CAT Costs 1. The CAIS operating fees include the fees paid to the Plan Processor to operate and maintain CAIS and to perform the business operations related to the system, including compliance, security, testing, training, communications with the industry (*e.g.*, management of the FINRA CAT Helpdesk, FAQs, website and webinars) and program management. CAT LLC determined that the FCAT-negotiated fees for Kingland's CAIS-related services, negotiated on an arm's length basis with the goals of managing costs and receiving services required to comply with the CAT NMS Plan,

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<sup>138</sup> See Section 3(a)(2)(B)(i)(b) above.

<sup>139</sup> See Sections 3(a)(2)(B)(i)(b), 3(a)(2)(B)(ii)(b), 3(a)(2)(B)(iii)(b) and 3(a)(2)(B)(iv)(b) above.

<sup>140</sup> *Id.*

<sup>141</sup> Section 11.3(b)(iii)(B)(II)(B)(1) of the CAT NMS Plan.

taking into consideration a variety of factors, including the services to be provided and market rates for similar types of activity, were reasonable and appropriate.<sup>142</sup> The services performed by Kingland for each period and the costs for each period are described above.<sup>143</sup>

**(iv) Technology: Change Request Fees**

In approving the CAT Funding Model, the SEC recognized that it is appropriate to recover costs related to change request fees as a part of Historical CAT Assessments.<sup>144</sup> CAT LLC determined that the costs related to change request fees described in this filing are reasonable and should be included as a part of Historical CAT Costs 1. It is common practice to utilize a change request process to address evolving needs in technology projects. This is particularly true for a project like CAT that is the first of its kind, both in substance and in scale. The substance and costs of each of the change requests are evaluated by the Operating Committee, and approved in accordance with the requirements for Operating Committee meetings. In each case, CAT LLC determined that the change requests were necessary to implement the CAT. As described above, the change requests cover various technology changes, including, for example, changes related to CAT reporting, data feeds and exchange functionality. CAT LLC also determined that the costs for each change request were appropriate for the relevant technology change. A description of the change requests for each FAM Period and their total costs are set described above.<sup>145</sup> As noted above, the total costs for change requests through FAM Period 3 represent a small percentage of Historical CAT Costs 1 – that is, 0.25% of Historical CAT Costs 1.

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<sup>142</sup> See Sections 3(a)(2)(B)(i)(c), 3(a)(2)(B)(ii)(c), 3(a)(2)(B)(iii)(c) and 3(a)(2)(B)(iv)(c) above.

<sup>143</sup> *Id.*

<sup>144</sup> Section 11.3(b)(iii)(B)(II)(B)(1) of the CAT NMS Plan.

<sup>145</sup> See Sections 3(a)(2)(B)(i)(d), 3(a)(2)(B)(ii)(d), 3(a)(2)(B)(iii)(d) and 3(a)(2)(B)(iv)(d) above.

**(v) Capitalized Developed Technology Costs**

In approving the CAT Funding Model, the SEC recognized that it is appropriate to recover costs related to capitalized developed technology costs as a part of Historical CAT Assessments.<sup>146</sup> Capitalized developed technology costs include costs related to certain development costs, costs related to certain modifications, upgrades and other changes to the CAT, CAIS implementation fees and license fees. The amount and type of costs for each period are described in more detail above.<sup>147</sup> CAT LLC determined that these costs are reasonable and should be included as a part of Historical CAT Costs 1.

These costs involve the activity of both the Initial Plan Processor and FCAT, as the successor Plan Processor.<sup>148</sup> With regard to the Initial Plan Processor, the Participants utilized an RFP to seek proposals to build and operate the CAT, receiving a number of proposals in response to the RFP. The Participants carefully reviewed and considered each of the proposals, including holding in-person meetings with each of the Bidders. After several rounds of review, the Participants selected the Initial Plan Processor in accordance with the CAT NMS Plan. CAT LLC entered into an agreement with the Initial Plan Processor in which CAT LLC would pay the Initial Plan Processor a negotiated, fixed price fee.<sup>149</sup> In addition, as described above, CAT LLC determined that it was appropriate to enter into an agreement with FCAT as the successor Plan Processor.<sup>150</sup>

**(vi) Legal**

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<sup>146</sup> Section 11.3(b)(iii)(B)(II)(B)(1) of the CAT NMS Plan.

<sup>147</sup> See Sections 3(a)(2)(B)(i)(e), 3(a)(2)(B)(ii)(e), 3(a)(2)(B)(iii)(e) and 3(a)(2)(B)(iv)(e) above.

<sup>148</sup> *Id.*

<sup>149</sup> See Section 3(a)(2)(B)(i)(e) above.

<sup>150</sup> See Section 3(a)(2)(B)(i)(b) above.

In approving the CAT Funding Model, the SEC recognized that it is appropriate to recover costs related to legal fees as a part of Historical CAT Assessments.<sup>151</sup> CAT LLC determined that the legal costs described in this filing are reasonable and should be included as a part of Historical CAT Costs 1. Given the unique nature of the CAT, the number of parties involved with the CAT (including, for example, the SEC, Participants, Industry Members, and vendors) and the many regulatory issues associated with the CAT, the scope of the necessary legal services are substantial. CAT LLC determined that the scope of the legal services is necessary to implement and maintain the CAT and that the legal rates reflect the specialized services necessary for such a project. When hiring each law firm for a CAT project, CAT LLC interviewed multiple firms, and determined to hire each firm based on a variety of factors, including the relevant expertise and fees. In each case, CAT LLC determined that the hourly fee rates were in line with market rates for the specialized legal expertise. In addition, CAT LLC determined that the total costs incurred for each CAT project were appropriate given the breadth of services provided. The services performed by each law firm for each period and the costs related to such services are described above.<sup>152</sup>

#### **(vii) Consulting**

In approving the CAT Funding Model, the SEC recognized that it is appropriate to recover consulting costs as a part of Historical CAT Assessments.<sup>153</sup> CAT LLC determined that the consulting costs described in this filing are reasonable and should be included as a part of

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<sup>151</sup> Section 11.3(b)(iii)(B)(II)(B)(2) of the CAT NMS Plan.

<sup>152</sup> See Sections 3(a)(2)(B)(i)(f), 3(a)(2)(B)(ii)(f), 3(a)(2)(B)(iii)(f) and 3(a)(2)(B)(iv)(f) above.

<sup>153</sup> Section 11.3(b)(iii)(B)(II)(B)(3) of the CAT NMS Plan.

Historical CAT Costs 1. Because there are no CAT employees<sup>154</sup> and because of the significant number of issues associated with the CAT, the consultants provided assistance in the management of various CAT matters and the processes related to such matters.<sup>155</sup> CAT LLC considered a variety of factors in choosing a consulting firm and determined to select Deloitte after an interview process.<sup>156</sup> CAT LLC also determined that the consulting services were provided at reasonable market rates, as the fees were negotiated annually and comparable to the rates charged by other consulting firms for similar work.<sup>157</sup> Moreover, the total costs for such consulting services were appropriate in light of the breadth of services provided by Deloitte. The services performed by Deloitte and the costs related to such services are described above.<sup>158</sup>

### **(viii) Insurance**

In approving the CAT Funding Model, the SEC recognized that it is appropriate to recover insurance costs as a part of Historical CAT Assessments.<sup>159</sup> CAT LLC determined that the insurance costs described in this filing are reasonable and should be included as a part of Historical CAT Costs 1. CAT LLC determined that it is common practice to have directors' and officers' liability insurance, and errors and omissions liability insurance. CAT LLC further determined that it was important to have cyber security insurance given the nature of the CAT, and such a decision is consistent with the CAT NMS Plan, which states that the cyber incident

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<sup>154</sup> As stated in the filing of the proposed CAT NMS Plan, “[i]t is the intent of the Participants that the Company have no employees.” Securities Exchange Act Rel. No. 77724 (Apr. 27, 2016), 81 Fed. Reg. 30614, 30621 (May 17, 2016).

<sup>155</sup> CAT LLC uses certain third parties to perform tasks that may be performed by administrators for other NMS Plans. *See, e.g.*, CTA Plan and CQ Plan.

<sup>156</sup> *See* Section 3(a)(2)(B)(i)(g) above.

<sup>157</sup> *See* Sections 3(a)(2)(B)(i)(g), 3(a)(2)(B)(ii)(g), 3(a)(2)(B)(iii)(g) and 3(a)(2)(B)(iv)(g) above.

<sup>158</sup> *Id.*

<sup>159</sup> Section 11.3(b)(iii)(B)(II)(B)(4) of the CAT NMS Plan.

response plan may include “[i]nsurance against security breaches.”<sup>160</sup> In selecting the insurance providers for these policies, CAT LLC engaged in an evaluation of alternative insurers, including a comparison of the pricing offered by the alternative insurers.<sup>161</sup> Based on this analysis, CAT LLC determined that the selected insurance policies provided appropriate coverage at reasonable market rates.<sup>162</sup>

**(ix) Professional and Administration**

In approving the CAT Funding Model, the SEC recognized that it is appropriate to recover professional and administration costs as a part of Historical CAT Assessments.<sup>163</sup> CAT LLC determined that the professional and administration costs described in this filing are reasonable and should be included as a part of Historical CAT Costs 1. Because there are no CAT employees, all required accounting, financial, tax, cash management and treasury functions for CAT LLC have been outsourced at market rates. In addition, the required annual financial statement audit of CAT LLC is included in professional and administration costs, which costs are also at market rates.

CAT LLC determined to hire a financial advisory firm, Anchin, to assist with financial matters for the CAT. CAT LLC interviewed Anchin as well as other potential financial advisory firms to assist with the CAT project, considering a variety of factors in its analysis, including the firm’s relevant expertise and fees.<sup>164</sup> The hourly fee rates for this firm were in line with market

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<sup>160</sup> Section 4.1.5 of Appendix D of the CAT NMS Plan.

<sup>161</sup> See Sections 3(a)(2)(B)(i)(h), 3(a)(2)(B)(ii)(h), 3(a)(2)(B)(iii)(h) and 3(a)(2)(B)(iv)(h) above.

<sup>162</sup> *Id.*

<sup>163</sup> Section 11.3(b)(iii)(B)(II)(B)(5) of the CAT NMS Plan.

<sup>164</sup> See Section 3(a)(2)(B)(i)(i) above.

rates for the financial advisory services provided.<sup>165</sup> Moreover, the total costs for such financial advisory services was appropriate in light of the breadth of services provided by Anchin. The services performed by Anchin and the costs related to such services are described above.<sup>166</sup>

CAT LLC also determined to engage an independent accounting firm, Grant Thornton, to complete the audit of CAT LLC's financial statements, in accordance with the requirements of the CAT NMS Plan. CAT LLC interviewed this firm as well as another potential accounting firm to audit CAT LLC's financial statements, considering a variety of factors in its analysis, including the relevant expertise and fees of each of the firms. CAT LLC determined that Grant Thornton was well-qualified for the role given the balance of these considerations.<sup>167</sup> Grant Thornton's fixed fee rate compensation arrangement was reasonable and appropriate, and in line with the market rates charged for these types of accounting services.<sup>168</sup> Moreover, the total costs for such financial advisory services was appropriate in light of the breadth of services provided by Grant Thornton. The services performed by Grant Thornton and the costs related to such services are described above.<sup>169</sup>

The professional and administrative costs also include costs related to the receipt of certain market data from Exegy. After performing an analysis of the available market data vendors to confirm that the data provided met the SIP Data requirements of the CAT NMS Plan and comparing the costs of the vendors providing the required SIP Data, CAT LLC determined to purchase market data from Exegy. Exegy provided the data elements required by the CAT

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<sup>165</sup> See Sections 3(a)(2)(B)(i)(i), 3(a)(2)(B)(ii)(i), 3(a)(2)(B)(iii)(i) and 3(a)(2)(B)(iv)(i) above.

<sup>166</sup> *Id.*

<sup>167</sup> See Section 3(a)(2)(B)(i)(i) above.

<sup>168</sup> See Sections 3(a)(2)(B)(i)(i), 3(a)(2)(B)(ii)(i), 3(a)(2)(B)(iii)(i) and 3(a)(2)(B)(iv)(i) above.

<sup>169</sup> *Id.*



NMS Plan, and the fees were reasonable and in line with market rates for the market data received.<sup>170</sup>

The professional and administrative costs also include costs related to a third party security assessment of the CAT performed by RSM. The assessment was designed to verify and validate the effective design, implementation and operation of the controls specified by NIST Special Publication 800-53, Revision 4 and related standards and guidelines. Such a security assessment is in line with industry practice and important given the data included in the CAT. CAT LLC determined to engage RSM to perform the security assessment, after considering a variety of factors in its analysis, including the firm's relevant expertise and fees. The fees were reasonable and in line with market rates for such an assessment.<sup>171</sup>

**(x) Public Relations Costs**

In approving the CAT Funding Model, the SEC recognized that it is appropriate to recover public relations costs as a part of Historical CAT Assessments.<sup>172</sup> CAT LLC determined that the public relations costs described in this filing are reasonable and should be included as a part of Historical CAT Costs 1. CAT LLC determined that the types of public relations services utilized were beneficial to the CAT and market participants more generally. Public relations services were important for various reasons, including monitoring comments made by market participants about CAT and understanding issues related to the CAT discussed on the public record.<sup>173</sup> By engaging a public relations firm, CAT LLC was better positioned to understand

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<sup>170</sup> See Section 3(a)(2)(B)(i)(i) above.

<sup>171</sup> *Id.*

<sup>172</sup> Section 11.3(b)(iii)(B)(II)(B)(6) of the CAT NMS Plan.

<sup>173</sup> See Section 3(a)(2)(B)(i)(j) above.

and address CAT issues to the benefit of all market participants.<sup>174</sup> Moreover, CAT LLC determined that the rates charged for such services were in line with market rates.<sup>175</sup> As noted above, the total public relations costs through FAM Period 3 represent a small percentage of Historical CAT Costs 1 – that is, 0.1% of Historical CAT Costs 1.

**(B) Total Executed Equivalent Share Volume for the Prior 12 Months**

The total executed equivalent share volume of transactions in Eligible Securities for the period from December 2022 through November 2023 was 3,842,861,347,279.44 executed equivalent shares. CAT LLC determined the total executed equivalent share volume for the prior twelve months by counting executed equivalent shares in the same manner as it will count executed equivalent shares for CAT billing purposes.

**(C) Historical Recovery Period 1**

CAT LLC has determined to establish a Historical Recovery Period of 24 months for Historical CAT Assessment 1 and that such length is reasonable. CAT LLC determined that the length of Historical Recovery Period 1 appropriately weighs the need for a reasonable Historical Fee Rate 1 that spreads the Historical CAT Costs over an appropriate amount of time and the need to repay the loans notes to the Participants in a timely fashion. CAT LLC determined that 24 months for Historical Recovery Period 1 would establish a fee rate that is lower than other transaction-based fees, including fees assessed pursuant to Section 31.<sup>176</sup> In addition, in establishing a Historical Recovery Period of 24 months, CAT LLC recognized that the total costs for Historical CAT Assessment 1 was less than the total costs for 2022 and 2023, and therefore it

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<sup>174</sup> See Sections 3(a)(2)(B)(i)(j), 3(a)(2)(B)(ii)(j), 3(a)(2)(B)(iii)(j) and 3(a)(2)(B)(iv)(j) above.

<sup>175</sup> *Id.*

<sup>176</sup> As the SEC noted in the CAT Funding Model Approval Order, recent Section 31 fees ranged from \$0.00009 per share to \$0.0004 per share. CAT Funding Model Approval Order at 62682.

would be appropriate to recover those costs in two years. Furthermore, CAT LLC notes 24 months is appropriate because it is not currently proposing that Industry Members be required to pay another Historical CAT Assessment or CAT Fee with regard to Prospective CAT Costs at the same time.

**(D) Projected Executed Equivalent Share Volume for Historical Recovery Period 1**

CAT LLC has determined to calculate the projected total executed equivalent share volume for the 24 months of Historical Recovery Period 1 by doubling the executed equivalent share volume for the prior 12 months. CAT LLC determined that such an approach was reasonable as the CAT's annual executed equivalent share volume has remained relatively constant in recent years. For example, the executed equivalent share volume for 2021 was 3,963,697,612,395 executed equivalent shares, and the executed equivalent share volume for 2022 was 4,039,821,841,560.31 executed equivalent shares. Accordingly, the projected total executed equivalent share volume for Historical Recovery Period 1 is 7,685,722,694,558.88 executed equivalent shares.<sup>177</sup>

**(E) Actual Fee Rate for Historical CAT Assessment 1**

**(i) Decimal Places**

As noted in the Plan amendment for the CAT Funding Model, as a practical matter, the fee filing for a Historical CAT Assessment would provide the exact fee per executed equivalent share to be paid for each Historical CAT Assessment, by multiplying the Historical Fee Rate by one-third and describing the relevant number of decimal places for the fee rate.<sup>178</sup> Accordingly, proposed paragraph a)i)B) of the fee schedule would set forth a fee rate of \$0.000015 per

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<sup>177</sup> This projection was calculated by multiplying 3,842,861,347,279.44 executed equivalent shares by two.

<sup>178</sup> CAT Funding Model Approval Order at 62658, n.658.

executed equivalent share. This fee rate is calculated by multiplying Historical Fee Rate 1 by one-third, and rounding the result to 6 decimal places. CAT LLC determined that the use of six decimal places is reasonable as it balances the accuracy of the calculation with the potential systems and other impracticalities of using additional decimal places in the calculation.

**(ii) Reasonable Fee Level**

The Exchange believes that imposing Historical CAT Assessment 1 with a fee rate of \$0.000015 per executed equivalent share is reasonable because it provides for a revenue stream for the Company that is aligned with Historical CAT Costs 1 and such costs would be spread out over an appropriate recovery period, as discussed above. Moreover, the Exchange believes that the level of the fee rate is reasonable, as it is comparable to other transaction-based fees. Indeed, Historical CAT Assessment 1 is significantly lower than fees assessed pursuant to Section 31 (e.g., \$0.0009 per share to 0.0004 per share),<sup>179</sup> and, as a result, the magnitude of Historical CAT Assessment 1 is small, and therefore will mitigate any potential adverse economic effects or inefficiencies.<sup>180</sup> Furthermore, the reasonable fee rate for Historical CAT Assessment 1 further supports CAT LLC's decision to seek to recover all Historical CAT Costs prior to 2022, rather than establishing separate Historical CAT Assessments for pre-FAM, FAM 1, FAM 2 and FAM 3 costs.

**(3) Historical CAT Assessment 1 Provides for an Equitable Allocation of Fees**

Historical CAT Assessment 1 provides for an equitable allocation of fees, as it equitably allocates CAT costs between and among the Participants and Industry Members. The SEC

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<sup>179</sup> CAT Funding Model Approval Order at 62663, 62682.

<sup>180</sup> *Id.*

approved the CAT Funding Model, finding that each aspect of the CAT Funding Model satisfied the requirements of the Exchange Act, including the formula for calculating Historical CAT Assessments as well as the Industry Members to be charged the Historical CAT Assessments.<sup>181</sup> In approving the CAT Funding Model, the SEC stated that “[t]he Participants have sufficiently demonstrated that the proposed allocation of fees is reasonable.”<sup>182</sup> Accordingly, the CAT Funding Model sets forth the requirements for allocating fees related to Historical CAT Costs among Participants and Industry Members, and the fee filings for Historical CAT Assessments must comply with those requirements.

Historical CAT Assessment 1 provides for an equitable allocation of fees as it complies with the requirements regarding the calculation of Historical CAT Assessments as set forth in the CAT NMS Plan. For example, as described above, the calculation of Historical CAT Assessment 1 complies with the formula set forth in Section 11.3(b) of the CAT NMS Plan. In addition, Historical CAT Assessment 1 would be charged to CEBBs and CEBSs in accordance with Section 11.3(b) of the CAT NMS Plan. Furthermore, the Participants would continue to remain responsible for their designated share of Past CAT Costs through the cancellation of loans made by the Participants to CAT LLC.

In addition, as discussed above, each of the inputs into the calculation of Historical CAT Assessment 1 – Historical CAT Costs 1 (including Excluded Costs), the count for the executed equivalent share volume for the prior 12 months, the length of the Historical Recovery Period, and the projected executed equivalent share volume for the Historical Recovery Period – are reasonable. Moreover, these inputs lead to a reasonable fee rate for Historical CAT Assessment

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<sup>181</sup> See Section 11.3(b) of the CAT NMS Plan.

<sup>182</sup> CAT Funding Model Approval Order at 62629.

1 that is lower than other fee rates for transaction-based fees. A reasonable fee rate allocated in accordance with the requirements of the CAT Funding Model provides for an equitable allocation of fees.

**(4) Historical CAT Assessment 1 is Not Unfairly Discriminatory**

Historical CAT Assessment 1 is not an unfairly discriminatory fee. The SEC approved the CAT Funding Model, finding that each aspect of the CAT Funding Model satisfied the requirements of the Exchange Act. In reaching this conclusion, the SEC analyzed the potential effect of Historical CAT Assessments calculated pursuant to the CAT Funding Model on affected categories of market participants, including Participants (including exchanges and FINRA), Industry Members (including subcategories of Industry Members, such as alternative trading systems, CAT Executing Brokers and market makers), and investors generally, and considered market effects related to equities and options, among other things. Historical CAT Assessment 1 complies with the requirements regarding the calculation of Historical CAT Assessments as set forth in the CAT NMS Plan. In addition, as discussed above, each of the inputs into the calculation of Historical CAT Assessment 1 and the resulting fee rate for Historical CAT Assessment 1 is reasonable. Therefore, Historical CAT Assessment 1 does not impose an unfairly discriminatory fee on Industry Members.

Finally, the Exchange believes the proposed fees established pursuant to the CAT Funding Model promote just and equitable principles of trade, and, in general, protect investors and the public interest, and are provided in a transparent manner and specificity in the fee schedule. The Exchange also believes that the proposed fees are reasonable because they would provide ease of calculation, ease of billing and other administrative functions, and predictability of a fee based on fixed rate per executed equivalent share. Such factors are crucial to estimating

a reliable revenue stream for CAT LLC and for permitting Exchange members to reasonably predict their payment obligations for budgeting purposes.

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

Section 6(b)(8) of the Act<sup>183</sup> requires that the Exchange's rules not impose any burden on competition that is not necessary or appropriate in furtherance of the purpose of the Exchange Act. The Exchange does not believe that the proposed rule change will result in any burden on competition that is not necessary or appropriate in furtherance of the purposes of the Act. The Exchange notes that Historical CAT Assessment 1 implements provisions of the CAT NMS Plan that were approved by the Commission and is designed to assist the Exchange in meeting its regulatory obligations pursuant to the Plan.

In addition, all Participants (including exchanges and FINRA) are proposing to introduce Historical CAT Assessment 1 on behalf of CAT LLC to implement the requirements of the CAT NMS Plan. Therefore, this is not a competitive fee filing, and, therefore, it does not raise competition issues between and among the Participants.

Furthermore, in approving the CAT Funding Model, the SEC analyzed the potential competitive impact of the CAT Funding Model, including competitive issues related to market services, trading services and regulatory services, efficiency concerns, and capital formation.<sup>184</sup> The SEC also analyzed the potential effect of CAT fees calculated pursuant to the CAT Funding Model on affected categories of market participants, including Participants (including exchanges and FINRA), Industry Members (including subcategories of Industry Members, such as alternative trading systems, CAT Executing Brokers and market makers), and investors

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<sup>183</sup> 15 U.S.C. 78f(b)(8).

<sup>184</sup> CAT Funding Model Approval Order at 62676-86.

generally, and considered market effects related to equities and options, among other things.

Based on this analysis, the SEC approved the CAT Funding Model as compliant with the Exchange Act. Historical CAT Assessment 1 is calculated and implemented in accordance with the CAT Funding Model as approved by the SEC.

As discussed above, each of the inputs into the calculation of Historical CAT Assessment 1 is reasonable and the resulting fee rate for Historical CAT Assessment 1 calculated in accordance with the CAT Funding Model is reasonable. Therefore, Historical CAT Assessment 1 would not impose any burden on competition that is not necessary or appropriate in furtherance of the purpose of the Exchange Act.

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

No written comments were either solicited or received.

6. **Extension of Time Period for Commission Action**

Not applicable.

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

Pursuant to Section 19(b)(3)(A)(ii) of the Act,<sup>185</sup> and Rule 19b-4(f)(2) thereunder<sup>186</sup> the Exchange has designated this proposal as establishing or changing a due, fee, or other charge imposed on any person, whether or not the person is a member of the self-regulatory organization, which renders the proposed rule change effective upon filing.

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

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<sup>185</sup> 15 U.S.C. 78s(b)(3)(A)(ii).

<sup>186</sup> 17 CFR 240.19b-4.



As discussed in detail above, the proposed rule change is consistent with, and would implement the CAT fee requirements applicable to Industry Members in accordance with, the CAT NMS Plan. As such, each Participant in the CAT NMS Plan is proposing the same fee requirements.

**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**

1. Completed notice of proposed rule change for publication in the Federal Register.
5. Copy of the applicable section of the Fee Schedule.

**EXHIBIT 1**

SECURITIES AND EXCHANGE COMMISSION  
(Release No. 34- ; File No. SR-EMERALD-2024-01)

January \_\_, 2024

Self-Regulatory Organizations: Notice of Filing and Immediate Effectiveness of a Proposed Rule Change by MIAX Emerald LLC to Amend Its Fee Schedule to Adopt Consolidated Audit Trail Funding Fees

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> notice is hereby given that on January \_\_, 2024, MIAX Emerald, LLC (“MIAX Emerald” or “Exchange”) filed with the Securities and Exchange Commission (“Commission”) a proposed rule change as described in Items I, II, and III below, which Items have been prepared by the Exchange. 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

The Exchange is filing a proposal to amend the MIAX Emerald Fee Schedule (“Fee Schedule”) to establish fees for Industry Members<sup>3</sup> related to certain historical costs of the National Market System Plan Governing the Consolidated Audit Trail (the “CAT NMS Plan” or “Plan”) incurred prior to January 1, 2022. These fees would be payable to Consolidated Audit Trail, LLC (“CAT LLC” or “the Company”)<sup>4</sup> and referred to as Historical CAT Assessment 1,

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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> An “Industry Member” is defined as “a member of a national securities exchange or a member of a national securities association.” *See* Miami International Securities Exchange LLC (“MIAX Rule”) Rule 1701(u). The Exchange notes that MIAX Chapter XVII is incorporated by reference into the Exchange’s rulebook. As such, MIAX Chapter XVII also applies to the Exchange. *See also* Section 1.1 of the CAT NMS Plan. Unless otherwise specified, capitalized terms used in this rule filing are defined as set forth in the CAT NMS Plan and/or the CAT Compliance Rule. *See* MIAX Rule 1701.

<sup>4</sup> The term “CAT LLC” may be used to refer to Consolidated Audit Trail, LLC or CAT NMS, LLC, depending on the context.

and would be described in a section of the Exchange's fee schedule entitled "Consolidated Audit Trail Funding Fees." The fee rate for Historical CAT Assessment 1 will be \$0.000015 per executed equivalent share. CAT Executing Brokers will receive their first monthly invoice for Historical CAT Assessment 1 in April 2024 calculated based on their transactions as CAT Executing Brokers for the Buyer ("CEBB") and/or CAT Executing Brokers for the Seller ("CEBS") in March 2024.

The text of the proposed rule change is available on the Exchange's website at <https://www.miaxglobal.com/markets/us-options/emerald-options/rule-filings>, at MIAX Emerald's principal office, 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 Exchange 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 these 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 aspects of such statements.

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

1. Purpose

On July 11, 2012, the Commission adopted Rule 613 of Regulation NMS, which required the self-regulatory organizations ("SROs") to submit a national market system ("NMS") plan to create, implement and maintain a consolidated audit trail that would capture customer and order event information for orders in NMS securities across all markets, from the time of order

inception through routing, cancellation, modification or execution.<sup>5</sup> On November 15, 2016, the Commission approved the CAT NMS Plan.<sup>6</sup> Under the CAT NMS Plan, the Operating Committee has the discretion to establish funding for CAT LLC to operate the CAT, including establishing fees for Industry Members to be assessed by CAT LLC that would be implemented on behalf of CAT LLC by the Participants.<sup>7</sup> The Operating Committee adopted a revised funding model to fund the CAT (“CAT Funding Model”). On September 6, 2023, the Commission approved the CAT Funding Model, after concluding that the model was reasonable and that it satisfied the requirements of Section 11A of the Exchange Act and Rule 608 thereunder.<sup>8</sup>

The CAT Funding Model provides a framework for the recovery of the costs to create, develop and maintain the CAT, including providing a method for allocating costs to fund the CAT among Participants and Industry Members. The CAT Funding Model establishes two categories of fees: (1) CAT fees assessed by CAT LLC and payable by certain Industry Members to recover a portion of historical CAT costs previously paid by the Participants (“Historical CAT Assessment” fees); and (2) CAT fees assessed by CAT LLC and payable by Participants and Industry Members to fund prospective CAT costs (“Prospective CAT Costs” fees).<sup>9</sup>

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<sup>5</sup> Securities Exchange Act Rel. No. 67457 (July 18, 2012), 77 Fed. Reg. 45721 (Aug. 1, 2012).

<sup>6</sup> Securities Exchange Act Rel. No. 79318 (Nov. 15, 2016), 81 Fed. Reg. 84696 (Nov. 23, 2016) (“CAT NMS Plan Approval Order”).

<sup>7</sup> Section 11.1(b) of the CAT NMS Plan.

<sup>8</sup> Securities Exchange Act Rel. No. 98290 (Sept. 6, 2023), 88 Fed. Reg. 62628 (Sept. 12, 2023) (“CAT Funding Model Approval Order”).

<sup>9</sup> Under the CAT Funding Model, the Operating Committee may establish one or more Historical CAT Assessments. Section 11.3(b) of the CAT NMS Plan. This filing only establishes Historical CAT Assessment 1 related to certain Historical CAT Costs as described herein; it does not address any other potential Historical CAT Assessment related to other Historical CAT Costs. In addition, under the CAT Funding Model, the Operating Committee also may establish CAT Fees related to CAT costs going forward. Section 11.3(a) of the CAT NMS Plan. This filing does not address any potential CAT Fees related to CAT costs going forward. Any such other fee for any other Historical CAT Assessment or CAT Fee for Prospective CAT Costs will be subject to a separate fee filing.

Under the CAT Funding Model, “[t]he Operating Committee will establish one or more fees (each a ‘Historical CAT Assessment’) to be payable by Industry Members with regard to CAT costs previously paid by the Participants (‘Past CAT Costs’).”<sup>10</sup> In establishing a Historical CAT Assessment, the Operating Committee will determine a “Historical Recovery Period” and calculate a “Historical Fee Rate” for that Historical Recovery Period. Then, for each month in which a Historical CAT Assessment is in effect, each CEBB and CEBS would be required to pay the fee – the Historical CAT Assessment – for each transaction in Eligible Securities executed by the CEBB or CEBS from the prior month as set forth in CAT Data, where the Historical CAT Assessment for each transaction will be calculated by multiplying the number of executed equivalent shares in the transaction by one-third and by the Historical Fee Rate.<sup>11</sup>

Each Historical CAT Assessment to be paid by CEBBs and CEBSs is designed to contribute toward the recovery of two-thirds of the Historical CAT Costs. Because the Participants previously have paid Past CAT Costs via loans to the Company, the Participants would not be required to pay any Historical CAT Assessment. In lieu of a Historical CAT Assessment, the Participants’ one-third share of Historical CAT Costs will be paid by the cancellation of loans made by the Participants to the Company on a pro rata basis based on the outstanding loan amounts due under the loans, instead of through the payment of a CAT fee.<sup>12</sup> In addition, Participants also will be 100% responsible for certain Excluded Costs (as discussed below).

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<sup>10</sup> Section 11.3(b) of the CAT NMS Plan.

<sup>11</sup> In approving the CAT Funding Model, the Commission stated that, “[i]n the Commission’s view, the proposed recovery of the Past CAT Costs via the Historical CAT Assessment is reasonable.” CAT Funding Model Approval Order at 62662.

<sup>12</sup> Section 11.3(b)(ii) of the CAT NMS Plan.

CAT LLC proposes to charge CEBBs and CEBSs (as described in more detail below) Historical CAT Assessment 1 to recover certain historical CAT costs incurred prior to January 1, 2022, in accordance with the CAT Funding Model. To implement this fee on behalf of CAT LLC, the CAT NMS Plan requires the Participants to “file with the SEC under Section 19(b) of the Exchange Act any such fees on Industry Members that the Operating Committee approves, and such fees shall be labeled as ‘Consolidated Audit Trail Funding Fees.’”<sup>13</sup> The Plan further states that “Participants will be required to file with the SEC pursuant to Section 19(b) of the Exchange Act a filing for each Historical CAT Assessment.”<sup>14</sup> Accordingly, the purpose of this filing is to implement a Historical CAT Assessment on behalf of CAT LLC for Industry Members, referred to as Historical CAT Assessment 1, in accordance with the CAT NMS Plan.<sup>15</sup>

**(1) CAT Executing Brokers**

Historical CAT Assessment 1 will be charged to each CEBB and CEBS for each applicable transaction in Eligible Securities.<sup>16</sup> The CAT NMS Plan defines a “CAT Executing Broker” to mean:

- (a) with respect to a transaction in an Eligible Security that is executed on an exchange, the Industry Member identified as the Industry Member responsible for the order on the buy-side of the transaction and the Industry Member responsible

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<sup>13</sup> Section 11.1(b) of the CAT NMS Plan.

<sup>14</sup> Section 11.3(b)(iii)(B)(I) of the CAT NMS Plan.

<sup>15</sup> Note that there may be one or more Historical CAT Assessments depending on the timing of the completion of the Financial Accountability Milestones, among other things. Section 11.3(b) of the CAT NMS Plan.

<sup>16</sup> In its approval of the CAT Funding Model, the Commission determined that charging CAT fees to CAT Executing Brokers was reasonable. In reaching this conclusion the Commission noted that the use of CAT Executing Brokers is appropriate because the CAT Funding Model is based upon the calculation of *executed* equivalent shares, and, therefore, charging CAT Executing Brokers would reflect their executing role in each transaction. Furthermore, the Commission noted that, because CAT Executing Brokers are already identified in transaction reports from the exchanges and FINRA’s equity trade reporting facilities recorded in CAT Data, charging CAT Executing Brokers could streamline the billing process. CAT Funding Model Approval Order at 62629.

for the sell-side of the transaction in the equity order trade event and option trade event in the CAT Data submitted to the CAT by the relevant exchange pursuant to the Participant Technical Specifications; and (b) with respect to a transaction in an Eligible Security that is executed otherwise than on an exchange and required to be reported to an equity trade reporting facility of a registered national securities association, the Industry Member identified as the executing broker and the Industry Member identified as the contra-side executing broker in the TRF/ORF/ADF transaction data event in the CAT Data submitted to the CAT by FINRA pursuant to the Participant Technical Specifications; provided, however, in those circumstances where there is a non-Industry Member identified as the contra-side executing broker in the TRF/ORF/ADF transaction data event or no contra-side executing broker is identified in the TRF/ORF/ADF transaction data event, then the Industry Member identified as the executing broker in the TRF/ORF/ADF transaction data event would be treated as CAT Executing Broker for the Buyer and for the Seller.<sup>17</sup>

The following fields of the Participant Technical Specifications indicate the CAT Executing Brokers for the transactions executed on an exchange.

#### Equity Order Trade (EOT)<sup>18</sup>

#	Field Name	Data Type	Description	Include Key
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<sup>17</sup> Section 1.1 of the CAT NMS Plan. Note that CEBBs and CEBSs may, but are not required to, pass-through their CAT fees to their clients, who may, in turn, pass their fees to their clients until they are imposed ultimately on the account that executed the transaction. See CAT Funding Model Approval Order at 62649.

<sup>18</sup> See Table 23, Section 4.7 (Order Trade Event) of the CAT Reporting Technical Specifications for Plan Participants, Version 4.1.0-r20 (Sept. 25, 2023), [https://www.catnmsplan.com/sites/default/files/2023-09/9.25.2023-CAT Reporting Technical Specifications for Participants 4.1.0-r20.pdf](https://www.catnmsplan.com/sites/default/files/2023-09/9.25.2023-CAT%20Reporting%20Technical%20Specifications%20for%20Participants%204.1.0-r20.pdf) (“CAT Reporting Technical Specifications for Plan Participants”).

12.n.8/ 13.n.8	member	Member Alias	The identifier for the member firm that is responsible for the order on this side of the trade.  Not required if there is no order for the side as indicated by the NOBUYID/NOSELLID instruction.  This must be provided if orderID is provided.	C
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### Option Trade (OT)<sup>19</sup>

#	Field Name	Data Type	Description	Include Key
16.n.13 / 17.n.13	member	Member Alias	The identifier for the member firm that is responsible for the order	R

In addition, the following fields of the Participant Technical Specifications would indicate the CAT Executing Brokers for the transactions executed otherwise than on an exchange.

### TRF/ORF/ADF Transaction Data Event (TRF)<sup>20</sup>

#	Field Name	Data Type	Description	Include Key
26	reportingExecutingMpid	Member Alias	MPID of the executing party	R
28	contraExecutingMpid	Member Alias	MPID of the contra-side executing party.	C

## (2) Calculation of Historical Fee Rate 1

The Operating Committee determined the Historical Fee Rate to be used in calculating Historical CAT Assessment 1 (“Historical Fee Rate 1”) by dividing the Historical CAT Costs for Historical CAT Assessment 1 (“Historical CAT Costs 1”) by the projected total executed share

<sup>19</sup> See Table 51, Section 5.2.5.1 (Simple Option Trade Event) of the CAT Reporting Technical Specifications for Plan Participants.

<sup>20</sup> See Table 61, Section 6.1 (TRF/ORF/ADF Transaction Data Event) of the CAT Reporting Technical Specifications for Plan Participants.



volume of all transactions in Eligible Securities for the Historical Recovery Period for Historical CAT Assessment 1 (“Historical Recovery Period 1”), as discussed in detail below. Based on this calculation, the Operating Committee has determined that Historical Fee Rate 1 would be \$0.0000439371316687066 per executed equivalent share. This rate is then divided by three and rounded to determine the fee rate of \$0.000015 per executed equivalent share that will be assessed to CEBBs and CEBSs, as also discussed in detail below.

**(A) Executed Equivalent Shares for Transactions in Eligible Securities**

Under the CAT NMS Plan, for purposes of calculating each Historical CAT Assessment, executed equivalent shares in a transaction in Eligible Securities will be reasonably counted as follows: (1) each executed share for a transaction in NMS Stocks will be counted as one executed equivalent share; (2) each executed contract for a transaction in Listed Options will be counted based on the multiplier applicable to the specific Listed Options (*i.e.*, 100 executed equivalent shares or such other applicable multiplier); and (3) each executed share for a transaction in OTC Equity Securities shall be counted as 0.01 executed equivalent share.<sup>21</sup>

**(B) Historical CAT Costs 1**

The CAT NMS Plan states that “[t]he Operating Committee will reasonably determine the Historical CAT Costs sought to be recovered by each Historical CAT Assessment, where the Historical CAT Costs will be Past CAT Costs minus Past CAT Costs reasonably excluded from Historical CAT Costs by the Operating Committee. Each Historical CAT Assessment will seek to recover from CAT Executing Brokers two-thirds of Historical CAT Costs incurred during the

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<sup>21</sup> Section 11.3(a)(i)(B) and 11.3(b)(i)(B) of the CAT NMS Plan. In approving the CAT Funding Model, the Commission concluded that “the use of executed equivalent share volume as the basis of the proposed cost allocation methodology is reasonable and consistent with the approach taken by the funding principles of the CAT NMS Plan.” CAT Funding Model Approval Order at 62640.

period covered by the Historical CAT Assessment.”<sup>22</sup> As described in detail below, Historical CAT Costs 1 would be \$337,688,610. This figure includes Past CAT Costs of \$401,312,909 minus certain Excluded Costs of \$63,624,299. Participants collectively will remain responsible for one-third of Historical CAT Costs 1 (which is \$112,562,870), plus the Excluded Costs of \$63,624,299. CEBBs collectively will be responsible for one-third of Historical CAT Costs 1 (which is \$112,562,870), and CEBSs collectively will be responsible for one-third of Historical CAT Costs 1 (which is \$112,562,870).

The following describes in detail Historical CAT Costs 1 with regard to four separate historical time periods as well as Past CAT Costs excluded from Historical CAT Costs 1 (“Excluded Costs”). The following cost details are provided in accordance with the requirement in the CAT NMS Plan to provide in the fee filing “a brief description of the amount and type of Historical CAT Costs, including (1) the technology line items of cloud hosting services, operating fees, CAIS operating fees, change request fees, and capitalized developed technology costs, (2) legal, (3) consulting, (4) insurance, (5) professional and administration and (6) public relations costs.”<sup>23</sup> Each of the costs described below are reasonable, appropriate and necessary for the creation, implementation and maintenance of CAT.

**(i) Historical CAT Costs Incurred Prior to June 22, 2020  
(Pre-FAM Costs)**

Historical CAT Costs 1 would include costs incurred by CAT prior to June 22, 2020 (“Pre-FAM Period”) and already funded by the Participants, excluding Excluded Costs (described further below). Historical CAT Costs 1 would include costs for the Pre-FAM Period of \$143,919,521. The Participants would remain responsible for one-third of this cost (which

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<sup>22</sup> Section 11.3(b)(i)(C) of the CAT NMS Plan.

<sup>23</sup> Section 11.3(b)(iii)(B)(II)(B) of the CAT NMS Plan.

they have previously paid) (\$47,973,174), and Industry Members would be responsible for the remaining two-thirds, with CEBBs paying one-third (\$47,973,174) and CEBSs paying one-third (\$47,973,174). These costs do not include Excluded Costs, as discussed further below. The following table breaks down Historical CAT Costs 1 for the Pre-FAM Period into the categories set forth in Section 11.3(b)(iii)(B)(II) of the CAT NMS Plan.

<b>Operating Expense</b>	<b>Historical CAT Costs 1 for Pre-FAM Period (Prior to June 22, 2020)<sup>24</sup></b>
Capitalized Developed Technology Costs and Transition Fee*	\$71,475,941
<b>Technology Costs:</b>	\$33,568,579
Cloud Hosting Services	\$10,268,840
Operating Fees	\$21,085,485
CAIS Operating Fees	\$2,072,908
Change Request Fees	\$141,346
Legal	\$19,674,463
Consulting	\$17,013,414
Insurance	\$880,419
Professional and administration	\$1,082,036
Public relations	\$224,669
<b>Total Operating Expenses</b>	<b>\$143,919,521</b>

\* The non-cash amortization of these capitalized developed technology costs of \$2,115,545 incurred during the period prior to June 22, 2020 have been appropriately excluded from the above table.<sup>25</sup>

The Pre-FAM Period includes a broad range of CAT-related activity from 2012 through June 22, 2020, including the evaluation of the requirements of SEC Rule 613, the development

<sup>24</sup> The costs described in this table of costs for the Pre-FAM Period were calculated based upon CAT LLC's review of applicable bills and invoices and related financial statements. CAT LLC financial statements are available on the CAT website. In addition, in accordance with Section 6.6(a)(i) of the CAT NMS Plan, in 2018 CAT LLC provided the SEC with "an independent audit of fees, costs, and expenses incurred by the Participants on behalf of the Company prior to the Effective Date of the Plan that will be publicly available." The audit is available on the CAT website.

<sup>25</sup> With respect to certain costs that were "appropriately excluded," such excluded costs relate to the amortization of capitalized technology costs, which are amortized over the life of the Plan Processor Agreement. As such costs have already been otherwise reflected in the filing, their inclusion would double count the capitalized technology costs. In addition, amortization is a non-cash expense.

of the CAT NMS Plan, the evaluation and selection of the initial and successor Plan Processors, the commencement of the creation and implementation of the CAT to comply with Rule 613 and the CAT NMS Plan, including technical specifications for transaction reporting and regulatory access, and related technology and the commencement of reporting to the CAT. The following describes the costs for each of the categories for the Pre-FAM Period.

(a) *Technology Costs – Cloud Hosting Services.*

The \$10,268,840 in technology costs for cloud hosting services represent costs incurred for services provided by the cloud services provider for the CAT, Amazon Web Services, Inc. (“AWS”), during the Pre-FAM Period.

As part of its proposal for acting as the successor Plan Processor for the CAT, FCAT selected AWS as a subcontractor to provide cloud hosting services. In 2019, after reviewing the capabilities of other cloud services providers, FCAT determined that AWS was the only cloud services provider at that time sufficiently mature and capable of providing the full suite of necessary cloud services for the CAT, including, for example, the security, resiliency and complexity necessary for the CAT computing requirements. The use of cloud hosting services is standard for this type of high-volume data activity and reasonable and necessary for implementation of the CAT, particularly given the substantial data volumes associated with the CAT.

Under the Plan Processor Agreement with FCAT, CAT LLC is required to pay FCAT the fees incurred by the Plan Processor for cloud hosting services provided by AWS as FCAT’s subcontractor on a monthly basis for the cloud hosting services, and FCAT, in turn, pays such fees to AWS. The fees for cloud hosting services were negotiated by FCAT on an arm’s length basis with the goals of managing cost and receiving services required to comply with the CAT NMS Plan and Rule 613, taking into consideration a variety of factors, including the expected volume

of data, the breadth of services provided and market rates for similar services. The fees for cloud hosting services during the Pre-FAM Period were paid to FCAT by CAT NMS LLC<sup>26</sup> and subsequently Consolidated Audit Trail, LLC (as previously noted, both entities are referred to generally as “CAT LLC”),<sup>27</sup> and FCAT, in turn, paid AWS. CAT LLC was funded via loan contributions by the Participants.<sup>28</sup>

AWS was engaged by FCAT to provide a broad array of cloud hosting services for the CAT, including data ingestion, data management, and analytic tools. Services provided by AWS include storage services, databases, compute services and other services (such as networking, management tools and DevOps tools). AWS also was engaged to provide various environments for CAT, such as development, performance testing, test and production environments.

The cost for AWS services for the CAT is a function of the volume of CAT Data. The greater the amount of CAT Data, the greater the cost of AWS services to the CAT. During the Pre-FAM Period from the engagement of AWS in February 2019 through June 2020, AWS provided cloud hosting services for volumes of CAT Data far in excess of the volume predictions set forth in the CAT NMS Plan. The CAT NMS Plan states, when all CAT Reporters are submitting their data to the CAT, it “must be sized to receive[,] process and load more than 58 billion records per day,”<sup>29</sup> and that “[i]t is expected that the Central Repository will grow to

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<sup>26</sup> CAT NMS, LLC was formed by FINRA and the U.S. national securities exchanges to implement the requirements of SEC Rule 613 under the Exchange Act. SEC Rule 613 required the SROs to jointly submit to the SEC the CAT NMS Plan to create, implement and maintain the CAT. The SEC approved the CAT NMS Plan on November 15, 2016. CAT NMS Plan Approval Order.

<sup>27</sup> On August 29, 2019, the Participants formed a new Delaware limited liability company named Consolidated Audit Trail, LLC for the purpose of conducting activities related to the CAT from and after the effectiveness of the proposed amendment of the CAT NMS Plan to replace CAT NMS, LLC. *See* Securities Exchange Act Rel. No. 87149 (Sept. 27, 2019), 84 Fed. Reg. 52905 (Oct. 3, 2019).

<sup>28</sup> For each of the costs paid by CAT NMS, LLC and Consolidated Audit Trail, LLC as discussed throughout this filing, CAT NMS, LLC and Consolidated Audit Trail, LLC paid these costs via loan contributions by the Participants to CAT NMS, LLC and Consolidated Audit Trail, LLC, respectively.

<sup>29</sup> Appendix D-4 of the CAT NMS Plan at n.262.

more than 29 petabytes of raw, uncompressed data.”<sup>30</sup> However, the volume of CAT Data for the Pre-FAM Period was far in excess of these predicted levels. By the end of this period, data submitted to the CAT included options and equities Participant Data,<sup>31</sup> Phase 2a and Phase 2b Industry Member Data<sup>32</sup> (including certain linkages), as well as SIP Data,<sup>33</sup> reference data and other types of Other Data.<sup>34</sup> The following chart provides data regarding the average daily volume, cumulative total events, total compute hours and storage footprint of the CAT during the Pre-FAM Period.<sup>35</sup>

	Date Range: 3/29/19 to 4/12/20*	Date Range: 4/13/20 to 6/21/20**
Average Daily Volume in Billions		
Participant - Equities	5	5
Participant - Options	80	981
Industry Member - Equities	-	3
Industry Member - Options	-	0.04
SIP – Options & Equities	64	70
Average Total Daily Volume	149	166
Cumulative Total Events for the Period	3,890	4,990
Total Compute Hours for the Period	N/A <sup>36</sup>	5,663,247

<sup>30</sup> Appendix D-5 of the CAT NMS Plan.

<sup>31</sup> See Section 6.3(d) of the CAT NMS Plan.

<sup>32</sup> See Securities Exchange Rel. No. 88702 (Apr. 20, 2020), 85 Fed. Reg. 23075 (Apr. 24, 2020) (“Phased Reporting Exemptive Relief Order”) for a description of Phase 2a and Phase 2b Industry Member Data.

<sup>33</sup> See Section 6.5(a)(ii) of the CAT NMS Plan.

<sup>34</sup> See Appendix C-108 of the CAT NMS Plan.

<sup>35</sup> Note that the volume data described in this table does not include CAIS data.

<sup>36</sup> Note that, although there were compute hours during this period, data related to such compute hours are no longer available in current data.

Storage Footprint at End of Period (Petabytes)	30.57	47.96
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\* The Participant Equities in RSA format.

\*\* Start of Industry Member reporting on 4/13/2020

(b) *Technology Costs – Operating Fees*

The \$21,085,485 in technology costs related to operating fees represent costs incurred with regard to activities of FCAT as the Plan Processor. Operating fees are those fees paid by CAT LLC to FCAT as the Plan Processor to operate and maintain the CAT and to perform business operations related to the system, including compliance, security, testing, training, communications with the industry (*e.g.*, management of the FINRA CAT Helpdesk, FAQs, website and webinars) and program management as required by the CAT NMS Plan.

FCAT was selected to assume the role of the successor Plan Processor. Prior to this selection, the Participants engaged in discussions with two prior Bidders<sup>37</sup> for the successor Plan Processor role. The Operating Committee formed a Selection Subcommittee in accordance with Section 4.12 of the CAT NMS Plan to evaluate and review Bids and to make a recommendation to the Operating Committee with respect to the selection of the successor Plan Processor. In an April 9, 2019 letter to the Commission, the Participants described the reasons for its selection of the successor Plan Processor:

The Selection Subcommittee considered factors including, but not limited to, the following, in recommending FINRA to the Operating Committee as the successor Plan Processor:

- a. FINRA’s specialized technical expertise and capabilities in the area of broker-dealer technology;

<sup>37</sup>

The term “Bidder” is defined in Section 1.1 of the CAT NMS Plan.

- b. The need to appoint a successor Plan Processor with specialized expertise to develop, implement, and maintain the CAT System in accordance with the CAT NMS Plan and SEC Rule 613;
- c. FINRA's detailed proposal in response to CATLLC's recent inquiries; and
- d. FINRA's data query and analytics systems demonstration to the Participants.

Based on these and other factors, the Selection Subcommittee determined that FINRA was the most appropriate Bidder to become the successor Plan Processor.<sup>38</sup>

On February 26, 2019, the Operating Committee (with FINRA recusing itself) voted to select FINRA as the successor Plan Processor pursuant to Section 6.1(t) of the CAT NMS Plan.<sup>39</sup> On March 29, 2019, CAT LLC and FCAT (a wholly owned subsidiary of FINRA) entered into a Plan Processor Agreement pursuant to which FCAT would perform the functions and duties of the Plan Processor contemplated by the CAT NMS Plan, including the management and operation of the CAT.

Under the Plan Processor Agreement with FCAT, CAT LLC is required to pay FCAT a negotiated monthly fixed price for the operation of the CAT. This fixed price contract was negotiated on an arm's length basis with the goals of managing costs and receiving services required to comply with the CAT NMS Plan and Rule 613, taking into consideration a variety of

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<sup>38</sup> Letter from Michael J. Simon, Chair, CAT NMS, LLC Operating Committee, to Brent J. Fields, Secretary, SEC (Apr. 9, 2019), <https://www.sec.gov/divisions/marketreg/rule613-info-notice-of-plan-processor-selection-040919.pdf>.

<sup>39</sup> *Id.*



factors, including the breadth of services provided and market rates for similar types of activity.

The operating fees during the Pre-FAM Period were paid to FCAT by CAT LLC.

From March 29, 2019 (the commencement of the Plan Processor Agreement with FCAT) through June 22, 2020 (the end of the Pre-FAM Period), the Plan Processor's activities with respect to the CAT included the following:

- Commenced user acceptance testing with market data provided by Exegy Incorporated (“Exegy”), a market data provider;<sup>40</sup>
- Published Technical Specifications and related reporting scenarios documents for Phase 2a, 2b and 2c reporting for Industry Members, after substantial engagement with SEC staff, Industry Members and Participants on the Technical Specifications;
- Facilitated testing for Phase 2a and 2b reporting for Industry Members;
- Began developing Technical Specifications and related reporting scenarios documents for Phase 2d reporting for Industry Members, after substantial engagement with SEC staff, Industry Members and Participants on the Technical Specifications;
- Published Central Repository Access Technical Specifications, and provided regulator access to test data from Industry Members;
- Facilitated Participant exchanges that support options market makers sending Quote Sent Time to the CAT;
- Facilitated the introduction of OPRA and Options NBBO Other Data to CAT;
- Addressed compliance items, including drafting CAT policies and procedures, and addressing requirements under Regulation SCI;

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<sup>40</sup> The use of Exegy to provide market data, including the costs and market data provided, is discussed below in Section 3(a)(2)(B)(i)(i).

- Provided support to the Operating Committee, the Compliance Subcommittee and CAT working groups;
- Assisted with interpretive efforts and exemptive requests regarding the CAT NMS Plan;
- Oversaw the security of the CAT;
- Monitored the operation of the CAT, including with regard to Participant and Industry Member reporting;
- Provided support to subcontractors under the Plan Processor Agreement;
- Provided support in discussions with Participants, SEC and its staff;
- Operated the FINRA CAT Helpdesk, which is the primary source for answers to questions about CAT, including questions regarding: clock synchronization, firm reporting responsibilities, interpretive questions, technical specifications for reporting to CAT and more;
- Facilitated communications with the industry, including via FAQs, CAT Alerts, meetings, presentations and webinars;
- Administered the CAT website and all of its content;<sup>41</sup> and
- Provided technical support and assistance with connectivity, data access, and user support, including the use of CAT Data and query tools, for Participants and the SEC staff.

*(c) Technology Costs – CAIS Operating Fees*

The \$2,072,908 in technology costs related to CAIS operating fees represent the fees paid for FCAT’s subcontractor charged with the development and operation of CAT’s Customer and Account Information System (“CAIS”). The CAT is required under the CAT NMS Plan to

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<sup>41</sup> The CAT website is <https://www.catnmsplan.com>.

capture and store Customer Identifying Information and Customer Account Information in a database separate from the transactional database and to create a CAT-Customer-ID for each Customer.

During the Pre-FAM Period, the CAIS-related services were provided by the Plan Processor through the Plan Processor's subcontractor, Kingland Systems Incorporation ("Kingland"). Kingland had experience operating in the securities regulatory technology space, and as a part of its proposal for acting as the Plan Processor for the CAT, FCAT selected Kingland as a subcontractor to provide certain CAIS-related services.

Under the Plan Processor Agreement with FCAT, CAT LLC is required to pay to the Plan Processor the fees incurred by the FCAT for CAIS-related services provided by FCAT through Kingland on a monthly basis. FCAT negotiated the fees for Kingland's CAIS-related services on an arm's length basis with the goals of managing costs and receiving services required to comply with the CAT NMS Plan, taking into consideration a variety of factors, including the services to be provided and market rates for similar types of activity. The fees for CAIS-related services during the Pre-FAM Period were paid by CAT LLC to FCAT. FCAT, in turn, paid Kingland.

During the Pre-FAM Period, Kingland began development of the CAIS Technical Specifications and the building of CAIS. In addition, Kingland also worked on the build related to the CCID Alternative, an alternative approach to customer information that was not included in the CAT NMS Plan as originally adopted.<sup>42</sup> Furthermore, Kingland also worked on the

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<sup>42</sup> For a discussion of the CCID Alternative, *see* Securities Exchange Act Rel. No. 88393 (Mar. 17, 2020), 85 Fed. Reg. 16152 (Mar. 20, 2020).

acceleration of the reporting of large trader identifiers (“LTID”) earlier than originally contemplated during this period, in accordance with exemptive relief granted by the SEC.<sup>43</sup>

*(d) Technology Costs – Change Request Fees*

The technology costs related to change request fees include costs related to certain modifications, upgrades or other changes to the CAT. Change requests are standard practice and necessary to reflect operational changes, including changes related to new market developments, such as new market participants. In general, if CAT LLC determines that a modification, upgrade or other changes to the functionality or service is necessary and appropriate, CAT LLC will submit a request for such a change to the Plan Processor. The Plan Processor will then respond to the request with a proposal for implementing the change, including the cost (if any) of such a change. CAT LLC then determines whether to approve the proposed change. The change request costs were paid by CAT LLC to FCAT. During the Pre-FAM Period, CAT LLC incurred costs of \$141,346 related to change requests implemented by FCAT. Such change requests related to a development fee regarding the OPRA and SIP data feeds, and the reprocessing of certain exchange data.<sup>44</sup>

*(e) Technology Costs – Capitalized Developed Technology Costs*

This category of costs includes capitalizable application development costs incurred in the development of the CAT. The capitalized developed technology costs for the Pre-FAM Period of \$71,475,941 relate to technology provided by the Initial Plan Processor and the successor Plan Processor.

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<sup>43</sup> Phased Reporting Exemptive Relief Order at 23079-80.

<sup>44</sup> Note that CAT LLC also has incurred costs related to specific Industry Members (*e.g.*, reprocessing costs related to Industry Member reporting errors).

*Initial Plan Processor: Thesys CAT, LLC.* The capitalized developed technology costs related to the Initial Plan Processor include costs incurred with regard to testing for Participant reporting, Participant reporting to the CAT, a security assessment of the CAT, the development of the billing function for the CAT, and a Plan Processor transition fee.

On January 17, 2017, the Selection Committee of the CAT NMS Plan selected the Initial Plan Processor, Thesys Technologies, LLC, for the CAT NMS Plan pursuant to Article V of the CAT NMS Plan.<sup>45</sup> The Participants utilized a request for proposal (“RFP”) to seek proposals to build and operate the CAT, receiving a number of proposals in response to the RFP. The Participants carefully reviewed and considered each of the proposals, including holding in-person meetings with each of the Bidders. After several rounds of review, the Participants selected the Initial Plan Processor in accordance with the CAT NMS Plan, taking into consideration that the Initial Plan Processor had experience operating in the securities regulatory technology space, among other considerations. On April 6, 2017, CAT LLC entered into an agreement with Thesys CAT LLC (“Thesys CAT”), a Thesys affiliate, to perform the functions and duties of the Plan Processor contemplated by the CAT NMS Plan, including the management and operation of the CAT. Under the agreement, CAT LLC would pay Thesys CAT a negotiated, fixed price fee for its role as the Initial Plan Processor. Effective January 30, 2019, the Plan Processor Agreement with Thesys CAT was terminated, and FCAT was subsequently selected as the successor Plan Processor.

From January 17, 2017 through January 30, 2019, the time in which the Thesys CAT was engaged for the CAT, but excluding the period from November 15, 2017 through November 15, 2018, the Initial Plan Processor engaged in various activities with respect to the CAT, including

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<sup>45</sup> Letter from the Participants to Brent J. Fields, Secretary, SEC (Jan. 18, 2017), <https://www.sec.gov/divisions/marketreg/rule613-info-notice-of-plan-processor-selection.pdf>.

preparing iterative drafts of Participant Technical Specifications, Industry Member Technical Specifications and the Central Repository Access Technical Specifications. Thesys CAT initiated and maintained the Participant reporting per the Participant Technical Specifications. In addition, Thesys CAT also developed CAT technology, addressed compliance items, including drafting CAT policies and procedures, addressing Regulation SCI requirements, establishing a CAT Compliance Officer and a Chief Information Security Officer, and addressed security-related matters for the CAT. Furthermore, Thesys CAT performed transition services related to the transition from Thesys CAT to FCAT as the successor Plan Processor from January 30, 2019 through April 15, 2019.

*Successor Plan Processor: FCAT.* The capitalized developed technology costs related to FCAT include: (1) development costs incurred during the application development stage to meet various agreed-upon milestones regarding the CAT, including the completion of go-live functionality related to options ingestion and validation, equities regulatory services agreement query tool updates and unlinked options data query, options linkages release, Industry Member Phase 2a file submission and data integrity (including error corrections), and Industry Member testing, including reporting relationships, ATS order type management, basic reporting statistics, SFTP data integrity feedback and error correction; (2) costs related to certain modifications, upgrades, or other changes to the CAT that were not contemplated by the agreement between CAT LLC and the Plan Processor, including a one-time development fee for a secure analytics workspace, a one-time development fee of an Industry Member connectivity solution, and a one-time development fee for the acceleration of multi-factor authentication; (3) CAIS implementation fees; and (4) license fees.

(f) *Legal Costs*

The legal costs of \$19,674,463 represent the fees paid for legal services provided by two law firms, Wilmer Cutler Pickering Hale and Dorr LLP (“WilmerHale”) and Pillsbury Winthrop Shaw Pittman LLP (“Pillsbury”), during the Pre-FAM Period. The legal costs exclude those costs incurred from November 15, 2017 through November 15, 2018.

*Law Firm: WilmerHale.* Following the adoption of Rule 613, the Participants determined it was necessary to engage external legal counsel to advise the Participants with respect to corporate and regulatory legal matters related to the CAT, including drafting and developing the CAT NMS Plan. The Participants considered a variety of factors in their analysis of prospective law firms, including (1) the firm’s qualifications, resources and expertise, (2) the firm’s relevant experience and understanding of the regulatory matters raised by the CAT and in advising on matters of similar scope, (3) the composition of the legal team, and (4) professional fees. Following a series of interviews, the Participants acting as a consortium determined that WilmerHale was well qualified given the balance of these considerations and engaged WilmerHale in February 2013.

WilmerHale’s billing rates are negotiated on an annual basis and are determined with reference to the rates charged by other leading law firms for similar work. The Participants assess WilmerHale’s performance and review prospective budgets and staffing plans submitted by WilmerHale on an annual basis. WilmerHale’s compensation arrangements are reasonable and appropriate, and in line with the rates charged by other leading law firms for similar work.

The legal costs for WilmerHale during the Pre-FAM Period included costs incurred from 2013 until June 22, 2020 to address corporate and regulatory legal matters related to the CAT. The legal fees for this law firm during the period from February 2013 until the formation of the CAT NMS, LLC on November 15, 2016 were paid directly by the exchanges and FINRA to

WilmerHale. After the formation of CAT NMS LLC, the legal fees were paid by CAT LLC to WilmerHale.

After WilmerHale was engaged in 2013 through the end of the Pre-FAM Period on June 22, 2020 (excluding the legal costs from November 15, 2017 through November 15, 2018), WilmerHale provided legal assistance to the CAT on a variety of matters, including with regard to the following:

- Analyzed various legal matters associated with the Selection Plan, and drafted an amendment to Selection Plan;
- Assisted with the RFP and bidding process for the CAT Plan Processor;
- Analyzed legal matters related to the Development Advisory Group (“DAG”);
- Drafted the CAT NMS Plan, analyzed various items related to the CAT NMS Plan, and responded to comment letters on CAT NMS Plan;
- Provided legal support for the formation of the legal entity, the governance of the CAT, including governance support prior to the adoption of the CAT NMS Plan, which involved support for the full committee of exchanges and FINRA as well as subcommittees of this group (*e.g.*, Joint Subcommittee Group, Technical, Industry Outreach, Cost and Funding and Other Products) and the DAG, governance support during the transition to the new governance structure under the CAT NMS Plan; and governance support after the adoption of the CAT NMS Plan, which involved support for the Operating Committee, Advisory Committee, Compliance Subcommittee and CAT working groups;
- Assisted with the development of the CAT funding model and drafted related amendments of the CAT NMS Plan and related filings;



- Negotiated and drafted the plan processor agreements with the Initial Plan Processor and the successor Plan Processor;
- Provided assistance with compliance with Regulation SCI;
- Assisted with clock synchronization study;
- Provided assistance with respect to the establishment of CAT security;
- Drafted exemptive requests from CAT NMS Plan requirements, including with regard to options market maker quotes, Customer IDs, CAT Reporter IDs, linking allocations to executions, CAT reporting timeline, FDIDs, customer and account information, timestamp granularity, small industry members, data facility reporting and linkage, allocation reports, SRO-assigned market participant identifiers and cancelled trade indicators, thereby seeking to implement changes that would be cost effective and benefit Industry Members and Participants;
- Assisted with the Implementation Plan required pursuant to Section 6.6(c)(i) of the CAT NMS Plan;
- Provided advice regarding CAT policies and procedures;
- Analyzed the SEC's amendment of the CAT NMS Plan regarding financial accountability;
- Provided interpretations of and related to the CAT NMS Plan;
- Provided support with regard to discussions with the SEC and its staff, including with respect to addressing interpretive and implementation issues; and
- Assisted with third party vendor agreements.

*Law Firm: Pillsbury.* The legal costs for CAT during the Pre-FAM Period include costs related to the legal services performed by Pillsbury. The Participants interviewed this law firm as well as other potential law firms to provide legal assistance regarding certain liability matters.

After considering a variety of factors in its analysis, including the relevant expertise and fees of the firm, CAT LLC determined to hire Pillsbury in April 2019. The hourly fee rates for this law firm were in line with market rates for specialized legal expertise. The legal fees were paid by CAT LLC to Pillsbury. The legal costs for Pillsbury during the Pre-FAM Period included costs incurred from April 2019 until June 22, 2020 to address legal matters regarding the agreements between CAT Reporters and CAT LLC concerning certain terms associated with CAT Reporting (the “Reporter Agreement”). During that period, Pillsbury advised CAT LLC regarding applicable legal matters, participated in negotiations between the Participants and Industry Members, participated in meetings with senior SEC staff, the Chairman, and Commissioners, represented CAT LLC and the Participants in an SEC administrative proceeding, and drafted a proposed amendment to the CAT NMS Plan regarding liability matters. Liability issues related to the CAT are important matters that needed to be resolved and clarified. CAT LLC’s efforts to seek such resolution and clarity work to the benefit of Participants, Industry Members and other market participants. Moreover, litigation involving CAT LLC is an expense of operating the CAT, and, therefore, is appropriately an obligation of both Participants and Industry Members under the CAT Funding Model.

*(g) Consulting Costs*

The consulting costs of \$17,013,414 represent the fees paid to the consulting firm Deloitte & Touche LLP (“Deloitte”) as project manager during the Pre-FAM Period, from October 2012 until June 22, 2020. These consulting costs include costs for advisory services related to the operation of the CAT, and meeting facilitation and communications coordination, vendor support and financial analyses.

To help facilitate project management given the unprecedented complexity and scope of the CAT project, the Participants determined it was necessary to engage a consulting firm to

assist with the CAT project in 2012, following the adoption of Rule 613. A variety of factors were considered in the analysis of prospective consulting firms, including (1) the firm's qualifications, resources, and expertise, (2) the firm's relevant experience and understanding of the regulatory issues raised by the CAT and in coordinating matters of similar scope, (3) the composition of the consulting team, and (4) professional fees. Following a series of interviews, the exchanges and FINRA as a consortium determined that Deloitte was well qualified given the balance of these considerations and engaged Deloitte on October 1, 2012.

Deloitte's fee rates are negotiated on an annual basis and are in line with market rates for this type of specialized consulting work. CAT LLC assesses Deloitte's performance and reviews prospective budgets and staffing plans submitted by Deloitte on an annual basis. Deloitte's compensation arrangements are reasonable and appropriate, and in line with the rates charged by other leading consulting firms for similar work.

The consulting costs for CAT during the period from 2012 until the formation of the CAT NMS, LLC were paid directly by the Participants to Deloitte. After the formation of CAT NMS, LLC, the consulting fees were paid by CAT LLC to Deloitte. CAT LLC reviewed the consulting fees each month and approved the invoices.

After Deloitte was hired in 2012 through the end of the Pre-FAM Period on June 22, 2020 (excluding the consulting costs from November 15, 2017 through November 15, 2018), Deloitte provided a variety of consulting services, including the following:

- Established and implemented program operations for the CAT project, including the program management office and workstream design;
- Assisted with the Plan Processor selection process, including but not limited to, the development of the RFP and the bidder evaluation process, and facilitation and consolidation of the Participant's independent reviews;

- Assisted with the development and drafting of the CAT NMS Plan, including conducting cost-benefit studies, analyzing OATS and CAT requirements, and drafting appendices to the Plan;
- Assisted with cost and funding-related activities for the CAT, including the development of the CAT funding model and assistance with loans and the CAT bank account for CAT funding;
- Provided governance support to the CAT, including governance support prior to the adoption of the CAT NMS Plan, which involved support for the full committee of exchanges and FINRA as well as subcommittees of this group (*e.g.*, Joint Subcommittee Group, Technical, Industry Outreach, Cost and Funding and Other Products) and the DAG, governance support during the transition to the new governance structure under the CAT NMS Plan and governance support after the adoption of the CAT NMS Plan, which involved support for the Operating Committee, Advisory Committee, Compliance Subcommittee and CAT working groups;
- Provided support to the Operating Committee, the Chair of the Operating Committee and the Leadership Team, including project management support, coordination and planning for meetings and communications, and interfacing with law firms and the SEC;
- Assisted with industry outreach and communications regarding the CAT, including assistance with industry outreach events, the development of the CAT website, frequently asked questions, and coordinating with the CAT LLC's public relations firm;
- Provided support for updating the SEC on the progress of the development of the CAT;
- Provided active planning and coordination with and support for the Initial Plan Processor with regard to the development of the CAT, and reported to the Participants on the progress;

- Coordinated efforts regarding the selection of the successor Plan Processor;
- Assisted with the transition from the Initial Plan Processor to the successor Plan Processor, including support for the Operating Committee and successor Plan Processor for the new role; and
- Provided support for third party vendors for the CAT, including FCAT, Anchin and the law firms engaged by CAT LLC.

*(h) Insurance*

The insurance costs of \$880,419 represent the cost incurred for insurance for CAT during the Pre-FAM Period. Commencing in 2020, CAT LLC performed an evaluation of various potential alternatives for CAT insurance policies, which included engaging in discussions with different insurance companies and conducting cost comparisons of various alternative approaches to insurance. Based on an analysis of a variety of factors, including coverage and premiums, CAT LLC determined to purchase cyber security liability insurance, directors' and officers' liability insurance, and errors and omissions liability insurance from USI Insurance Services LLC ("USI"). Such policies are standard for corporate entities, and cyber security liability insurance is important for the CAT System. The annual premiums for these policies were competitive for the coverage provided. The annual premiums were paid by CAT LLC to USI.

*(i) Professional and Administration Costs*

In adopting the CAT NMS Plan, the Commission amended the Plan to add a requirement that CAT LLC's financial statements be prepared in compliance with GAAP, audited by an independent public accounting firm, and made publicly available.<sup>46</sup> The professional and

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<sup>46</sup> Section 9.2 of the CAT NMS Plan.

administration costs include costs related to accounting and accounting advisory services to support the operating and financial functions of CAT, financial statement audit services by an independent accounting firm, preparation of tax returns, and various cash management and treasury functions. In addition, professional and administration costs for the Pre-FAM Period include costs related to the receipt of market data and a security assessment. The costs for these professional and administration services were \$1,082,036 for the Pre-FAM Period.

*Financial Advisory Firm: Anchin Accountants & Advisors (“Anchin”).* CAT LLC determined to hire a financial advisory firm, Anchin, to assist with financial matters for the CAT in April 2018. CAT LLC interviewed Anchin as well as other potential financial advisory firms to assist with the CAT project, considering a variety of factors in its analysis, including the firm’s relevant expertise and fees. The hourly fee rates for this firm were in line with market rates for these financial advisory services. The fees for these services were paid by CAT LLC to Anchin.

After Anchin was hired in April 2018 through the end of the Pre-FAM Period on June 22, 2020 (excluding the period from April 2018 through November 15, 2018), Anchin provided a variety of services, including the following:

- Developed, updated and maintained internal controls;
- Provided cash management and treasury functions;
- Facilitated bill payments;
- Provided monthly bookkeeping;
- Reviewed vendor invoices and documentation in support of cash disbursements;
- Provided accounting research and consultations on various accounting, financial reporting and tax matters;
- Addressed not-for-profit tax and accounting considerations;

- Prepared tax returns;
- Addressed various accounting, financial and operating inquiries from Participants;
- Developed and maintained quarterly and annual operating and financial budgets, including budget to actual fluctuation analyses;
- Addressed accounting and financial reporting matters relating to the transition from CAT NMS, LLC to Consolidated Audit Trail, LLC, including supporting the dissolution of CAT NMS, LLC;
- Supported compliance with the CAT NMS Plan;
- Worked with and provided support to the Operating Committee and various CAT working groups;
- Prepared monthly, quarterly and annual financial statements;
- Supported the annual financial statement audits by an independent auditor;
- Reviewed historical costs from inception; and
- Provided accounting and financial information in support of SEC filings.

*Accounting Firm: Grant Thornton LLP (“Grant Thornton”).* In February 2020, CAT LLC determined to engage an independent accounting firm, Grant Thornton, to complete the audit of CAT LLC’s financial statements, in accordance with the requirements of the CAT NMS Plan. CAT LLC interviewed this firm as well as another potential accounting firm to audit CAT LLC’s financial statements, considering a variety of factors in its analysis, including the relevant expertise and fees of each of the firms. CAT LLC determined that Grant Thornton was well-qualified for the proposed role given the balance of these considerations. Grant Thornton’s fixed fee rate compensation arrangement was reasonable and appropriate, and in line with the market rates charged for these types of accounting services. The fees for these services were paid by CAT LLC to Grant Thornton.

*Market Data Provider: Exegy.* The professional and administrative costs for the Pre-FAM Period included costs related to the receipt of certain market data for the CAT pursuant to an agreement with the CAT LLC, and then with FCAT. Exegy provided SIP Data required by the CAT NMS Plan.

After performing an analysis of the available market data vendors to confirm that the data provided met the SIP Data requirements of the CAT NMS Plan and comparing the costs of the vendors providing the required SIP Data, CAT LLC determined to purchase market data from Exegy from July 2018 through March 2019. CAT LLC determined that, unlike certain other vendors, Exegy provided market data that included all data elements required by the CAT NMS Plan.<sup>47</sup> In addition, the fees were reasonable and in line with market rates for the market data received. Accordingly, the professional and administrative costs for the Pre-FAM Period include the Exegy costs from November 2018 through March 2019. The cost of the market data was reasonable for the market data received. The fees for the market data were paid directly by CAT LLC to Exegy.

Upon the termination of the contract between CAT LLC and Exegy, FCAT entered into a contract with Exegy to purchase the required market data from Exegy in July 2019. All costs under the contract were treated as a direct pass through cost to CAT LLC. Therefore, the fees for the market data were paid by CAT LLC to FCAT, who, in turn, paid Exegy for the market data.

*Security Assessment: RSM US LLP (“RSM”).* The operating costs for the Pre-FAM Period include costs related to a third party security assessment of the CAT performed by RSM. The assessment was designed to verify and validate the effective design, implementation, and operation of the controls specified by NIST Special Publication 800-53, Revision 4 and related

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<sup>47</sup> See Section 6.5(a)(ii) of the CAT NMS Plan.



standards and guidelines. Such a security assessment is in line with industry practice and important given the data included in the CAT. CAT LLC determined to engage RSM to perform the security assessment, after considering a variety of factors in its analysis, including the firm's relevant expertise and fees. The fees were reasonable and in line with market rates for such an assessment. RSM performed the assessment from October 2018 through December 2018. Accordingly, the costs for the Pre-FAM Period include the costs incurred in November and December 2018. The cost for the security assessment were paid directly to RSM by CAT LLC.

*(j) Public Relations Costs*

The public relations costs of \$224,669 represent the fees paid to public relations firms during the Pre-FAM Period for professional communications services to CAT, including media relations consulting, strategy and execution. By engaging a public relations firm, CAT LLC was better positioned to understand and address CAT matters to the benefit of all market participants. Specifically, the public relations firms provided services related to communications with the public regarding the CAT, including monitoring developments related to the CAT (*e.g.*, congressional efforts, public comments and reaction to proposals, press coverage of the CAT), reporting such developments to CAT LLC, and drafting and disseminating communications to the public regarding such developments as well as reporting on developments related to the CAT (*e.g.*, amendments to the CAT NMS Plan). Public relations services were important for various reasons, including monitoring comments made by market participants about CAT and understanding issues related to the CAT discussed on the public record.

The services performed by each of the public relations firms were comparable. The fees for such services were reasonable and in line with market rates. Only one public relations firm was engaged at a time; the three firms were engaged sequentially as the primary public relations contact moved among the three firms during this time period.

*Public Relations Firm: Peppercomm, Inc. (“Peppercomm”).* The national securities exchanges and FINRA, acting as a consortium, determined to hire the public relations firm Peppercomm in October 2014 and continued to engage this firm through September 2017. The exchanges and FINRA made this engagement decision after considering a variety of factors in its analysis, including the firm’s relevant expertise and fees. The fee rates for this public relations firm were negotiated on an arm’s length basis and were in line with market rates for these types of services. The public relations costs during the period from October 2014 until the formation of the CAT NMS LLC were paid directly by the exchanges and FINRA to the public relations firm. After the formation of CAT NMS, LLC, the consulting fees were paid by CAT LLC.

*Public Relations Firm: Sloane & Company (“Sloane”).* CAT LLC determined to hire a new public relations firm, Sloane, in March 2018, based on, among other things, their expertise and the primary contact’s history with the project. The fee rates for this public relations firm were in line with market rates for these types of services. The fees during the Pre-FAM Period were paid by CAT LLC to Sloane. CAT LLC continued the engagement with Sloane until February 2020.

*Public Relations Firm: Peak Strategies.* CAT LLC determined to hire a new public relations firm, Peak Strategies, in March 2020, based on, among other things, their expertise and the primary contact’s history with the project. The fee rates for this public relations firm were in line with market rates for these types of services. The fees during the Pre-FAM Period were paid by CAT LLC to Peak Strategies.

**(ii) Historical CAT Costs Incurred in Financial  
Accountability Milestone Period 1**

Historical CAT Costs 1 would include costs incurred by CAT and already funded by the Participants during Period 1 of the Financial Accountability Milestones (“FAM Period 1”),<sup>48</sup> which covers the period from June 22, 2020 – July 31, 2020. Historical CAT Costs 1 would include costs for FAM Period 1 of \$6,377,343. The Participants would remain responsible for one-third of this cost (which they have previously paid) (\$2,125,781), and Industry Members would be responsible for the remaining two-thirds, with CEBBs paying one-third (\$2,125,781) and CEBSs paying one-third (\$2,125,781). The following table breaks down Historical CAT Costs 1 for FAM Period 1 into the categories set forth in Section 11.3(b)(iii)(B)(II) of the CAT NMS Plan.

<b>Operating Expense</b>	<b>Historical CAT Costs for FAM Period 1<sup>49</sup></b>
Capitalized Developed Technology Costs*	\$1,684,870
<b><i>Technology Costs:</i></b>	<b>\$3,996,800</b>
Cloud Hosting Services	\$2,642,122
Operating Fees	\$1,099,680
CAIS Operating Fees	\$254,998
Change Request Fees	-
Legal	\$481,687
Consulting	\$137,209
Insurance	-
Professional and administration	\$69,077
Public relations	\$7,700
<b>Total Operating Expenses</b>	<b>\$6,377,343</b>

\* The non-cash amortization of these capitalized developed technology costs of \$362,121 incurred during FAM Period 1 have been appropriately excluded from the above table.<sup>50</sup>

<sup>48</sup> Section 11.6(a)(i)(A) of the CAT NMS Plan.

<sup>49</sup> The costs described in this table of costs for FAM Period 1 were calculated based upon CAT LLC’s review of applicable bills and invoices and related financial statements. CAT LLC financial statements are available on the CAT website.

<sup>50</sup> As discussed above, with respect to certain costs that were “appropriately excluded,” such excluded costs relate to the amortization of capitalized technology costs, which are amortized over the life of the Plan

By the completion of FAM Period 1, CAT LLC was required to implement the reporting by Industry Members (excluding Small Industry Members that are not OATS reporters) of equities transaction data and options transaction data, excluding Customer Account Information, Customer-ID and Customer Identifying Information.<sup>51</sup> CAT LLC completed the requirements of FAM Period 1 by July 31, 2020. The following describes the costs for each of the categories for FAM Period 1.

(a) *Technology Costs – Cloud Hosting Services*

CAT LLC continued to utilize AWS in FAM Period 1 to provide a broad array of cloud hosting services for the CAT, including data ingestion, data management, and analytic tools. AWS continued to provide storage services, databases, compute services and other services (such as networking, management tools and DevOps tools), as well as various environments for CAT, such as development, performance testing, test, and production environments, during the FAM 1 Period. Accordingly, the \$2,642,122 in technology costs for cloud hosting services represent costs incurred for services provided by AWS, as the cloud services provider, during FAM Period 1. The fee arrangement for AWS described above with regard to the Pre-FAM Period continued in place during FAM Period 1 pursuant to the Plan Processor Agreement. Moreover, CAT LLC continued to believe that AWS's maturity in the cloud services space as well as the significant cost and time necessary to move the CAT to a different cloud services provider supported the continued engagement of AWS.

The cost for AWS cloud services for the CAT continued to be a function of the volume of CAT Data. During the FAM 1 Period, the volume of CAT Data continued to far exceed the

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Processor Agreement. As such costs have already been otherwise reflected in the filing, their inclusion would double count the capitalized technology costs. In addition, amortization is a non-cash expense.

<sup>51</sup> See definition of "Initial Industry Member Core Equity and Options Reporting" in Section 1.1 of the CAT NMS Plan.

original predictions for the CAT as set forth in the CAT NMS Plan. During this period, data submitted to the CAT included options and equities Participant Data, Phase 2a and Phase 2b Industry Member Data (including certain linkages) as well as SIP Data, reference data and other types of Other Data. The following chart provides data regarding the average daily volume, cumulative total events, total compute hours and storage footprint of the CAT during FAM Period 1.<sup>52</sup>

Date Range: 6/22/20-7/31/20

Average Daily Volume in Billions	
Participant - Equities	6
Participant - Options	103
Industry Member - Equities	7
Industry Member - Options	0.31
SIP – Options & Equities	74
Average Total Daily Volume	185
Cumulative Total Events for the Period	5,190
Total Compute Hours for the Period	2,612,082
Storage Footprint at End of Period (Petabytes)	57.47

*(b) Technology Costs – Operating Fees*

Pursuant to the Plan Processor Agreement discussed above, FCAT continued in its role as the Plan Processor for the CAT during FAM Period 1. Accordingly, the \$1,099,680 in technology costs for operating fees represent costs incurred for the services provided by FCAT

<sup>52</sup> Note that the volume data described in this table does not include CAIS data.

under the Plan Processor Agreement during FAM Period 1. The fee arrangement for FCAT described above with regard to the Pre-FAM Period continued in place during FAM Period 1 pursuant to the Plan Processor Agreement. During FAM Period 1, FCAT's activities with respect to the CAT included the following:

- Published iterative drafts of draft Technical Specifications for Phase 2d, after substantial engagement with SEC staff, Industry Members and Participants on the Technical Specifications;
- Published iterative drafts of CAIS Technical Specifications, after substantial engagement with SEC staff, Industry Members and Participants on the Technical Specifications;
- Facilitated Industry Member reporting of Quote Sent Time on Options Market Maker quotes;
- Addressed compliance items, including drafting CAT policies and procedures, and addressing Regulation SCI requirements;
- Provided support to the Operating Committee, the Compliance Subcommittee and CAT working groups;
- Assisted with interpretive efforts and exemptive requests regarding the CAT NMS Plan;
- Oversaw the security of the CAT;
- Monitored the operation of the CAT, including with regard to Participant and Industry Member reporting;
- Provided support to subcontractors under the Plan Processor Agreement;
- Provided support in discussions with Participants and the SEC and its staff;
- Operated the FINRA CAT Helpdesk;
- Facilitated communications with the industry, including via FAQs, CAT Alerts, meetings, presentations and webinars;

- Administered the CAT website and all of its content; and
- Provided technical support and assistance with connectivity, data access, and user support, including the use of CAT Data and query tools, for Participants and the SEC staff.

*(c) Technology Costs – CAIS Operating Fees*

Pursuant to the Plan Processor Agreement discussed above, Kingland continued in its role as a subcontractor for the development and implementation of CAIS during FAM Period 1. Accordingly, the \$254,998 in technology costs for CAIS operating fees represent costs incurred for services provided by Kingland during FAM Period 1. The fee arrangement for Kingland described above with regard to the Pre-FAM Period continued in place during FAM Period 1 pursuant to the Plan Processor Agreement. During FAM Period 1, Kingland continued the development of the CAIS Technical Specifications and building of CAIS. In addition, Kingland continued to work on the CAIS Technical Specifications and build related to CCID Alternative, as well as the acceleration of the reporting of LTIDs.

*(d) Technology Costs – Change Request Fees*

CAT LLC did not incur costs related to change requests during FAM Period 1.

*(e) Technology Costs – Capitalized Developed Technology Costs*

Capitalized developed technology costs for FAM Period 1 of \$1,684,870 include capitalizable application development costs incurred in the development of the CAT by FCAT. Such costs include: (1) costs related to certain modifications, upgrades, or other changes to the CAT that were not contemplated by the agreement between CAT LLC and the Plan Processor, including separate production and industry test entitlements, and reprocessing of exchange event timestamps; (2) implementation fees; and (3) license fees.

*(f) Legal Costs*

The legal costs of \$481,687 represent the fees paid for legal services provided by two law firms, WilmerHale and Pillsbury during FAM Period 1.

*Law Firm: WilmerHale.* CAT LLC continued to employ WilmerHale during FAM Period 1 based on, among other things, their expertise and long history with the project. The hourly fee rates for this law firm were in line with market rates for specialized legal expertise. The legal fees during FAM Period 1 were paid by CAT LLC to WilmerHale. During FAM Period 1, WilmerHale provided legal assistance to the CAT including with regard to the following:

- Assisted with the development of the CAT funding model and drafted related amendments and fee filings;
- Drafted exemptive requests from CAT NMS Plan requirements regarding, for example, verbal activity, options market maker quote sent time, TRF linkages, and allocations;
- Provided interpretations related to CAT NMS Plan requirements, including the Financial Accountability Milestone amendment;
- Assisted with compliance with Regulation SCI;
- Provided support for the Operating Committee, Compliance Subcommittee, working groups and Leadership Team, including with regard to meetings with the SEC staff;
- Assisted with the drafting of the Implementation Plan required pursuant to Section 6.6(c)(i) of the CAT NMS Plan;
- Assisted with communications and presentations for the industry regarding CAIS;
- Drafted SRO rule filings related to the CAT Compliance Rule;
- Provided support for Compliance Subcommittee, including with regard to response to OCIE examinations and the annual assessment;
- Provided guidance regarding CAT technical specifications;



- Assisted with third party vendor agreements; and
- Provided support with regard to discussions with the SEC and its staff, including with respect to addressing interpretive and implementation issues.

*Law Firm: Pillsbury.* CAT LLC continued to employ Pillsbury during FAM Period 1 based on, among other things, their expertise and history with the project. The hourly fee rates for this law firm were in line with market rates for specialized legal expertise. The legal fees during FAM Period 1 were paid by CAT LLC to Pillsbury. During FAM Period 1, Pillsbury provided legal assistance to the CAT regarding the CAT Reporter Agreement. During that period, Pillsbury advised CAT LLC regarding applicable legal matters and drafted a proposed amendment to the CAT NMS Plan regarding liability matters. Liability issues related to the CAT are important matters that needed to be resolved and clarified. CAT LLC's efforts to seek such resolution and clarity work to the benefit of Participants, Industry Members and other market participants.

(g) *Consulting Costs*

The consulting costs of \$137,209 represent the fees paid to Deloitte as project manager during FAM Period 1. CAT LLC continued to employ Deloitte during FAM Period 1 based on, among other things, their expertise and cumulative experience with the CAT. The fee rates for Deloitte during FAM Period 1 were negotiated and in line with market rates for this type of specialized consulting work. The consulting fees during FAM Period 1 were paid by CAT LLC to the consulting firm. CAT LLC reviewed the consulting fees each month and approved the invoices. During FAM Period 1, Deloitte's CAT-related activities included the following:

- Implemented program operations for the CAT project;

- Provided support to the Operating Committee, the Chair of the Operating Committee and the Leadership Team, including project management support, coordination and planning for meetings and communications, and interfacing with law firms and the SEC;
- Assisted with cost and funding matters for the CAT, including the development of the CAT funding model and assistance with loans and the CAT bank account for CAT funding;
- Provided support for updating the SEC on the progress of the development of the CAT;
- Assisted with the transition from the Initial Plan Processor to the successor Plan Processor; and
- Provided support for third party vendors for the CAT, including FCAT, Anchin and the law firms engaged by CAT LLC.

*(h) Insurance*

Although insurance was in effect during FAM Period 1, CAT LLC did not incur costs related to insurance during FAM Period 1.

*(i) Professional and Administration Costs*

*Financial Advisory Firm: Anchin.* The professional and administration costs of \$69,077 represent the fees paid to Anchin during FAM Period 1. CAT LLC continued to employ Anchin during FAM Period 1 based on, among other things, their expertise and history with the project. The hourly fee rates for this firm were in line with market rates for these type of financial advisory services. The fees for these services during FAM Period 1 were paid by CAT LLC to Anchin. During FAM Period 1, Anchin provided a variety of services, including the following:

- Maintained internal controls;
- Provided cash management and treasury functions;
- Facilitated bill payments;

- Provided monthly bookkeeping;
- Reviewed vendor invoices and documentation in support of cash disbursements;
- Provided accounting research and consultations on various accounting, financial reporting and tax matters;
- Addressed various accounting, financial reporting and operating inquiries from Participants;
- Developed and maintained quarterly and annual operating and financial budgets, including budget to actual fluctuation analyses;
- Supported compliance with the CAT NMS Plan;
- Worked with and provided support to the Operating Committee and various CAT working groups; and
- Prepared monthly and quarterly financial statements.

*(j) Public Relations Costs*

The public relations costs of \$7,700 represent the fees paid to Peak Strategies during FAM Period 1. CAT LLC continued to employ Peak Strategies during FAM Period 1 based on, among other things, their expertise and history with the project. The fee rates for this firm were reasonable and in line with market rates for these types of services. The fees for these services during FAM Period 1 were paid by CAT LLC to Peak Strategies. During FAM Period 1, Peak Strategies continued to provide professional communications services to CAT LLC, including media relations consulting, strategy and execution. Specifically, the public relations firm provided services related to communications with the public regarding the CAT, including monitoring developments related to the CAT (*e.g.*, congressional efforts, public comments and reaction to proposals, press coverage of the CAT), reporting such developments to CAT LLC, and drafting and disseminating communications to the public regarding such developments as

well as reporting on developments related to the CAT (e.g., amendments to the CAT NMS Plan). As discussed above, such public relations services were important for various reasons, including monitoring comments made by market participants about the CAT and understanding issues related to the CAT discussed on the public record. By engaging a public relations firm, CAT LLC was better positioned to understand and address CAT matters to the benefit of all market participants.

**(iii) Historical CAT Costs Incurred in Financial Accountability Milestone Period 2**

Historical CAT Costs 1 would include costs incurred by CAT LLC and already funded by Participants during Period 2 of the Financial Accountability Milestones (“FAM Period 2”),<sup>53</sup> which covers the period from August 1, 2020 – December 31, 2020. Historical CAT Costs 1 would include costs for FAM Period 2 of \$42,976,478. The Participants would remain responsible for one-third of this cost (which they have previously paid) (\$14,325,493), and Industry Members would be responsible for the remaining two-thirds, with CEBBs paying one-third (\$14,325,493) and CEBSs paying one-third (\$14,325,493). The following table breaks down Historical CAT Costs 1 for FAM Period 2 into the categories set forth in Section 11.3(b)(iii)(B)(II) of the CAT NMS Plan.

<b>Operating Expense</b>	<b>Historical CAT Costs for FAM Period 2<sup>54</sup></b>
Capitalized Developed Technology Costs*	\$6,761,094
<b><i>Technology Costs:</i></b>	<b>\$31,460,033</b>
Cloud Hosting Services	\$20,709,212
Operating Fees	\$9,108,700
CAIS Operating Fees	\$1,590,298
Change Request Fees	\$51,823

<sup>53</sup> Section 11.6(a)(i)(B) of the CAT NMS Plan.

<sup>54</sup> The costs described in this table of costs for FAM Period 2 were calculated based upon CAT LLC’s review of applicable bills and invoices and related financial statements. CAT LLC financial statements are available on the CAT website.

Legal	\$2,766,644
Consulting	\$532,146
Insurance	\$976,098
Professional and administration	\$438,523
Public relations	\$41,940
<b>Total Operating Expenses</b>	<b>\$42,976,478</b>

\* The non-cash amortization of these capitalized developed technology costs of \$1,892,505 incurred during FAM Period 2 have been appropriately excluded from the above table.<sup>55</sup>

By the completion of FAM Period 2, CAT LLC was required to implement the following with regard to the CAT:

(a) Industry Member reporting (excluding reporting by Small Industry Members that are not OATS reporters) for equities transactions, excluding Customer Account Information, CustomerID, and Customer Identifying Information, is developed, tested, and implemented at a 5% Error Rate or less and with sufficient intra-firm linkage, inter-firm linkage, national securities exchange linkage, and trade reporting facilities linkage to permit the Participants and the Commission to analyze the full lifecycle of an order across the national market system, excluding linkage of representative orders, from order origination through order execution or order cancellation; and (b) the query tool functionality required by Section 6.10(c)(i)(A) and Appendix D, Sections 8.1.1-8.1.3 and Section 8.2.1 incorporates the Industry Member equities transaction data described in condition (a) and is available to the Participants and to the Commission.<sup>56</sup>

<sup>55</sup> As discussed above, with respect to certain costs that were “appropriately excluded,” such excluded costs relate to the amortization of capitalized technology costs, which are amortized over the life of the Plan Processor Agreement. As such costs have already been otherwise reflected in the filing, their inclusion would double count the capitalized technology costs. In addition, amortization is a non-cash expense.

<sup>56</sup> See definition of “Full Implementation of Core Equity Reporting Requirements” in Section 1.1 of the CAT NMS Plan.

CAT LLC completed the requirements of FAM Period 2 by December 31, 2020. The following describes the costs for each of the categories for FAM Period 2.

(a) *Technology Costs – Cloud Hosting Services*

CAT LLC continued to utilize AWS in FAM Period 2 to provide a broad array of cloud hosting services for the CAT, including data ingestion, data management, and analytic tools. AWS continued to provide storage services, databases, compute services and other services (such as networking, management tools and DevOps tools), as well as various environments for CAT, such as development, performance testing, test, and production environments, during the FAM 2 Period. Accordingly, the \$20,709,212 in technology costs for cloud hosting services represent costs incurred for services provided by AWS, as the cloud services provider, during FAM Period 2. The fee arrangement for AWS described above with regard to the Pre-FAM Period and FAM Period 1 continued in place during FAM Period 2 pursuant to the Plan Processor Agreement.

The cost for AWS cloud services for the CAT continued to be a function of the volume of CAT Data. During the FAM 2 Period, the volume of CAT Data continued to far exceed the original predictions for the CAT as set forth in the CAT NMS Plan. During this period, data submitted to the CAT included options and equities Participant Data, Phase 2a and Phase 2b Industry Member Data (including certain linkages) as well as SIP Data, and Other Data, including reference data. In addition, Industry Members began reporting LTID account information. The following chart provides data regarding the average daily volume, cumulative total events, total compute hours and storage footprint of the CAT during FAM Period 2.<sup>57</sup>

	Date Range: 8/1/20 – 12/31/20
Average Daily Volume in Billions	
Participant - Equities	6

<sup>57</sup>

Note that the volume data described in this table does not include CAIS data.

Participant - Options	116
Industry Member - Equities	11
Industry Member - Options	0.98
SIP – Options & Equities	80
Average Total Daily Volume	282
Cumulative Total Events for the Period	2,170
Total Compute Hours for the Period	15,660,392
Storage Footprint at End of Period (Petabytes)	114.59

*(b) Technology Costs – Operating Fees*

Pursuant to the Plan Processor Agreement discussed above, FCAT continued in its role as the Plan Processor for the CAT during FAM Period 2. Accordingly, the \$9,108,700 in technology costs for operating fees represent costs incurred for the services provided by FCAT under the Plan Processor Agreement during FAM Period 2. The fee arrangement for FCAT described above with regard to the Pre-FAM Period and FAM Period 1 continued in place during FAM Period 2 pursuant to the Plan Processor Agreement. During FAM Period 2, FCAT’s activities with respect to the CAT included publishing the Technical Specifications for Phase 2d and overseeing the reporting of firm to firm and intrafirm linkages by Industry Members. In addition, FCAT also continued to engage in the following activities during FAM Period 2:

- Addressed compliance items, including drafting CAT policies and procedures, and addressing Regulation SCI requirements;
- Provided support to the Operating Committee, Compliance Subcommittee and CAT working groups;

- Assisted with interpretive efforts and exemptive requests regarding the CAT NMS Plan;
- Oversaw the development and implementation of the security of the CAT;
- Monitored the operation of the CAT, including with regard to Participant and Industry Member reporting;
- Provided support to subcontractors under the Plan Processor Agreement;
- Provided support in discussions with the Participants and the SEC and its staff;
- Operated the FINRA CAT Helpdesk;
- Facilitated communications with the industry, including via FAQs, CAT Alerts, meetings, presentations and webinars;
- Administered the CAT website and all of its content; and
- Provided technical support and assistance with connectivity, data access, and user support, including the use of CAT Data and query tools, for Participants and the SEC staff.

*(c) Technology Costs – CAIS Operating Fees*

Pursuant to the Plan Processor Agreement discussed above, Kingland continued in its role as a subcontractor for the development and implementation of CAIS during FAM Period 2. Accordingly, the \$1,590,298 in technology costs for CAIS operating fees represent costs incurred for services provided by Kingland during FAM Period 2. The fee arrangement for Kingland described above with regard to the Pre-FAM Period and FAM Period 1 continued in place during FAM Period 2 pursuant to the Plan Processor Agreement. During FAM Period 2, Kingland continued the development of the CAIS Technical Specifications and building of CAIS. In addition, Kingland continued to work on the CAIS Technical Specifications and build related to the CCID Alternative, as well as the acceleration of the reporting of LTIDs.

*(d) Technology Costs – Change Request Fees*



During FAM Period 2, CAT LLC engaged FCAT to pursue certain change requests in accordance with the Plan Processor Agreement. The change request costs were paid by CAT LLC to FCAT. Specifically, during FAM Period 2, CAT incurred costs of \$51,823 related to a change request regarding the addition of functionality for exchange Participants to report rejected messages to the CAT.

*(e) Technology Costs – Capitalized Developed  
Technology Costs*

Capitalized developed technology costs for FAM Period 2 of \$6,761,094 include capitalizable application development costs incurred in the development of the CAT by FCAT. Such costs include (1) development costs incurred during the application development stage to meet various agreed-upon milestones regarding the CAT, as defined in the agreement between CAT LLC and the Plan Processor; (2) costs related to certain modifications, upgrades, or other changes to the CAT that were not contemplated by the agreement between CAT LLC and the Plan Processor, including costs related to separate production and industry test entitlements, market maker reference data, and back-processing of exchange exception logic; (3) implementation fees; and (4) license fees.

*(f) Legal Costs*

The legal costs of \$2,766,644 represent the fees paid for legal services provided by two law firms, WilmerHale and Pillsbury during FAM Period 2.

*Law Firm: WilmerHale.* CAT LLC continued to employ WilmerHale during FAM Period 2 based on, among other things, their expertise and long history with the project. The hourly fee rates for this law firm were in line with market rates for specialized legal expertise. The legal fees during FAM Period 2 were paid by CAT LLC to WilmerHale. During FAM Period 1, the legal assistance provided by WilmerHale included providing legal advice regarding the following:

- Assisted with the development of the CAT funding model and drafting related amendments and rule filings;
- Drafted exemptive requests from CAT NMS Plan requirements regarding, for example, allocations, exchange activity, OTQT, initial data validation, error corrections and recordkeeping;
- Provided interpretations related to CAT NMS Plan requirements, including with regard to the Financial Accountability Milestone amendment, FAQs and technical specifications;
- Provided support for the Operating Committee, Compliance Subcommittees, working groups and Leadership Team, including with regard to meetings with the SEC staff;
- Assisted with the Implementation Plan and Quarterly Progress Reports required pursuant to Section 6.6 of the CAT NMS Plan;
- Drafted SRO rule filings related to the CAT Compliance Rule;
- Provided support for the Compliance Subcommittee, including with regard to responses to OCIE examinations and the annual assessment;
- Provided guidance regarding the SEC's proposed security amendments to the CAT NMS Plan;
- Provided guidance regarding SRO rule filings for the retirement of systems;
- Provided legal support for Operating Committee meetings, including drafting resolutions and other materials and voting advice;
- Assisted with third party vendor agreements (*e.g.*, with regard to Anchin, Grant Thornton and insurance policies);
- Assisted with change requests; and
- Provided support with regard to discussions with the SEC and its staff, including with respect to addressing interpretive and implementation issues.

*Law Firm: Pillsbury.* CAT LLC continued to employ Pillsbury during FAM Period 2 based on, among other things, their expertise and history with the project. The hourly fee rates for this law firm were in line with market rates for specialized legal expertise. The legal fees during FAM Period 2 were paid by CAT LLC to Pillsbury. During FAM Period 2, Pillsbury provided legal assistance to the CAT regarding the CAT Reporter Agreement. During that period, Pillsbury advised CAT LLC regarding applicable legal matters and drafted and filed a proposed amendment to the CAT NMS plan regarding liability matters. As discussed above, liability issues related to the CAT are important matters that needed to be resolved and clarified. CAT LLC's efforts to seek such resolution and clarity work to the benefit of Participants, Industry Members and other market participants.

(g) *Consulting Costs*

The consulting costs of \$532,146 represent the fees paid to Deloitte as project manager during FAM Period 2. CAT LLC continued to employ Deloitte during FAM Period 2 based on, among other things, their expertise and long history with the project. The fee rates for Deloitte during FAM Period 2 were negotiated and in line with market rates for this type of specialized consulting work. The consulting fees during FAM Period 2 were paid to Deloitte by CAT LLC. CAT LLC reviewed the consulting fees each month and approved the invoices. During FAM Period 2, Deloitte's CAT-related activities included the following:

- Implemented program operations for the CAT project;
- Provided support to the Operating Committee, the Chair of the Operating Committee and the Leadership Team, including project management support, coordination and planning for meetings and communications, and interfacing with law firms and the SEC;

- Assisted with cost and funding matters for the CAT, including the development of the CAT funding model and assistance with loans and the CAT bank account for CAT funding;
- Provided support for updating the SEC on the progress of the development of the CAT; and
- Provided support for third party vendors for the CAT, including FCAT, Anchin and the law firms engaged by CAT LLC.

*(h) Insurance*

The insurance costs of \$976,098 represent the fees paid for insurance during FAM Period 2. CAT LLC continued to maintain cyber security liability insurance, directors' and officers' liability insurance, and errors and omissions liability insurance offered by USI. After engaging in a process for renewing the coverage, CAT LLC determined to purchase these insurance policies from USI. The annual premiums for these policies were competitive for the coverage provided. The annual premiums were paid by CAT LLC to USI.

*(i) Professional and Administration Costs*

The professional and administration costs of \$438,523 represent the fees paid to Anchin and Grant Thornton for financial services provided during FAM Period 2.

*Financial Advisory Firm: Anchin.* CAT LLC continued to engage Anchin during FAM Period 2 based on, among other things, their expertise and history with the project. The hourly fee rates for this firm were in line with market rates for these types of financial advisory services. The fees for these services during FAM Period 2 were paid by CAT LLC to Anchin. During FAM Period 2, Anchin provided a variety of services, including the following:

- Updated and maintained internal controls;
- Provided cash management and treasury functions;

- Facilitated bill payments;
- Provided monthly bookkeeping;
- Reviewed vendor invoices and documentation in support of cash disbursements;
- Provided accounting research and consultations on various accounting, financial reporting and tax matters;
- Addressed not-for-profit tax and accounting considerations;
- Prepared tax returns;
- Addressed various accounting, financial reporting and operating inquiries from the Participants;
- Developed and maintained quarterly and annual operating and financial budgets, including budget to actual fluctuation analyses;
- Supported compliance with the CAT NMS Plan;
- Worked with and provided support to the Operating Committee and various CAT working groups;
- Prepared monthly, quarterly and annual financial statements;
- Supported the annual financial statement audit by an independent auditor; and
- Reviewed historical costs from inception.

*Accounting Firm: Grant Thornton.* CAT LLC continued to employ the accounting firm Grant Thornton during FAM Period 2 based on, among other things, its expertise and cumulative knowledge of CAT LLC. CAT LLC continued to believe that Grant Thornton was well qualified for its role and its fee rates were in line with with market rates for these accounting services. The fees for these services during FAM Period 2 were paid by CAT LLC to Grant Thornton. During FAM Period 2, Grant Thornton performed a financial statement audit for CAT LLC as an independent accounting firm.

(j) *Public Relations Costs*

The public relations costs of \$41,940 represent the fees paid to Peak Strategies during FAM Period 2. CAT LLC continued to employ Peak Strategies during FAM Period 2 based on, among other things, their expertise and history with the project. The fee rates for this firm were in line with market rates for these types of services. The fees for these services during FAM Period 2 were paid by CAT LLC to Peak Strategies. During FAM Period 2, Peak Strategies continued to provide professional communications services to CAT, including media relations consulting, strategy and execution. Specifically, the public relations firm provided services related to communications with the public regarding the CAT, including monitoring developments related to the CAT (*e.g.*, congressional efforts, public comments and reaction to proposals, press coverage of the CAT), reporting such developments to CAT LLC, and drafting and disseminating communications to the public regarding such developments as well as reporting on developments related to the CAT (*e.g.*, amendments to the CAT NMS Plan). As discussed above, such public relations services were important for various reasons, including monitoring comments made by market participants about the CAT and understanding issues related to the CAT discussed on the public record. By engaging a public relations firm, CAT LLC was better positioned to understand and address CAT matters to the benefit of all market participants.

**(iv) Historical CAT Costs Incurred in Financial  
Accountability Milestone Period 3**

Historical CAT Costs 1 would include costs incurred by CAT and already funded by the Participants during Period 3 of the Financial Accountability Milestones (“FAM Period 3”),<sup>58</sup> which covers the period from January 1, 2021 – December 31, 2021. Historical CAT Costs 1

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<sup>58</sup> Section 11.6(a)(i)(C) of the CAT NMS Plan.

would include costs for FAM Period 3 of \$144,415,268. The Participants would remain responsible for one-third of this cost (which they have previously paid) (\$48,138,423), and Industry Members would be responsible for the remaining two-thirds, with CEBBs paying one-third (\$48,138,423) and CEBSs paying one-third (\$48,138,423). The following table breaks down Historical CAT Costs 1 for FAM Period 3 into the categories set forth in Section 11.3(b)(iii)(B)(II) of the CAT NMS Plan.

<b>Operating Expense</b>	<b>Historical CAT Costs for FAM Period 3<sup>59</sup></b>
Capitalized Developed Technology Costs*	\$10,763,372
<b><i>Technology Costs:</i></b>	\$123,639,402
Cloud Hosting Services	\$94,574,759
Operating Fees	\$23,106,091
CAIS Operating Fees	\$5,562,383
Change Request Fees	\$396,169
Legal	\$6,333,248
Consulting	\$1,408,209
Insurance	\$1,582,714
Professional and administration	\$595,923
Public relations	\$92,400
<b>Total Operating Expenses</b>	<b>\$144,415,268</b>

\* The non-cash amortization of these capitalized developed technology costs of \$5,108,044 incurred during FAM Period 3 have been appropriately excluded from the above table.<sup>60</sup>

By the completion of FAM Period 3, CAT LLC was required to implement the following requirements with regard the CAT:

<sup>59</sup> The costs described in this table of costs for FAM Period 3 were calculated based upon CAT LLC's review of applicable bills and invoices and related financial statements. CAT LLC financial statements are available on the CAT website.

<sup>60</sup> As discussed above, with respect to certain costs that were "appropriately excluded," such excluded costs relate to the amortization of capitalized technology costs, which are amortized over the life of the Plan Processor Agreement. As such costs have already been otherwise reflected in the filing, their inclusion would double count the capitalized technology costs. In addition, amortization is a non-cash expense.

(a) reporting to the Order Audit Trail System (“OATS”) is no longer required for new orders; (b) Industry Member reporting for equities transactions and simple electronic options transactions, excluding Customer Account Information, Customer-ID, and Customer Identifying Information, with sufficient intra-firm linkage, inter-firm linkage, national securities exchange linkage, trade reporting facilities linkage, and representative order linkages (including any equities allocation information provided in an Allocation Report) to permit the Participants and the Commission to analyze the full lifecycle of an order across the national market system, from order origination through order execution or order cancellation, is developed, tested, and implemented at a 5% Error Rate or less; (c) Industry Member reporting for manual options transactions and complex options transactions, excluding Customer Account Information, Customer-ID, and Customer Identifying Information, with all required linkages to permit the Participants and the Commission to analyze the full lifecycle of an order across the national market system, from order origination through order execution or order cancellation, including any options allocation information provided in an Allocation Report, is developed, tested, and fully implemented; (d) the query tool functionality required by Section 6.10(c)(i)(A) and Appendix D, Sections 8.1.1-8.1.3, Section 8.2.1, and Section 8.5 incorporates the data described in conditions (b)-(c) and is available to the Participants and to the Commission; and (e) the requirements of Section 6.10(a) are met.<sup>61</sup>

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<sup>61</sup> See definition of “Full Availability and Regulatory Utilization of Transactional Database Functionality” in Section 1.1 of the CAT NMS Plan.



CAT LLC completed the requirements of FAM Period 3 by December 31, 2021. The following describes the costs for each of the categories for FAM Period 3.

(a) *Technology Costs – Cloud Hosting Services*

CAT LLC continued to utilize AWS in FAM Period 3 to provide a broad array of cloud hosting services for the CAT, including data ingestion, data management, and analytic tools. AWS continued to provide storage services, databases, compute services and other services (such as networking, management tools and DevOps tools), as well as various environments for CAT, such as development, performance testing, test, and production environments, during the FAM 3 Period. Accordingly, the \$94,574,759 in technology costs for cloud hosting services represents costs incurred for services provided by AWS, as the cloud services provider, during FAM Period 3. The fee arrangement for AWS described above for the earlier periods continued in place during FAM Period 3 pursuant to the Plan Processor Agreement.

The cost for AWS cloud services for the CAT continued to be a function of the volume of CAT Data. During FAM Period 3, the volume of CAT Data continued to far exceed the original predictions for the CAT as set forth in the CAT NMS Plan. During this period, data submitted to the CAT included options and equities Participant Data, Phase 2a, Phase 2b, Phase 2c and Phase 2d Industry Member Data (including certain linkages), SIP Data, Other Data, including reference data, and LTID account information. The following chart provides data regarding the average daily volume, cumulative total events, total compute hours and storage footprint of the CAT during FAM Period 3.<sup>62</sup>

	Date Range: 1/1/21 to 4/25/21	Date Range: 4/26/21/ to 12/31/21*
Average Daily Volume in Billions		
Participant - Equities	9	9

<sup>62</sup> Note that the volume data described in this table does not include CAIS data.

Participant - Options	135	136
Industry Member - Equities	20	19
Industry Member - Options	2	2
SIP – Options & Equities	129	137
Average Total Daily Volume	297	304
Cumulative Total Events for the Period	7,480	5,310
Total Compute Hours for the Period	15,860,304	33,487,318
Storage Footprint at End of Period (Petabytes)	180.22	284.62

\* Start of Participant Equities in CAT format and SIP Equities on 4/26/21

*(b) Technology Costs – Operating Fees*

Pursuant to the Plan Processor Agreement discussed above, FCAT continued in its role as the Plan Processor for the CAT during FAM Period 3. Accordingly, the \$23,106,091 in technology costs for operating fees represent costs incurred for the services provided by FCAT under the Plan Processor Agreement during FAM Period 3. The fee arrangement for FCAT described above with regard to the prior Periods continued in place during FAM Period 3 pursuant to the Plan Processor Agreement. During FAM Period 3, FCAT’s activities with respect to the CAT included the following:

- Facilitated Phase 2c and Phase 2d testing for Industry Members;
- Oversaw creation of linkages of the lifecycle of order events based on the received data through Phase 2d;
- Addressed compliance items, including drafting CAT policies and procedures, and addressing Regulation SCI requirements;

- Provided support to the Operating Committee, the Compliance Subcommittee and CAT working groups;
- Assisted with interpretive efforts and exemptive requests regarding the CAT NMS Plan;
- Oversaw the security of the CAT;
- Monitored the operation of the CAT, including with regard to Participant and Industry Member reporting;
- Provided support to subcontractors under the Plan Processor Agreement;
- Provided support in discussions with the Participants and the SEC and its staff;
- Operated the FINRA CAT Helpdesk;
- Facilitated communications with the industry, including via FAQs, CAT Alerts, meetings, presentations and webinars;
- Administered the CAT website and all of its content; and
- Provided technical support and assistance with connectivity, data access, and user support, including the use of CAT Data and query tools, for Participants and the SEC staff.

*(c) Technology Costs – CAIS Operating Fees*

Pursuant to the Plan Processor Agreement with FCAT discussed above, Kingland continued in its role as a subcontractor for the development and implementation of CAIS during FAM Period 3. Accordingly, the \$5,562,383 in technology costs for CAIS operating fees represents costs incurred for services provided by Kingland during FAM Period 3. The fee arrangement for Kingland described above with regard to the prior Periods continued in place during FAM Period 3 pursuant to the Plan Processor Agreement. During FAM Period 3, Kingland continued the development of the CAIS Technical Specifications and building of CAIS. In addition, Kingland continued to work on the CAIS Technical Specifications and build

related to the CCID Alternative, as well as the acceleration of the reporting of LTIDs. The full CAIS Technical Specifications were published during FAM Period 3.

*(d) Technology Costs – Change Request Fees*

During FAM Period 3, CAT LLC engaged FCAT to pursue certain change requests in accordance with the Plan Processor Agreement. The change request costs were paid by CAT LLC to FCAT. Specifically, during FAM Period 3, CAT incurred costs of \$396,169 related to change requests, including the following: (1) the addition of functionality for exchange Participants to report rejected messages to the CAT; (2) the migration of MIRS query engine to AWS to reduce operational costs and increase resiliency; and (3) updating the Participant Technical Specifications to allow for two-sided Participant option quote reporting.

*(e) Technology Costs – Capitalized Developed Technology Costs*

Capitalized developed technology costs for FAM Period 3 of \$10,763,372 include capitalizable application development costs incurred in the development of the CAT by FCAT. Such costs include (1) development costs incurred during the application development stage to meet various agreed-upon milestones regarding the CAT, as defined in the agreement between CAT LLC and the Plan Processor, including the transition from equity data received by FINRA pursuant to various regulatory services agreements between FINRA and Participant exchanges to the equity CAT Data, and the completion of the Industry Member Phase 2d options manual and complex orders go-live requirements; (2) costs related to certain modifications, upgrades, or other changes to the CAT that were not contemplated by the agreement between CAT LLC and the Plan Processor, including costs related to off-exchange volume concentration, Participant 24-hour trading and an external metastore; (3) implementation fees; and (4) license fees.

*(f) Legal Costs*

The legal costs of \$6,333,248 represent the fees paid for legal services provided by three law firms, WilmerHale, Pillsbury and Covington & Burling LLP (“Covington”) during FAM Period 3.

*Law Firm: WilmerHale.* CAT LLC continued to employ WilmerHale during FAM Period 3 based on, among other things, their expertise and long history with the project. The hourly fee rates for this law firm were in line with market rates for specialized legal expertise. The legal fees during FAM Period 3 were paid by CAT LLC to WilmerHale. During FAM Period 3, the legal assistance provided by WilmerHale included providing legal advice regarding the following:

- Assisted with the development of the CAT funding model and drafting related amendments and rule filings;
- Drafted exemptive requests from CAT NMS Plan requirements, including, for example, verbal activity regarding Phase 2c cutover, error reports, error corrections, Phase 2d Reporting, unique Order-ID on internal route events, reporting addresses, recordkeeping, and unique CCID for foreign customers;
- Provided interpretations related to CAT NMS Plan requirements, including with regard to the Financial Accountability Milestone amendment, FAQs, CAIS requirements, ADF, and technical specifications;
- Provided support for the Operating Committee, Compliance Subcommittee, working groups and Leadership Team, including with regard to meetings with the SEC staff;
- Assisted with the Implementation Plan and Quarterly Progress Reports required pursuant to Section 6.6(c) of the CAT NMS Plan;
- Drafted SRO rule filings related to the CAT Compliance Rule;

- Provided support for Compliance Subcommittee, including with regard to response to OCIE examinations and the annual assessment;
- Provided guidance regarding SEC's proposed security amendments to CAT NMS Plan;
- Provided guidance regarding SRO rule filings for the retirement of systems;
- Provided legal support for Operating Committee meetings, including drafting resolutions and other materials and voting advice;
- Provided assistance with change requests;
- Provided guidance and regulatory support for litigation regarding the response to SEC's exemptive orders;
- Assisted with communications with the industry, including CAT Alerts and presentations;
- Provided guidance regarding the confidentiality of CAT Data, including third-party information requests;
- Assisted with cost management analysis and proposals; and
- Provided support with regard to discussions with the SEC and its staff, including with respect to addressing interpretive and implementation issues.

*Law Firm: Pillsbury.* CAT LLC continued to employ Pillsbury during FAM Period 3 based on, among other things, their expertise and history with the project. The hourly fee rates for this law firm were in line with market rates for specialized legal expertise. The legal fees during FAM Period 3 were paid by CAT LLC to Pillsbury. During FAM Period 3, Pillsbury provided legal assistance to the CAT regarding the CAT Reporter Agreement. During this period, Pillsbury advised CAT LLC regarding applicable legal matters, reviewed and responded to comment letters regarding the proposed Plan amendment, participated in meetings with senior SEC staff, responded to comments submitted following the SEC's April 6, 2021 order instituting

proceedings,<sup>63</sup> and assessed legal matters regarding the SEC's October 29, 2021 order denying the proposed Plan amendment.<sup>64</sup>

*Law Firm: Covington.* CAT LLC hired Covington for litigation with the SEC regarding certain exemptive orders related to the CAT, including orders issued in December 2020.<sup>65</sup> CAT LLC interviewed this law firm as well as other potential law firms, considering a variety of factors in its analysis for choosing legal assistance, including the relevant expertise and fees of the potential lawyers. CAT LLC approved the engagement of Covington in January 2021. The fee rates for this law firm, which were calculated based on hourly rates, were in line with market rates for specialized services. The legal fees for FAM Period 3 for this firm were paid by CAT LLC to Covington.

After Covington was hired in 2021 through the end of 2021, the firm provided legal assistance regarding the litigation with the SEC regarding the 2020 Orders. These services included researching, drafting, and filing motions to stay the 2020 orders and related materials in proceedings before the SEC, as well as researching, drafting, and filing petitions for judicial review of the 2020 Orders in proceedings before the U.S. Court of Appeals for the D.C. Circuit. Covington oversaw ongoing litigation proceedings on these matters, and also supported WilmerHale with respect to settlement negotiations with the SEC staff regarding the 2020 Orders.

In addition to these services, CAT LLC engaged Covington in November 2021 to provide assistance with respect to the SEC's disapproval of CAT NMS Plan amendments concerning a

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<sup>63</sup> Securities Exchange Act Rel. No. 91487 (Apr. 6, 2021), 86 Fed. Reg. 19054 (Apr. 12, 2021).

<sup>64</sup> Securities Exchange Act Rel. No. 93484 (Oct. 29, 2021), 86 Fed. Reg. 60933 (Nov. 4, 2021).

<sup>65</sup> See Securities Exchange Act Rel. No. 90688 (Dec. 16, 2020), 85 Fed. Reg. 83634 (Dec. 22, 2020); and Securities Exchange Act Rel. No. 90689 (Dec. 16, 2020), 85 Fed. Reg. 83667 (Dec. 22, 2020) (collectively, the "2020 Orders").

proposed limitation on liability in the event of a data breach or similar event. Covington provided advice concerning CAT's response to the SEC's disapproval order. This work accounted for a minority of Covington's fees in 2021.<sup>66</sup>

(g) *Consulting Costs*

The consulting costs of \$1,408,209 represent the fees paid to Deloitte as project manager during FAM Period 3. CAT LLC continued to employ Deloitte during FAM Period 3 based on, among other things, their expertise and long history with the project. The fee rates for Deloitte during FAM Period 3 were negotiated and in line with market rates for this type of specialized consulting work. The consulting fees during FAM Period 3 were paid to Deloitte by CAT LLC. CAT LLC reviewed the consulting fees each month and approved the invoices. During FAM Period 3, Deloitte's CAT-related activities included the following:

- Implemented program operations for the CAT project;
- Provided support to the Operating Committee, the Chair of the Operating Committee and the Leadership Team, including project management support, coordination and planning for meetings and communications, and interfacing with law firms and the SEC;
- Assisted with cost and funding matters for the CAT, including the development of the CAT funding model and assistance with loans and the CAT bank account for CAT funding;
- Provided support for updating the SEC on the progress of the development of the CAT; and

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<sup>66</sup> As discussed above with regard to Pillsbury's work on liability matters, liability issues related to the CAT are important matters that needed to be resolved and clarified. CAT LLC's efforts to seek such resolution and clarity work to the benefit of Participants, Industry Members and other market participants. Moreover, such activity is a necessary part of the operation of the CAT.



- Provided support for third party vendors for the CAT, including FCAT, Anchin and the law firms engaged by CAT LLC.

*(h) Insurance*

The insurance costs of \$1,582,714 represent the fees paid for insurance FAM Period 3. CAT LLC continued to maintain cyber security liability insurance, directors' and officers' liability insurance, and errors and omissions liability insurance offered by USI. After engaging in a process for renewing the coverage, CAT LLC determined to purchase these insurance policies from USI. The annual premiums for these policies were competitive for the coverage provided. The annual premiums were paid by CAT LLC to USI.

*(i) Professional and Administration Costs*

The professional and administration costs of \$595,923 represent the fees paid to Anchin and Grant Thornton for financial services during FAM Period 3.

*Financial Advisory Firm: Anchin.* CAT LLC continued to employ Anchin during FAM Period 3 based on, among other things, their expertise and history with the project. The hourly fee rates for this firm were in line with market rates for these financial advisory services. The fees for these services during FAM Period 3 were paid by CAT LLC to Anchin. During FAM Period 3, Anchin provided a variety of services, including the following:

- Updated and maintained internal controls;
- Provided cash management and treasury functions;
- Facilitated bill payments;
- Provided monthly bookkeeping;
- Reviewed vendor invoices and documentation in support of cash disbursements;
- Provided accounting research and consultations on various accounting, financial reporting and tax matters;

- Addressed not-for-profit tax and accounting considerations;
- Prepared tax returns;
- Addressed various accounting, financial reporting and operating inquiries from Participants;
- Developed and maintained quarterly and annual operating and financial budgets, including budget to actual fluctuation analyses;
- Supported compliance with the CAT NMS Plan;
- Worked with and provided support to the Operating Committee and various CAT working groups;
- Prepared monthly, quarterly and annual financial statements;
- Supported the annual financial statement audits by an independent auditor;
- Reviewed historical costs from inception; and
- Provided accounting and financial information in support of SEC filings.

*Accounting Firm: Grant Thornton.* CAT LLC continued to employ the accounting firm Grant Thornton during FAM Period 3 based on, among other things, their expertise and cumulative knowledge of CAT LLC. CAT LLC determined that Grant Thornton was well qualified for its role and that its fixed fee rates were in line with market rates for these accountant services. The fees for these services during FAM Period 3 were paid by CAT LLC to Grant Thornton. During FAM Period 3, Grant Thornton provided audited financial statements for CAT LLC.

*(j) Public Relations Costs*

The public relations costs of \$92,400 represent the fees paid to Peak Strategies during FAM Period 3. CAT LLC continued to employ Peak Strategies during FAM Period 3 based on, among other things, their expertise and history with the project. The fee rates for this firm were

in line with market rates for these types of services. The fees for these services during FAM Period 3 were paid by CAT LLC to Peak Strategies. During FAM Period 3, Peak Strategies continued to provide professional communications services to CAT, including media relations consulting, strategy and execution. Specifically, the public relations firm provided services related to communications with the public regarding the CAT, including monitoring developments related to the CAT (*e.g.*, congressional efforts, public comments and reaction to proposals, press coverage of the CAT), reporting such developments to CAT LLC, and drafting and disseminating communications to the public regarding such developments as well as reporting on developments related to the CAT (*e.g.*, amendments to the CAT NMS Plan). As discussed above, such public relations services were important for various reasons, including monitoring comments made by market participants about the CAT and understanding issues related to the CAT discussed on the public record. By engaging a public relations firm, CAT LLC was better positioned to understand and address CAT matters to the benefit of all market participants.

**(v) Excluded Costs**

Historical CAT Costs 1 would not include two categories of CAT costs (“Excluded Costs”): (1) \$48,874,937, which are all CAT costs incurred from November 15, 2017 through November 15, 2018; and (2) \$14,749,362 of costs related to the termination of the relationship with the Initial Plan Processor. The Participants would remain responsible for 100% of these costs, which total \$63,624,299. CAT LLC determined that it was reasonable to exclude these Excluded Costs from Historical CAT Costs 1 because the excluded costs relate to the delay in the

start of reporting to the CAT and the conclusion of the relationship with the Initial Plan Processor.<sup>67</sup>

First, Historical CAT Costs 1 would not include \$14,749,362 of costs related to the conclusion of the relationship with the Initial Plan Processor. Such costs include costs related to the American Arbitration Association, the legal assistance of Pillsbury with regard to the arbitration with Thesys CAT, and the settlement costs related to the arbitration with Thesys CAT. The Participants would remain responsible for 100% of these \$14,749,362 in costs.

Second, the Historical CAT Costs would exclude all CAT costs incurred from November 15, 2017 through November 15, 2018. CAT LLC determined to exclude all costs during this one-year period of \$48,874,937 from fees charged to Industry Members due to the delay in the start of reporting to the CAT. The Participants would remain responsible for 100% of these \$48,874,937 in costs. The following table breaks down these costs into the categories set forth in Section 11.3(b)(iii)(B)(II) of the CAT NMS Plan.

<b>Operating Expense</b>	<b>Excluded Costs for November 15, 2017 – November 15, 2018<sup>68</sup></b>
Capitalized Developed Technology Costs	\$37,852,083
<b><i>Technology Costs:</i></b>	-
Cloud Hosting Services	-
Operating Fees	-
CAIS Operating Fees	-
Change Request Fees	-
Legal	\$6,143,278
Consulting	\$4,452,106

<sup>67</sup> In approving the CAT Funding Model, the Commission states that “the proposed exclusion of the ‘Excluded Costs’ from Past CAT Costs is reasonable in the Commission’s view because it would not require all costs incurred by the Participants to be recovered from Industry Members through the Historical CAT Assessment, specifically excluding those costs related to the delay in the start of reporting to the CAT and costs related to the conclusion of the relationship with the Initial Plan Processor.” CAT Funding Model Approval Order at 62663.

<sup>68</sup> The costs described in this table of Excluded Costs were calculated based upon CAT LLC’s review of applicable bills and invoices and related financial statements. CAT LLC financial statements are available on the CAT website.

Insurance	-
Professional and administration	\$340,145
Public relations	\$87,325
<b>Total Operating Expenses</b>	<b>\$48,874,937</b>

The following provides additional detail regarding the Excluded Costs.

(a) *Technology Costs – Cloud Hosting Services, Operating Fees, CAIS Operating Fees and Change Request Fees*

CAT LLC did not incur technology costs related to the categories of cloud hosting services, operating fees, CAIS operating fees or change requests during the period from November 15, 2017 through November 15, 2018.

(b) *Technology Costs – Capitalized Developed Technology Costs*

Capitalized developed technology costs for the period from November 15, 2017 through November 15, 2018 include capitalizable application development costs of \$37,852,083 incurred in the development of the CAT by the Initial Plan Processor. Such costs include development costs incurred during the application development stage to meet various agreed-upon milestones regarding the CAT, as defined in the agreement between CAT LLC and the Initial Plan Processor. Such costs include costs related to Industry Member technical specifications for orders and transactions, the system security plan, testing and production for Participant CAT reporting, third-party security assessment and response, query portal, onboarding of the Chief Information Security Officer, and ingestion of FINRA TRF data and FINRA data related to halts and corporate actions.

(c) *Legal Costs*

The legal costs of \$6,143,278 represent the fees paid to WilmerHale for legal services from November 15, 2017 through November 15, 2018. During this period, WilmerHale provided legal assistance to the CAT including with regard to the following:

- Provided legal support for the governance of the CAT, including governance support for the Operating Committee, Advisory Committee, Compliance Subcommittee, and CAT working groups;
- Assisted with the development of the CAT funding model and drafted related amendments of the CAT NMS Plan;
- Provided assistance related to CAT security;
- Drafted exemptive requests, including requests related to PII;
- Assisted with the Implementation Plan required pursuant to Section 6.6(c)(i) of the CAT NMS Plan;
- Provided interpretations of and related to the CAT NMS Plan;
- Provided advice with regard to regulator access to the CAT;
- Assisted with the Plan Processor transition;
- Provided assistance regarding communications with the industry regarding the CAT;
- Provided advice regarding Customer Account Information and PII;
- Provided support for litigation related to SEC exemptive orders; and
- Provided support with regard to discussions with the SEC and its staff, including with respect to addressing interpretative and implementation issues.

*(d) Consulting Costs*

The consulting costs of \$4,452,106 represent the fees paid to Deloitte for their role as project manager for the CAT from November 15, 2017 through November 15, 2018. During this period, Deloitte engaged in the following activities with respect to the CAT:

- Implemented program operations for the CAT project;
- Provided governance support to the Operating Committee, including support for Subcommittees and working groups of the Operating Committee (*e.g.*, Compliance

Subcommittee, Cost and Funding Working Group, Technical Working Group, Industry Outreach Working Group, Security Working Group and Steering Committee);

- Assisted with cost and funding issue for the CAT, including the development of the CAT funding model and assistance with loans and the CAT bank account for CAT funding;
- Provided support for updating the SEC on the progress of the development of the CAT; and
- Provided active planning and coordination with and support for the Initial Plan Processor with regard to the development of the CAT, and reported to the Participants on the progress.

*(e) Insurance*

CAT LLC did not incur costs related to insurance during the period from November 15, 2017 through November 15, 2018.

*(f) Professional and Administration Costs*

The professional and administration costs of \$340,145 represent the fees paid to Anchin, Exegy and RSM from November 15, 2017 through November 15, 2018.

*Financial Advisory Firm: Anchin.* From the commencement of its engagement in April 2018 through November 15, 2018, Anchin engaged in the following activities with respect to the CAT:

- Developed, updated and maintained internal controls;
- Provided cash management and treasury functions;
- Facilitated bill payments;
- Provided monthly bookkeeping;
- Reviewed vendor invoices and documentation in support of cash disbursements;

- Provided accounting research and consultations on various accounting, financial reporting and tax matters;
- Addressed not-for-profit tax and accounting considerations;
- Prepared tax returns;
- Addressed various accounting, financial reporting and operating inquiries from Participants;
- Developed and maintained quarterly and annual operating and financial budgets, including budget to actual fluctuation analyses;
- Addressed accounting and financial matters relating to the transition from CAT NMS, LLC to Consolidated Audit Trail, LLC, including supporting the dissolution of CAT NMS, LLC;
- Supported compliance with the CAT NMS Plan;
- Worked with and provided support to the Operating Committee and various CAT working groups;
- Prepared monthly, quarterly and annual financial statements;
- Supported the annual financial statement audits by an independent auditor;
- Reviewed historical costs from inception; and
- Provided accounting and financial information in support of SEC filings.

*Market Data Provider: Exegy.* From July 2018 through November 15, 2018, CAT LLC purchased market data from Exegy (as described in more detail above).

*Security Assessment: RSM.* From October 2018 through November 15, 2018, CAT LLC incurred costs for RSM's performance of a security assessment (as described in more detail above).

(g) *Public Relations Costs*



The public relations costs of \$87,325 represent the fees paid to Sloane from November 15, 2017 through November 15, 2018. From the commencement of its engagement in March 2018 through November 15, 2018, Sloane provided professional communications services to CAT, including media relations consulting, strategy and execution. Specifically, Sloane provided services related to communications with the public regarding the CAT, including monitoring developments related to the CAT (*e.g.*, congressional efforts, public comments and reaction to proposals, press coverage of the CAT), reporting such developments to CAT LLC, and drafting and disseminating communications to the public regarding such developments as well as reporting on developments related to the CAT (*e.g.*, amendments to the CAT NMS Plan).

**(C) Historical Recovery Period 1**

Under the CAT NMS Plan, the Operating Committee is required to reasonably establish the length of the Historical Recovery Period used in calculating each Historical Fee Rate based upon the amount of the Historical CAT Costs to be recovered by the Historical CAT Assessment, and to describe the reasons for its length.<sup>69</sup> The Historical Recovery Period used in calculating the Historical Fee Rate may not be less than 24 months or more than five years.<sup>70</sup> The Operating Committee has determined to establish a Historical Recovery Period 1 of 24 months for Historical CAT Assessment 1.

The Operating Committee determined that the length of Historical Recovery Period 1 appropriately weighs the need for a reasonable Historical Fee Rate 1 that spreads the Historical CAT Costs over an appropriate amount of time and the need to repay the loans to the Participants

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<sup>69</sup> Section 11.3(b)(i)(D)(I) and Section 11.3(b)(iii)(B)(II) of the CAT NMS Plan.

<sup>70</sup> Section 11.3(b)(i)(D)(I) of the CAT NMS Plan. In the CAT Funding Model Approval Order, the SEC stated that “[i]n the Commission’s view, it is reasonable for the Operating Committee to establish the length of the Historical Recovery Period to be no less than 24 months and no more than five years.” CAT Funding Model Approval Order at 62664.

in a timely fashion. The Operating Committee determined that 24 months for Historical Recovery Period 1 would establish a fee rate that is lower than other transaction-based fees, including fees assessed pursuant to Section 31.<sup>71</sup> In addition, in establishing a Historical Recovery Period of 24 months, the Operating Committee recognized that the total costs for Historical CAT Assessment 1 were less than the total costs for 2022 and 2023,<sup>72</sup> and therefore it would be reasonable and appropriate to recover costs subject to this filing over an approximate two-year period. Furthermore, the Operating Committee notes that 24 months is appropriate because it is not currently proposing that Industry Members be required to pay additional CAT fees with regard to another Historical CAT Assessment or CAT Fees with regard to Prospective CAT Costs at the same time.

The length of the Historical Recovery Period 1 and the reasons for its length are provided in this filing in accordance with the requirement in the CAT NMS Plan to provide such information in a fee filing for a Historical CAT Assessment.<sup>73</sup>

#### **(D) Projected Total Executed Equivalent Share Volume**

The calculation of Historical Fee Rate 1 also requires the determination of the projected total executed equivalent share volume of transactions in Eligible Securities for Historical Recovery Period 1. Under the CAT NMS Plan, the Operating Committee is required to “reasonably determine the projected total executed equivalent share volume of all transactions in Eligible Securities for each Historical Recovery Period based on the executed equivalent share volume of all transactions in Eligible Securities for the prior twelve months.”<sup>74</sup> The Operating

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<sup>71</sup> As the SEC noted in the CAT Funding Model Approval Order, recent Section 31 fees ranged from \$0.00009 per share to \$0.0004 per share. CAT Funding Model at 62682.

<sup>72</sup> The total CAT costs for 2022 were approximately \$186 million and the total CAT costs for 2023 are estimated to be approximately \$233 million.

<sup>73</sup> Section 11.3(b)(iii)(B)(II)(C) of the CAT NMS Plan.

<sup>74</sup> Section 11.3(b)(i)(E) of the CAT NMS Plan.

Committee is required to base its projection on the prior twelve months, but it may use its discretion to analyze the likely volume for the upcoming year. Such discretion would allow the Operating Committee to use its judgment when estimating projected total executed equivalent share volume if the volume over the prior twelve months was unusual or otherwise unfit to serve as the basis of a future volume estimate.<sup>75</sup>

The total executed equivalent share volume of transactions in Eligible Securities for the period from December 2022 through November 2023 was 3,842,861,347,279.44 executed equivalent shares. The Operating Committee has determined to calculate the projected total executed equivalent share volume for the 24 months of Historical Recovery Period 1 by doubling the executed equivalent share volume for the prior 12 months. The Operating Committee determined that such an approach was reasonable as the CAT's annual executed equivalent share volume has remained relatively constant. For example, the executed equivalent share volume for 2021 was 3,963,697,612,395 executed equivalent shares, and the executed equivalent share volume for 2022 was 4,039,821,841,560.31 executed equivalent shares. Accordingly, the projected total executed equivalent share volume for Historical Recovery Period 1 is projected to be 7,685,722,694,558.88 executed equivalent shares.<sup>76</sup>

The projected total executed equivalent share volume of all transactions in Eligible Securities for Historical Recovery Period 1 and a description of the calculation of the projection is provided in this filing in accordance with the requirement in the CAT NMS Plan to provide such information in a fee filing for a Historical CAT Assessment.<sup>77</sup>

#### **(E) Historical Fee Rate 1**

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<sup>75</sup> CAT Funding Model Approval Order at 62664.

<sup>76</sup> This projection was calculated by multiplying 3,842,861,347,279.44 executed equivalent shares by two.

<sup>77</sup> Section 11.3(b)(iii)(B)(II)(D) of the CAT NMS Plan.

Historical Fee Rate 1 would be calculated by dividing Historical CAT Costs 1 by the reasonably projected total executed equivalent share volume of all transactions in Eligible Securities for Historical Recovery Period 1, as described in detail above.<sup>78</sup> Specifically, Historical Fee Rate 1 would be calculated by dividing \$337,688,610 by 7,685,722,694,558.88. As a result, the Historical Fee Rate 1 would be \$0.0000439371316687066 per executed equivalent share. Historical Fee Rate 1 is provided in this filing in accordance with the requirement in the CAT NMS Plan to provide the Historical Fee Rate in a fee filing for a Historical CAT Assessment.<sup>79</sup>

### **(3) Past CAT Costs and Participants**

Participants would not be required to pay any fees associated with Historical CAT Assessment 1 as the Participants previously have paid all Past CAT Costs. The CAT NMS Plan explains that:

Because Participants previously have paid Past CAT Costs via loans to the Company, Participants would not be required to pay any Historical CAT Assessment. In lieu of a Historical CAT Assessment, the Participants' one-third share of Historical CAT Costs and such other additional Past CAT Costs as reasonably determined by the Operating Committee will be paid by the cancellation of loans made to the Company on a pro rata basis based on the outstanding loan amounts due under the loans.<sup>80</sup>

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<sup>78</sup> In approving the CAT Funding Model, the Commission stated that “[t]he calculation of the Historical Fee Rate by dividing the Historical CAT Costs by the projected total executed equivalent share volume of all transactions in Eligible Securities for the Historical Recovery Period is reasonable.” CAT Funding Model Approval Order at 62664.

<sup>79</sup> Section 11.3(b)(iii)(B)(II)(A) of the CAT NMS Plan.

<sup>80</sup> Section 11.3(b)(ii) of the CAT NMS Plan.

The CAT NMS Plan further states that “Historical CAT Assessments are designed to recover two-thirds of the Historical CAT Costs.”<sup>81</sup>

#### **(4) Monthly Fees**

CEBBs and CEBSs would be required to pay fees for Historical CAT Assessment 1 on a monthly basis for the period in which Historical CAT Assessment 1 is in effect.<sup>82</sup> A CEBB or CEBS’s fee for each month would be calculated based on the transactions in Eligible Securities executed by the CEBB or CEBS from the prior month.<sup>83</sup> Proposed paragraph a)i)A) of the fee schedule would state that each CAT Executing Broker would receive its first invoice in April 2024, and “would receive an invoice each month thereafter in which Historical CAT Assessment 1 is in effect.” Proposed paragraph a)i)B) of the fee schedule would state that “Consolidated Audited Trail, LLC shall provide each CAT Executing Broker with an invoice for Historical CAT Assessment 1 on a monthly basis.” In addition, proposed paragraph b)i) of the fee schedule states that each CEBB and CEBS is required to pay its CAT fees “each month.”

#### **(5) Actual Recovery Period for Historical CAT Assessment 1**

The CAT NMS Plan states that, “[n]otwithstanding the length of the Historical Recovery Period used in calculating the Historical Fee Rate, each Historical CAT Assessment calculated using the Historical Fee Rate will remain in effect until all Historical CAT Costs for the Historical CAT Assessment are collected.”<sup>84</sup> Accordingly, Historical CAT Assessment 1 will remain in effect until all Historical CAT Costs 1 have been collected. The actual recovery period

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<sup>81</sup> *Id.* In approving the CAT Funding Model, the Commission stated that “[t]he proposed allocation of the Historical CAT Assessment solely to CEBSs and CEBBs, and ultimately Industry Members, is reasonable. The Historical CAT Assessment will still be divided into thirds,” as the Participants’ one-third share of Historical CAT Costs will be paid by the cancellation of loans made to the Company. CAT Funding Model Approval Order at 62666.

<sup>82</sup> See Section 11.3(b)(iii)(A) of the CAT NMS Plan.

<sup>83</sup> See proposed paragraph a)i)B) of the fee schedule.

<sup>84</sup> Section 11.3(b)(i)(D)(II) of the CAT NMS Plan.

for Historical CAT Assessment 1 may be shorter or longer than Historical Recovery Period 1 depending on the actual executed equivalent share volumes during the time that Historical CAT Assessment 1 is in effect.<sup>85</sup>

**(6) Consolidated Audit Trail Funding Fees**

To implement Historical CAT Assessment 1, a “Consolidated Audit Trail Funding Fees” section would be added to the Exchange’s fee schedule, to include the proposed paragraphs described below.

**(A) Fee Schedule for Historical CAT Assessment 1**

The CAT NMS Plan states that:

Each month in which a Historical CAT Assessment is in effect, each CEBB and each CEBS shall pay a fee for each transaction in Eligible Securities executed by the CEBB or CEBS from the prior month as set forth in CAT Data, where the Historical CAT Assessment for each transaction will be calculated by multiplying the number of executed equivalent shares in the transaction by one-third and by the Historical Fee Rate reasonably determined pursuant to paragraph (b)(i) of this Section 11.3.<sup>86</sup>

Accordingly, based on the factors discussed above, the Exchange proposes to add paragraph a)i) to the Consolidated Audit Trail Funding Fees section of its fee schedule. Proposed paragraph a)i) would state the following:

A) Each CAT Executing Broker shall receive its first invoice for Historical CAT Assessment 1 in April 2024, which shall set forth the Historical

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<sup>85</sup> In approving the CAT Funding Model, the Commission stated that “[i]n the Commission’s view, it is reasonable for Industry Members to be charged a Historical CAT Assessment until all Historical CAT Costs for the Historical CAT Assessment are collected.” CAT Funding Model Approval Order at 62665.

<sup>86</sup> Section 11.3(b)(iii)(A) of the CAT NMS Plan.

CAT Assessment 1 fees calculated based on transactions in March 2024, and shall receive an invoice for Historical CAT Assessment 1 for each month thereafter in which Historical CAT Assessment 1 is in effect.

B) Consolidated Audit Trail, LLC shall provide each CAT Executing Broker with an invoice for Historical CAT Assessment 1 on a monthly basis. Each month, such invoices shall set forth a fee for each transaction in Eligible Securities executed by the CAT Executing Broker in its capacity as a CAT Executing Broker for the Buyer (“CEBB”) and/or the CAT Executing Broker for the Seller (“CEBS”) (as applicable) from the prior month as set forth in CAT Data. The fee for each such transaction will be calculated by multiplying the number of executed equivalent shares in the transaction by the fee rate of \$0.000015 per executed equivalent share.

C) Historical CAT Assessment 1 will remain in effect until \$225,125,740 (two-thirds of Historical CAT Costs 1) are collected from CAT Executing Brokers collectively, which is estimated to be approximately two years, but could be for a longer or shorter period of time. Consolidated Audit Trail, LLC will provide notice when Historical CAT Assessment 1 will no longer be in effect.

D) Each CAT Executing Broker shall be required to pay each invoice for Historical CAT Assessment 1 in accordance with paragraph (b).

As noted in the Plan amendment for the CAT Funding Model, “as a practical matter, the fee filing for a Historical CAT Assessment would provide the exact fee per executed equivalent share to be paid for each Historical CAT Assessment, by multiplying the Historical Fee Rate by

one-third and describing the relevant number of decimal places for the fee rate.<sup>87</sup> Accordingly, proposed paragraph a)i)B) of the fee schedule would set forth a fee rate of \$0.000015 per executed equivalent share. This fee rate is calculated by multiplying Historical Fee Rate 1 of \$0.0000439371316687066 by one-third, and rounding the result to 6 decimal places.<sup>88</sup> The Operating Committee determined to use six decimal places to balance the accuracy of the calculation with the potential systems and other impracticalities of using additional decimal places in the calculation.

The proposed language in paragraph a)i)A) of the fee schedule would describe when CAT Executing Brokers would receive their first monthly invoice for Historical CAT Assessment 1. Specifically, CAT Executing Brokers would receive their first monthly invoice for Historical CAT Assessment 1 in April 2024 and the fees set forth in that invoice would be calculated based on transactions executed in the prior month, that is, transactions executed in March 2024. The payment for the first invoice would be required within 30 days after the receipt of the first invoice (unless a longer period is indicated), as described in proposed paragraph b)ii) of the fee schedule.

Proposed paragraph a)i)A) of the fee schedule also would describe the monthly cadence of the invoices for Historical CAT Assessment 1. Specifically, after the first invoices are provided to CAT Executing Brokers in April 2024, invoices will be sent to CAT Executing Brokers each month thereafter while Historical CAT Assessment 1 is in effect.

Proposed paragraph a)i)B) of the fee schedule would describe the invoices for Historical CAT Assessment 1. Proposed paragraph a)ii)B) of the fee schedule would state that

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<sup>87</sup> CAT Funding Model Approval Order at 62658, n.658.

<sup>88</sup> Dividing \$0.0000439371316687066 by three equals \$0.00001464571055623553. Rounding \$0.00001464571055623553 to six decimal places equals \$0.000015.



“Consolidated Audit Trail, LLC shall provide each CAT Executing Broker with an invoice for Historical CAT Assessment 1 on a monthly basis.” Proposed paragraph a)i)B) of the fee schedule also would describe the fees to be set forth in the invoices for Historical CAT Assessment 1. Specifically, it would state that “[e]ach month, such invoices shall set forth a fee for each transaction in Eligible Securities executed by the CAT Executing Broker in its capacity as a CAT Executing Broker for the Buyer (“CEBB”) and/or the CAT Executing Broker for the Seller (“CEBS”) (as applicable) from the prior month as set forth in CAT Data. The fee for each such transaction will be calculated by multiplying the number of executed equivalent shares in the transaction by the fee rate of \$0.000015 per executed equivalent share.”

Furthermore, proposed paragraph a)i)C) of the fee schedule would describe how long Historical CAT Assessment 1 would remain in effect. It would state that “Historical CAT Assessment 1 will remain in effect until \$225,125,740 (two-thirds of Historical CAT Costs 1) are collected from CAT Executing Brokers collectively, which is estimated to be approximately two years, but could be for a longer or shorter period of time.” This proposed paragraph would further state that “Consolidated Audit Trail, LLC will be provide notice when Historical CAT Assessment 1 will no longer be in effect.”

Historical CAT Assessment 1 will be assessed for all transactions executed in each month through the end of the month in which two-thirds of Historical CAT Costs 1 are assessed, and then CAT LLC will provide notice that Historical CAT Assessment 1 is no longer in effect. Since Historical CAT Assessment 1 is a monthly fee based on transaction volume from the prior month, Historical CAT Assessment 1 may collect more than two-thirds of Historical CAT Costs 1. To the extent that occurs, any excess money collected during the final month in which Historical CAT Assessment 1 is in effect will be used to offset future fees and/or to fund the reserve for the CAT.

Finally, proposed paragraph a)i)D) of the fee schedule sets forth the requirement for the CAT Executing Brokers to pay the invoices for Historical CAT Assessment 1. It would state that “[e]ach CAT Executing Broker shall be required to pay each invoice for Historical CAT Assessment 1 in accordance with paragraph (b).”

**(B) Manner of Payment**

The Exchange proposes to add paragraph b)i) to the “Consolidated Audit Trail Funding Fees” section of its fee schedule to describe the manner of payment of Industry Member CAT fees. The CAT NMS Plan requires the Operating Committee to establish a system for the collection of CAT fees.<sup>89</sup> The Plan Processor has established a billing system for CAT fees.<sup>90</sup> Therefore, the Exchange proposes to require CAT Executing Brokers to pay Historical CAT Assessment 1 in accordance with such system. Accordingly, proposed paragraph b)i) would state that “[e]ach CAT Executing Broker shall pay its CAT fees as required pursuant to paragraph (a) each month to the Consolidated Audit Trail, LLC in the manner prescribed by the Consolidated Audit Trail, LLC.”

**(C) Failure to Pay CAT Fees**

The CAT NMS Plan further states that:

Participants shall require each Industry Member to pay all applicable fees authorized under this Article XI within thirty (30) days after receipt of an invoice or other notice indicating payment is due (unless a longer payment period is otherwise indicated). If an Industry Member fails to pay any such fee when due (as

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<sup>89</sup> Section 11.4 of the CAT NMS Plan.

<sup>90</sup> The billing process and system are described in CAT Alert 2023-02 as well as the CAT FAQs related to the billing of CAT fees, the Industry Member CAT Reporter Portal User Guide, the FCAT Industry Member Onboarding Guide, the FCAT Connectivity Supplement for Industry Members and the CAT Billing Webinars (dated September 28, 2023 and November 7, 2023), each available on the CAT website.

determined in accordance with the preceding sentence), such Industry Member shall pay interest on the outstanding balance from such due date until such fee is paid at a per annum rate equal to the lesser of: (a) the Prime Rate plus 300 basis points; or (b) the maximum rate permitted by applicable law.<sup>91</sup>

Accordingly, the Exchange proposes to add this requirement to the Exchange's fee schedule.

Proposed paragraph b)ii) of the fee schedule would state:

Each CAT Executing Broker shall pay the CAT fees required pursuant to paragraph (a) within thirty days after receipt of an invoice or other notice indicating payment is due (unless a longer payment period is otherwise indicated). If a CAT Executing Broker fails to pay any such CAT fee when due, such CAT Executing Broker shall pay interest on the outstanding balance from such due date until such fee is paid at a per annum rate equal to the lesser of (i) the Prime Rate plus 300 basis points, or (ii) the maximum rate permitted by applicable law.

#### **(7) Historical CAT Assessment Details**

The CAT NMS Plan states that:

Details regarding the calculation of a CAT Executing Broker's Historical CAT Assessment will be provided upon request to such CAT Executing Broker. At a minimum, such details would include each CAT Executing Broker's executed equivalent share volume and corresponding fee by (1) Listed Options, NMS Stocks and OTC Equity Securities, (2) by transactions executed on each exchange and transactions executed otherwise than on an exchange, and (3) by buy-side transactions and sell-side transactions.<sup>92</sup>

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<sup>91</sup> Section 11.4 of the CAT NMS Plan.

<sup>92</sup> Section 11.3(a)(iv)(A) of the CAT NMS Plan.

Such information would provide CEBBs and CEBSs with the ability to understand the details regarding the calculation of their Historical CAT Assessment.<sup>93</sup> CAT LLC will provide CAT Executing Brokers with these details regarding the calculation of their Historical CAT Assessments on their monthly invoice for the Historical CAT Assessment.

In addition, CAT LLC will make certain aggregate statistics regarding Historical CAT Assessments publicly available. Specifically, the CAT NMS Plan states that, “[f]or each Historical CAT Assessment, at a minimum, CAT LLC will make publicly available the aggregate executed equivalent share volume and corresponding aggregate fee by (1) Listed Options, NMS Stocks and OTC Equity Securities, (2) by transactions executed on each exchange and transactions executed otherwise on an exchange, and (3) by buy-side transactions and sell-side transactions.”<sup>94</sup> Such aggregate statistics will be available on the CAT website.

Furthermore, CAT LLC will make publicly available on the CAT website the total amount invoiced each month that Historical CAT Assessment 1 is in effect as well as the total amount invoiced for Historical CAT Assessment 1 for all months since its commencement. CAT LLC also will make publicly available on the CAT website the total costs to be collected from Industry Members for Historical CAT Assessment 1. By reviewing statistics regarding how much has been invoiced and how much remains to be invoiced for Historical CAT Assessment 1, Industry Members would have sufficient information to reasonably track how much longer Historical CAT Assessment 1 is likely to be in place.

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<sup>93</sup> In approving the CAT Funding Model, the Commission stated that, “[i]n the Commission’s view, providing CAT Execut[ing] Brokers information regarding the calculation of their CAT Fees will aid in transparency and permit CAT Execut[ing] Brokers to confirm the accuracy of their invoices for CAT Fees.” CAT Funding Model Approval Order at 62667.

<sup>94</sup> Section 11.3(a)(iv)(B) of the CAT NMS Plan. In approving the CAT Funding Model, the Commission stated that “[t]he publication of the aggregate executed equivalent share volume and aggregate fee is appropriate because it would allow Participants and CAT Executing Brokers a high-level validation of executed volume and fees.” CAT Funding Model Approval Order at 62667.

**(8) Implementation Assistance**

To assist Industry Members with compliance with the commencement of Historical CAT Assessment 1, CAT LLC will make available to CAT Executing Brokers four months of mock invoices prior to the commencement of Historical CAT Assessment 1. Specifically, CAT Executing Brokers will receive mock invoices based on transaction data from November 2023, December 2023, January 2024 and February 2024. The mock invoices will be in the same form as the actual, payable invoices, including both the relevant transaction data and the corresponding fee. However, no payments will be required in response to such mock invoices; they are to be used solely to assist CAT Executing Brokers with the development of their processes for paying the CAT fees. Such data will provide CAT Executing Brokers with a preview of the transaction data used in creating the invoices for Historical CAT Assessment 1 fees, as the data will be the same as data provided in actual invoices. Such data preview is intended to facilitate the payment of Historical CAT Assessment 1.

**(9) Financial Accountability Milestones**

The CAT NMS Plan states that “[n]o Participant will make a filing with the SEC pursuant to Section 19(b) of the Exchange Act regarding any Historical CAT Assessment until any applicable Financial Accountability Milestone described in Section 11.6 has been satisfied.”<sup>95</sup> The CAT NMS Plan further states that “in all filings submitted by the Participants to the Commission under Section 19(b) of the Exchange Act, to establish or implement Post-Amendment Industry Member Fees pursuant to this Article, ... the Participants shall clearly indicate whether such fees are related to Post-Amendment Expenses incurred during Period 1, Period 2, Period 3, or Period 4.”<sup>96</sup> As discussed in detail below, all applicable Financial

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<sup>95</sup> Section 11.3(b)(iii)(B)(III) of the CAT NMS Plan.

<sup>96</sup> Section 11.6(b) of the CAT NMS Plan.

Accountability Milestones for Historical CAT Assessment 1 – that is, Period 1, Period 2 and Period 3 of the Financial Accountability Milestones – have been satisfied. Furthermore, as discussed below, this filing clearly indicates that Historical CAT Assessment 1 relates to Post-Amendment Expenses incurred during Periods 1, 2 and 3 of the Financial Accountability Milestones.

**(A) Period 1 of the Financial Accountability Milestones**

In accordance with Section 11.6(b) of the CAT NMS Plan, Historical CAT Assessment 1 seeks to recover costs that are related to “all fees, costs, and expenses (including legal and consulting fees, costs, and expenses) incurred by or for the Company in connection with the development, implementation and operation of the CAT from the effective date of [Section 11.6 of the CAT NMS Plan] until such time as Full Implementation of CAT NMS Plan Requirements has been achieved”<sup>97</sup> (“Post-Amendment Expenses”) incurred during FAM Period 1. FAM Period 1 began on June 22, 2020, the effective date of Section 11.6 of the CAT NMS Plan, and concluded on July 31, 2020, the date of Initial Industry Member Core Equity and Options Reporting. Section 1.1 of the CAT NMS Plan defines “Initial Industry Member Core Equity and Options Reporting” as:

The reporting by Industry Members (excluding Small Industry Members that are not OATS reporters) of both: (a) equities transaction data, excluding Customer Account Information, Customer-ID, and Customer Identifying Information; and (b) options transaction data, excluding Customer Account Information, Customer-ID and Customer Identifying Information.

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<sup>97</sup> Section 11.6 of the CAT NMS Plan.

Under Section 1.1 of the CAT NMS Plan, this Financial Accountability Milestone is considered complete as of the date identified in the Participants' Quarterly Progress Reports.<sup>98</sup> As indicated by the Participants' Quarterly Progress Report for the third quarter of 2020,<sup>99</sup> Initial Industry Member Core Equity and Option Reporting was completed on schedule on July 22, 2020, which is prior to the July 31, 2020 deadline.

Under the FAM Period 1 requirement of Initial Industry Member Core Equity and Options Reporting, Industry Members – excluding Small Industry Members that are not OATS reporters – were required to report two categories of data to the CAT: equities transaction data and options transaction data (both excluding Customer Account Information, Customer-ID, and Customer Identifying Information) by July 31, 2020. Pursuant to exemptive relief provided by the Commission, the Commission authorized the Participants' Compliance Rules to allow core equity reporting for Industry Members (Phase 2a) to begin on June 22, 2020 and core options reporting for Industry Members (Phase 2b) to begin on July 20, 2020.<sup>100</sup>

In adopting the FAMs, the Commission stated that the equities transaction reporting required for FAM Period 1 “is consistent with the functionality that the Participants describe on the CAT NMS Plan website as ‘Production Go-Live for Equities 2a file submission and data integrity validations.’”<sup>101</sup> The Phase 2a Industry Member Data is described in detail in the

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<sup>98</sup> The Quarterly Progress Reports are available at <https://www.catnmsplan.com/implementation-plan>.

<sup>99</sup> See Q3 2020 Quarterly Progress Report (Oct. 30, 2020) and Updated Q3 2020 Quarterly Progress Report (Jan. 29, 2021).

<sup>100</sup> See Phased Reporting Exemptive Relief Order. Under the CAT NMS Plan as adopted, the Participants were required, through their Compliance Rules, to require their Large Industry Members to commence reporting Industry Member Data to the Central Repository by November 15, 2018, and to require their Small Industry Members to commence reporting Industry Member Data to the Central Repository by November 15, 2019. Sections 6.7(a)(v) and (vi) of the CAT NMS Plan. The SEC granted exemptive relief from these provisions of the CAT NMS Plan to allow for the phased implementation of Industry Member reporting via five phases addressing the reporting requirements for Phase 2a Industry Member Data, Phase 2b Industry Member Data, Phase 2c Industry Member Data, Phase 2d Industry Member Data and Phase 2e Industry Member Data.

<sup>101</sup> Securities Exchange Act Rel. No. 88890, 85 Fed. Reg. 31322, 31330 n.97 (“FAM Adopting Release”).

SEC's Phased Reporting Exemptive Relief Order, and includes the following data related to Eligible Securities that are equities:

- All events and scenarios covered by OATS, which includes information related to the receipt or origination of orders, order transmittal, and order modifications, cancellations and executions;
- Reportable Events for: (1) proprietary orders, including market maker orders, for Eligible Securities that are equities; (2) electronic quotes in listed equity Eligible Securities (*i.e.*, NMS stocks) sent to a national securities exchange or FINRA's Alternative Display Facility ("ADF"); (3) electronic quotes in unlisted Eligible Securities (*i.e.*, OTC Equity Securities) received by an Industry Member operating an interdealer quotation system ("IDQS"); and (4) electronic quotes in unlisted Eligible Securities sent to an IDQS or other quotation system not operated by a Participant or Industry Member;
- Firm Designated IDs ("FDIDs"), which Industry Members must report to the CAT as required by Sections 6.3(d)(i)(A) and 6.4(d)(ii)(C) of the CAT NMS Plan.
- Industry Members would be required to report all street side representative orders, including both agency and proprietary orders and mark such orders as representative orders, except in certain limited exceptions as described in the Industry Member Technical Specifications;
- The link between the street side representative order and the order being represented when: (1) the representative order was originated specifically to represent a single order received either from a customer or another broker-dealer; and (2) there is (a) an existing direct electronic link in the Industry Member's system between the order being represented and the representative order and (b) any resulting executions are immediately and automatically applied to the represented order in the Industry Member's system;



- Manual and Electronic Capture Time for Manual Order Events;
- Special handling instructions for the original receipt or origination of an order during Phase 2a; and
- When routing an order, whether the order was routed as an intermarket sweep order (“ISO”).

In Phase 2a, Industry Members were not required to report modifications of a previously routed order in certain limited instances, nor were they required to report a cancellation of an order received from a Customer after the order has been executed.<sup>102</sup>

The Quarterly Progress Report for the third quarter of 2020 states that “Interim Step: Production Go-Live for Equities 2a file submission and data integrity validation (Large Industry Members and Small OATS Reporters)” was completed on June 22, 2020. Accordingly, the FAM Period 1 requirement of reporting by Industry Members (excluding Small Industry Members that are not OATS reporters) of “equities transaction data, excluding Customer Account Information, Customer-ID, and Customer Identifying Information” was completed on June 22, 2020.

In adopting the FAMs, the Commission stated that the options transaction reporting required for FAM Period 1 is “consistent with the functionality that the Participants describe on the CAT NMS Plan website as ‘Production Go-Live for Options 2b file submission and data integrity validations.’”<sup>103</sup> The Phase 2b Industry Member Data is described in detail in the SEC’s Phased Reporting Exemptive Relief Order, and includes the Industry Member Data related to Eligible Securities that are options and related to simple electronic option orders, excluding electronic paired option orders. A simple electronic option order is an order to buy or

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<sup>102</sup> Phased Reporting Exemptive Relief Order at 23076-78.

<sup>103</sup> FAM Adopting Release at 31330, n.98.

sell a single option that is not related to or dependent on any other transaction for pricing and timing of execution that is either received or routed electronically by an Industry Member.

Electronic receipt of an order is defined as the initial receipt of an order by an Industry Member in electronic form in standard format directly into an order handling or execution system.

Electronic routing of an order is the routing of an order via electronic medium in standard format from one Industry Member's order handling or execution system to an exchange or another Industry Member. An electronic paired option order is an electronic option order that contains both the buy and sell side that is routed to another Industry Member or exchange for crossing and/or price improvement as a single transaction on an exchange. Responses to auctions of simple orders and paired simple orders would be reportable in Phase 2b. Furthermore, combined orders in options would be treated in Phase 2b in the same way as equity representative orders are treated in Phase 2a. A combined order would mean, as permitted by SRO rules, a single, simple order in Listed Options created by combining individual, simple orders in Listed Options from a customer with the same exchange origin code before routing to an exchange. During Phase 2b, the single combined order sent to an exchange must be reported and marked as a combined order, but the linkage to the underlying orders is not required to be reported until Phase 2d.<sup>104</sup>

The Quarterly Progress Report for the third quarter of 2020 states that "Interim Step: Production Go-Live for Options 2b file submission and data integrity validations" was completed on July 20, 2020. Accordingly, the FAM Period 1 requirement of reporting by Industry Members (excluding Small Industry Members that are not OATS reporters) of "options

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<sup>104</sup> Phased Reporting Exemptive Relief Order at 23078.

transaction data, excluding Customer Account Information, Customer-ID and Customer Identifying Information” was completed on July 20, 2020.

As discussed above, the Historical CAT Costs 1 to be recovered via Historical CAT Assessment 1 would include fees, costs and expenses incurred by or for the Company in connection with the development, implementation and operation of the CAT during the period from June 22, 2020 through July 31, 2020. The total costs for this period, as discussed above, are \$6,377,343. Participants would remain responsible for one-third of this cost (which they have previously paid), and Industry Members would be responsible for the remaining two-thirds, with CEBBs paying one-third (\$2,125,781) and CEBSs paying one-third (\$2,125,781).

**(B) Period 2 of the Financial Accountability Milestones**

Historical CAT Assessment 1 seeks to recover costs that are related to Post-Amendment Expenses incurred during FAM Period 2. FAM Period 2 began on August 1, 2020, and concluded on December 31, 2020, the date of the Full Implementation of Core Equity Reporting. Section 1.1 of the CAT NMS Plan defines “Full Implementation of Core Equity Reporting” as:

the point at which: (a) Industry Member reporting (excluding reporting by Small Industry Members that are not OATS reporters) for equities transactions, excluding Customer Account Information, Customer-ID, and Customer Identifying Information, is developed, tested, and implemented at a 5% Error Rate or less and with sufficient intra-firm linkage, inter-firm linkage, national securities exchange linkage, and trade reporting facilities linkage to permit the Participants and the Commission to analyze the full lifecycle of an order across the national market system, excluding linkage of representative orders, from order origination through order execution or order cancellation; and (b) the query tool functionality required by Section 6.10(c)(i)(A) and Appendix D, Sections 8.1.1-8.1.3 and Section 8.2.1

incorporates the Industry Member equities transaction data described in condition (a) and is available to the Participants and to the Commission. This Financial Accountability Milestone shall be considered complete as of the date identified in a Quarterly Progress Report meeting the requirements of Section 6.6(c).

Under Section 1.1 of the CAT NMS Plan, this Financial Accountability Milestone is considered complete as of the date identified in the Participants' Quarterly Progress Reports. As indicated by the Participants' Quarterly Progress Report for the fourth quarter of 2020,<sup>105</sup> Full Implementation of Core Equity Reporting was completed on schedule by December 31, 2020.

Specifically, the Full Implementation of Core Equity Reporting requires the satisfaction of two prongs. The first prong requires Participants to have fully implemented the first phase of equities transaction reporting for Industry Members (excluding Small Industry Members that are not OATS reporters) at an Error Rate of less than 5%. In addition, equities transaction data produced by the CAT at this stage must also be sufficiently interlinked so as to permit full analysis of an order's lifecycle across the national market, excluding full linkage of representative orders. As CAT LLC reported on its Quarterly Progress Reports, Phase 2a was fully implemented as of October 26, 2020, including intra-firm, inter-firm, national securities exchange, and trade reporting facilities linkages.<sup>106</sup> In addition to the reporting of Phase 2a Industry Member Data as described above with regard to FAM Period 1, the following linkage data was added to the CAT as described in the Quarterly Progress Reports for the third and fourth quarter of 2020:

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<sup>105</sup> Q4 2020 Quarterly Progress Report (Jan. 29, 2021).

<sup>106</sup> For a description of the requirements of Phases 2a, *see* Phased Reporting Exemptive Relief Order.

- “Production Go-Live for Equities 2a Intrafirm Linkage validations” was completed on 7/27/2020;<sup>107</sup>
- “Production Go-Live for Firm to Firm Linkage validations for Equities 2a (Large Industry Members and Small OATS Reporters)” was completed on October 26, 2020; and
- “Production Go-Live for Equities 2a Exchange and TRF Linkage validations (Large Industry Members and Small OATS Reporters)” was completed on October 26, 2020.

Furthermore, as CAT LLC reported on its Quarterly Progress Report for the fourth quarter of 2020, the average overall error rate for Phase 2a Industry Member Data was less than 5% as of December 31, 2020. The average overall error rate was calculated by dividing the compliance errors by processed records.

The second prong of this FAM requires that the equities transaction data collected by the CAT at this stage be made available to regulators through two basic query tools required by the CAT NMS Plan – a targeted query tool that will enable regulators to retrieve data via an online query screen with a variety of predefined selection criteria, and a user-defined direct query tool that will provide regulators with the ability to query data using all available attributes and data sources.<sup>108</sup> As CAT LLC reported on its Quarterly Progress Reports, the query tool functionality incorporating the data from Phase 2a was available to the Participants and the Commission as of December 31, 2020.<sup>109</sup>

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<sup>107</sup> Q3 2020 Quarterly Progress Report (Oct. 20, 2021).

<sup>108</sup> Section 6.10(c)(i)(A) of the CAT NMS Plan requires the Plan Processor to “provide Participants and the SEC with access to all CAT Data stored in the Central Repository” via an “online targeted query tool.” Appendix D, Sections 8.1.1-8.1.3 of the CAT NMS Plan describes the required functionality associated with this regulatory tool. Appendix D, Section 8.2.1 describes the required functionality associated with a user-defined direct query tool that will “deliver large sets of data that can then be used in internal surveillance or market analysis applications.”

<sup>109</sup> See Q3 2020 Quarterly Progress Report (Oct. 30, 2020); Updated Q3 2020 Quarterly Progress Report (Jan. 29, 2021); and Q4 2020 Quarterly Progress Report (Jan. 29, 2021).

The Commission has determined that the Participants have sufficiently complied with the conditions set forth in the 2020 Orders and with the technical requirements for Quarterly Progress Reports set forth in Section 6.6(c) of the CAT NMS Plan for purposes of determining compliance with this FAM.<sup>110</sup>

As discussed above, Historical CAT Costs 1 to be recovered via Historical CAT Assessment 1 would include fees, costs and expenses incurred by or for the Company in connection with the development, implementation and operation of the CAT during the period from August 1, 2020 through December 31, 2020. The total costs for this period, as discussed above, are \$42,976,478. Participants would remain responsible for one-third of this cost (which they have previously paid), and Industry Members would be responsible for the remain two-thirds, with CEBBs paying one-third (\$14,325,492.70) and CEBSs paying one-third (\$14,325,492.70).

### **(C) Period 3 of the Financial Accountability Milestones**

Historical CAT Assessment 1 seeks to recover costs that are related to Post-Amendment Expenses incurred during FAM Period 3. FAM Period 3 began on January 1, 2021, and concluded on December 31, 2021, the date of the Full Availability and Regulatory Utilization of Transactional Database Functionality. Section 1.1 of the CAT NMS Plan defines “Full Availability and Regulatory Utilization of Transactional Database Functionality” as:

the point at which: (a) reporting to the Order Audit Trail System (“OATS”) is no longer required for new orders; (b) Industry Member reporting for equities transactions and simple electronic options transactions, excluding Customer Account Information, Customer-ID, and Customer Identifying Information, with

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<sup>110</sup> Securities Exchange Act Rel. No. 98848 (Nov. 2, 2023), 88 Fed. Reg. 77128, 77129 n.13 (Nov. 8, 2023) (“Settlement Exemptive Order”).

sufficient intra-firm linkage, inter-firm linkage, national securities exchange linkage, trade reporting facilities linkage, and representative order linkages (including any equities allocation information provided in an Allocation Report) to permit the Participants and the Commission to analyze the full lifecycle of an order across the national market system, from order origination through order execution or order cancellation, is developed, tested, and implemented at a 5% Error Rate or less; (c) Industry Member reporting for manual options transactions and complex options transactions, excluding Customer Account Information, Customer-ID, and Customer Identifying Information, with all required linkages to permit the Participants and the Commission to analyze the full lifecycle of an order across the national market system, from order origination through order execution or order cancellation, including any options allocation information provided in an Allocation Report, is developed, tested, and fully implemented; (d) the query tool functionality required by Section 6.10(c)(i)(A) and Appendix D, Sections 8.1.1-8.1.3, Section 8.2.1, and Section 8.5 incorporates the data described in conditions (b)-(c) and is available to the Participants and to the Commission; and (e) the requirements of Section 6.10(a) are met. This Financial Accountability Milestone shall be considered complete as of the date identified in a Quarterly Progress Report meeting the requirements of Section 6.6(c).

Under Section 1.1 of the CAT NMS Plan, this Financial Accountability Milestone is considered complete as of the date identified in the Participants' Quarterly Progress Reports. As indicated by the Participants' Quarterly Progress Report for the fourth quarter of 2021,<sup>111</sup> Full Availability

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<sup>111</sup> Q4 2021 Quarterly Progress Report (Jan. 17, 2022).

and Regulatory Utilization of Transactional Database Functionality was completed on schedule by December 31, 2021.

Specifically, the “Full Availability and Regulatory Utilization of Transactional Database Functionality” requires the satisfaction of five prongs. The first prong requires that reporting to the Order Audit Trail System (“OATS”) is no longer required for new orders. As CAT LLC reported on its Quarterly Progress Report for the fourth quarter of 2021,<sup>112</sup> FINRA retired OATS effective September 1, 2021.<sup>113</sup> Accordingly, after the retirement of OATS, reporting to OATS was no longer required.

In addition to Phase 2a and Phase 2b Industry Member Data, the second and third prongs of “Full Availability and Regulatory Utilization of Transactional Database Functionality” require Industry Member reporting of Phase 2c Industry Member Data and Phase 2d Industry Member Data. The Phase 2c Industry Member Data is described in detail in the SEC’s Phased Reporting Exemptive Relief Order. That Order states that “Phase 2c Industry Member Data” is Industry Member Data related to Eligible Securities that are equities other than Phase 2a Industry Member Data, Phase 2d Industry Member Data, or Phase 2e Industry Member Data. Specifically, the Phase 2c Industry Member Data includes Industry Member Data that is related to Eligible Securities that are equities and that is related to: (1) Allocation Reports as required to be recorded and reported to the Central Repository pursuant to Section 6.4(d)(ii)(A)(1) of the CAT NMS Plan; (2) quotes in unlisted Eligible Securities sent to an IDQS operated by a CAT Reporter (reportable by the Industry Member sending the quotes) (except for quotes reportable in Phase 2d, as discussed below); (3) electronic quotes in listed equity Eligible Securities (*i.e.*, NMS stocks) that are not sent to a national securities exchange or FINRA’s Alternative Display

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<sup>112</sup> *Id.*

<sup>113</sup> Securities Exchange Act Rel. No. 92239 (June 23, 2021), 86 Fed. Reg. 34293 (June 29, 2021).



Facility; (4) reporting changes to client instructions regarding modifications to algorithms; (5) marking as a representative order any order originated to work a customer order in price guarantee scenarios, such as a guaranteed VWAP; (6) flagging rejected external routes to indicate a route was not accepted by the receiving destination; (7) linkage of duplicate electronic messages related to a Manual Order Event between the electronic event and the original manual route; (8) special handling instructions on order route reports (other than the ISO, which is required to be reported in Phase 2a); (9) quote identifier on trade events; (10) reporting of LTIDs (if applicable) for accounts with Reportable Events that are reportable to CAT as of and including Phase 2c; (11) reporting of date account opened or Account Effective Date<sup>71</sup> (as applicable) for accounts and reporting of a flag indicating the Firm Designated ID type as account or relationship; (12) order effective time for orders that are received by an Industry Member and do not become effective until a later time; (13) the modification or cancellation of an internal route of an order; and (14) linkages to the customer orders(s) being represented for representative order scenarios, including agency average price trades, net trades, aggregated orders, and disconnected Order Management System (“OMS”) – Execution Management System (“EMS”) scenarios, as required in the Industry Member Technical Specifications.<sup>114</sup>

Phase 2c Industry Member Data also includes electronic quotes that are provided by or received in a CAT Reporter’s order/quote handling or execution systems in Eligible Securities that are equities and are provided by an Industry Member to other market participants off a national securities exchange under the following conditions: (1) an equity bid or offer is displayed publicly or has been communicated (a) for listed securities to the Alternative Display Facility (ADF) operated by FINRA; or (b) for unlisted equity securities to an “interdealer

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<sup>114</sup> Phase Reporting Exemptive Relief Order at 23078-79.

quotation system,” as defined in FINRA Rule 6420(c); or (2) an equity bid or offer which is accessible electronically by customers or other market participants and is immediately actionable for execution or routing; *i.e.*, no further manual or electronic action is required by the responder providing the quote in order to execute or cause a trade to be executed). With respect to OTC Equity Securities, OTC Equity Securities quotes sent by an Industry Member to an IDQS operated by an Industry Member CAT Reporter (other than such an IDQS that does not match and execute orders) are reportable by the Industry Member sending them in Phase 2c. Accordingly, any response to a request for quote or other form of solicitation response provided in a standard electronic format (*e.g.*, FIX) that meets this quote definition (*i.e.*, an equity bid or offer which is accessible electronically by customers or other market participants and is immediately actionable for execution or routing) would be reportable in Phase 2c.<sup>115</sup>

The Phase 2d Industry Member Data is described in detail in the SEC’s Phased Reporting Exemptive Relief Order. “Phase 2d Industry Member Data” is Industry Member Data that is related to Eligible Securities that are options other than Phase 2b Industry Member Data, Industry Member Data that is related to Eligible Securities that are equities other than Phase 2a Industry Member Data or Phase 2c Industry Member Data, and Industry Member Data other than Phase 2e Industry Member Data. Phase 2d Industry Member Data includes with respect to the Eligible Securities that are options: (1) simple manual orders; (2) electronic and manual paired orders; (3) all complex orders with linkages to all CAT-reportable legs; (4) LTIDs (if applicable) for accounts with Reportable Events for Phase 2d; (5) date account opened or Account Effective Date (as applicable) for accounts with an LTID and flag indicating the Firm Designated ID type as account or relationship for such accounts; (6) Allocation Reports as required to be recorded

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<sup>115</sup> *Id.* at 23079.

and reported to the Central Repository pursuant to Section 6.4(d)(ii)(A)(1) of the CAT NMS Plan; (7) the modification or cancellation of an internal route of an order; and (8) linkage between a combined order and the original customer orders. Phase 2d Industry Member Data also would include electronic quotes that are provided by or received in a CAT Reporter's order/quote handling or execution systems in Eligible Securities that are options and are provided by an Industry Member to other market participants off a national securities exchange under the following conditions: a listed option bid or offer which is accessible electronically by customers or other market participants and is immediately actionable (*i.e.*, no further action is required by the responder providing the quote in order to execute or cause a trade to be executed). Accordingly, any response to a request for quote or other form of solicitation response provided in standard electronic format (*e.g.*, FIX) that meets this definition is reportable in Phase 2d for options.<sup>116</sup>

Phase 2d Industry Member Data also includes with respect to Eligible Securities that are options or equities (1) receipt time of cancellation and modification instructions through Order Cancel Request and Order Modification Request events; (2) modifications of previously routed orders in certain instances; and (3) OTC Equity Securities quotes sent by an Industry Member to an IDQS operated by an Industry Member CAT Reporter that does not match and execute orders. In addition, subject to any exemptive or other relief, Phase 2d Industry Member Data will include verbal or manual quotes on an exchange floor or in the over-the-counter market, where verbal quotes and manual quotes are defined as bids or offers in Eligible Securities provided verbally or that are provided or received other than via a CAT Reporter's order handling and execution system (*e.g.*, quotations provided via email or instant messaging).<sup>117</sup>

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<sup>116</sup> *Id.*

<sup>117</sup> *Id.* at 23079-80.

The Quarterly Progress Report for the fourth quarter of 2021 states that “Phase 2a was fully implemented as of October 26, 2020;” “Phase 2b was fully implemented as of January 4, 2021;” “Phase 2c was implemented as of April 26, 2021;” and “Phase 2d was fully implemented as of December 13, 2021.”<sup>118</sup> The Quarterly Progress Reports for 2021 provide additional detail regarding the implementation of these steps including the following:

- “Production Go-Live for Equities 2c reporting requirements (Large Industry Members)” was completed on April 26, 2021;
- “LTID Account Information Reporting Go-Live for Phases 2a, 2b and 2c (Large Industry Members)” was completed on April 26, 2021;
- “FCAT Plan Processor creates linkages of the lifecycle of order events based on the received data through Phase 2d Production Go-Live for Options 2d reporting requirements (Large Industry Members)” was completed on December 13, 2021;
- “Production Go-Live for Options 2d reporting requirements (Large Industry Members)” was completed on December 13, 2021;
- “Production Go-Live for Options 2b reporting requirements (Small OATS Reporters and Small Non-OATS Reporters)” was completed on December 13, 2021;
- “Production Go-Live for Equities 2c reporting requirements (Small OATS Reporters and Small Non-OATS Reporters)” was completed on December 13, 2021;
- “Production Go-Live for Options 2d reporting requirements (Small OATS Reporters and Small Non-OATS Reporters)” was completed on December 13, 2021;
- “LTID Account Information Reporting Go-Live for Phases 2d (Large Industry Members)” was completed on December 13, 2021; and

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<sup>118</sup> See Q4 2021 Quarterly Progress Report (Jan. 17, 2022).

- “LTID Account Information Reporting Go-Live for Phases 2a, 2b, 2c and 2d (Small Industry Members)” was completed on December 13, 2021.<sup>119</sup>

The third prong of “Full Availability and Regulatory Utilization of Transactional Database Functionality” also imposes an Error Rate requirement of 5% or less. The Quarterly Progress Report for the fourth quarter of 2021 states the average overall error rate was less than 5% as of December 31, 2021. The average overall error rate was calculated by dividing the compliance errors by processed records.

The fourth prong of “Full Availability and Regulatory Utilization of Transactional Database Functionality” requires that the data collected by the CAT at this stage be made available to regulators through an online targeted query tool and a user-defined direct query tool. As CAT LLC reported on its Quarterly Progress Report for the fourth quarter of 2021, the query tool functionality incorporating the data from Phases 2a, 2b, 2c and 2d was available to the Participants and to the Commission as of December 31, 2021.<sup>120</sup>

The fifth prong requires the requirements of Section 6.10(a) of the CAT NMS Plan to have been met. Section 6.10(a) of the CAT NMS Plan requires the Participants to use the tools described in Appendix D to “develop and implement a surveillance system, or enhance existing surveillance systems, reasonably designed to make use of the consolidated information contained in the Central Repository.” The Exchange implemented a surveillance system, or enhanced existing surveillance systems, reasonably designed to make use of the consolidated information

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<sup>119</sup> See Q2 2021 Quarterly Progress Report (July 27, 2021); and Q4 2021 Quarterly Progress Report (Jan. 17, 2022).

<sup>120</sup> See Q4 2021 Quarterly Progress Report (Jan. 17, 2022).

contained in the Central Repository as of December 31, 2021 in accordance with Section 6.10(a) of the CAT NMS Plan.<sup>121</sup>

The Commission has determined that the Participants have sufficiently complied with the conditions set forth in the 2020 Orders and with the technical requirements for Quarterly Progress Reports set forth in Section 6.6(c) of the CAT NMS Plan for purposes of determining compliance with this FAM.<sup>122</sup>

As discussed above, Historical CAT Costs 1 to be recovered via Historical CAT Assessment 1 would include fees, costs and expenses incurred by or for the Company in connection with the development, implementation and operation of the CAT during the period from January 1, 2021 through December 31, 2021. The total costs for this period, as discussed above, are \$144,415,268. Participants would remain responsible for one-third of this cost (which they have previously paid), and Industry Members would be responsible for the remaining two-thirds, with CEBBs paying one-third (\$48,138,422.70) and CBSs paying one-third (\$48,138,422.70).

## 2. Statutory Basis

The Exchange believes the proposed rule change is consistent with the requirements of the Exchange Act. The Exchange believes that the proposed rule change is consistent with Section 6(b)(5) of the Act,<sup>123</sup> which requires, among other things, that the Exchange's rules must be designed to prevent fraudulent and manipulative acts and practices, to promote just and equitable principles of trade, and, in general, to protect investors and the public interest, and not

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<sup>121</sup> See Q1 2021 Quarterly Progress Report (April 30, 2021); Q2 2021 Quarterly Progress Report (July 27, 2021); Q3 2021 Quarterly Progress Report (Nov. 1, 2021); Q4 2021 Quarterly Progress Report (Jan. 17, 2022).

<sup>122</sup> Settlement Exemptive Order at 77129 n.13.

<sup>123</sup> 15 U.S.C. 78f(b)(6).

designed to permit unfair discrimination between customers, issuers, brokers and dealers. The Exchange also believes that the proposed rule change is consistent with the provisions of Section 6(b)(4) of the Act,<sup>124</sup> because it provides for the equitable allocation of reasonable dues, fees and other charges among members and issuers and other persons using its facilities and does not unfairly discriminate between customers, issuers, brokers or dealers. The Exchange further believes that the proposed rule change is consistent with Section 6(b)(8) of the Act,<sup>125</sup> which requires that the Exchange's rules not impose any burden on competition that is not necessary or appropriate in furtherance of the purpose of the Exchange Act. These provisions also require that the Exchange be "so organized and [have] the capacity to be able to carry out the purposes" of the Act and "to comply, and . . . to enforce compliance by its members and persons associated with its members," with the provisions of the Exchange Act.<sup>126</sup> Accordingly, a reasonable reading of the Act indicates that it intended that regulatory funding be sufficient to permit an exchange to fulfill its statutory responsibility under the Act, and contemplated that such funding would be achieved through equitable assessments on the members, issuers, and other users of an exchange's facilities.

The Exchange believes that this proposal is consistent with the Act because it implements provisions of the Plan and is designed to assist the Exchange in meeting regulatory obligations pursuant to the Plan. In approving the Plan, the SEC noted that the Plan "is necessary and appropriate in the public interest, for the protection of investors and the maintenance of fair and orderly markets, to remove impediments to, and perfect the mechanism of a national market

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<sup>124</sup> 15 U.S.C. 78f(b)(4).

<sup>125</sup> 15 U.S.C. 78f(b)(8).

<sup>126</sup> *See* Section 6(b)(1) of the Exchange Act.

system, or is otherwise in furtherance of the purposes of the Act.”<sup>127</sup> To the extent that this proposal implements the Plan and applies specific requirements to Industry Members, the Exchange believes that this proposal furthers the objectives of the Plan, as identified by the SEC, and is therefore consistent with the Act.

The Exchange believes that the proposed fees paid by the CEBBs and CEBSs are reasonable, equitably allocated and not unfairly discriminatory. First, the Historical CAT Assessment 1 fees to be collected are directly associated with the costs of establishing and maintaining the CAT, where such costs include Plan Processor costs and costs related to technology, legal, consulting, insurance, professional and administration, and public relations costs. The Exchange has already incurred such development and implementation costs and the proposed Historical CAT Assessment 1 fees, therefore, would allow the Exchange to collect certain of such costs in a fair and reasonable manner from Industry Members, as contemplated by the CAT NMS Plan.

The proposed Historical CAT Assessment 1 fees would be charged to Industry Members in support of the maintenance of a consolidated audit trail for regulatory purposes. The proposed fees, therefore, are consistent with the Commission’s view that regulatory fees be used for regulatory purposes and not to support the Exchange’s business operations. The proposed fees would not cover Exchange services unrelated to the CAT. In addition, any surplus would be used as a reserve to offset future fees. Given the direct relationship between CAT fees and CAT costs, the Exchange believes that the proposed fees are reasonable, equitable and not unfairly discriminatory.

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<sup>127</sup> CAT NMS Plan Approval Order at 84697.



As further discussed below, the SEC approved the CAT Funding Model, finding it was reasonable and that it equitably allocates fees among Participants and Industry Members. The Exchange believes that the proposed fees adopted pursuant to the CAT Funding Model approved by the SEC are reasonable, equitably allocated and not unfairly discriminatory.

**(1) Implementation of CAT Funding Model in CAT NMS Plan**

Section 11.1(b) of the CAT NMS Plan states that “[t]he Participants shall file with the SEC under Section 19(b) of the Exchange Act any such fees on Industry Members that the Operating Committee approves.” Per Section 11.1(b) of the CAT NMS Plan, the Exchange has filed this fee filing to implement the Industry Member CAT fees included in the CAT Funding Model. The Exchange believes that this proposal is consistent with the Exchange Act because it is consistent with, and implements, the CAT Funding Model in the CAT NMS Plan, and is designed to assist the Exchange and its Industry Members in meeting regulatory obligations pursuant to the CAT NMS Plan. In approving the CAT NMS Plan, the SEC noted that the Plan “is necessary and appropriate in the public interest, for the protection of investors and the maintenance of fair and orderly markets, to remove impediments to, and perfect the mechanism of a national market system, or is otherwise in furtherance of the purposes of the Act.”<sup>128</sup> Similarly, in approving the CAT Funding Model, the SEC concluded that the CAT Funding Model met this standard.<sup>129</sup> As this proposal implements the Plan and the CAT Funding Model described therein, and applies specific requirements to Industry Members in compliance with the Plan, the Exchange believes that this proposal furthers the objectives of the Plan, as identified by the SEC, and is therefore consistent with the Exchange Act.

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<sup>128</sup> CAT NMS Plan Approval Order at 84696.

<sup>129</sup> CAT Funding Model Approval Order at 62686.

**(2) Calculation of Fee Rate for Historical CAT Assessment 1 is Reasonable**

The SEC has determined that the CAT Funding Model is reasonable and satisfies the requirements of the Exchange Act. Specifically, the SEC has concluded that the method for determining Historical CAT Assessments as set forth in Section 11.3 of the CAT NMS Plan, including the formula for calculating the Historical Fee Rate, the identification of the parties responsible for payment and the transactions subject to the fee rate for the Historical CAT Assessment, is reasonable and satisfies the Exchange Act.<sup>130</sup> In each respect, as discussed above, Historical CAT Assessment 1 is calculated, and would be applied, in accordance with the requirements applicable to Historical CAT Assessments as set forth in the CAT NMS Plan. Furthermore, as discussed below, the Exchange believes that each of the figures for the variables in the SEC-approved formula for calculating the fee rate for Historical CAT Assessment 1 is reasonable and consistent with the Exchange Act. Calculation of the Historical Fee Rate for Historical CAT Assessment 1 requires the figures for the Historical CAT Costs 1, the executed equivalent share volume for the prior twelve months, the determination of Historical Recovery Period 1, and the projection of the executed equivalent share volume for Historical Recovery Period 1. Each of these variables is reasonable and satisfies the Exchange Act, as discussed throughout this filing.

**(A) Historical CAT Costs 1**

The formula for calculating a Historical Fee Rate requires the amount of Historical CAT Costs to be recovered. Specifically, Section 11.3(b)(iii)(B)(II) of the CAT NMS Plan requires a fee filing to provide:

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<sup>130</sup> *Id.* at 62662-63.

a brief description of the amount and type of the Historical CAT Costs, including (1) the technology line items of cloud hosting services, operating fees, CAIS operating fees, change request fees, and capitalized developed technology costs, (2) legal, (3) consulting, (4) insurance, (5) professional and administration and (6) public relations costs.

In accordance with this requirement, the Exchange has set forth the amount and type of Historical CAT Costs 1 for each of these categories of costs above.

Section 11.3(b)(iii)(B)(II) of the CAT NMS Plan also requires that the fee filing provide “sufficient detail to demonstrate that the Historical CAT Costs are reasonable and appropriate.” As discussed below, the Exchange believes that the amounts set forth in this filing for each of these cost categories is “reasonable and appropriate.” Each of the costs included in Historical CAT Costs 1 are reasonable and appropriate because the costs are consistent with standard industry practice, based on the need to comply with the requirements of the CAT NMS Plan, incurred subject to negotiations performed on an arm’s length basis, and/or are consistent with the needs of any legal entity, particularly one with no employees.

**(i) Technology: Cloud Hosting Services**

In approving the CAT Funding Model, the Commission recognized that it is appropriate to recover costs related to cloud hosting services as a part of Historical CAT Assessments.<sup>131</sup> CAT LLC determined that the costs related to cloud hosting services described in this filing are reasonable and should be included as a part of Historical CAT Costs 1. As described above, the cloud hosting services costs reflect, among other things, the breadth of the CAT cloud activities, data volume far in excess of the original volume estimates, the need for specialized cloud

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<sup>131</sup> Section 11.3(b)(iii)(B)(II)(B)(1) of the CAT NMS Plan.

services given the volume and unique nature of the CAT, the processing time requirements of the Plan, and regular efforts to seek to minimize costs where permissible under the Plan. CAT LLC determined that use of cloud hosting services is necessary for implementation of the CAT, particularly given the substantial data volumes associated with the CAT, and that the fees for cloud hosting services negotiated by FCAT were reasonable, taking into consideration a variety of factors, including the expected volume of data and the breadth of services provided and market rates for similar services.<sup>132</sup> Indeed, the actual costs of the CAT are far in excess of the original estimated costs of the CAT due to various factors, including the higher volumes and greater complexity of the CAT than anticipated when Rule 613 was originally adopted.

To comply with the requirements of the Plan, the breadth of the cloud activities related to the CAT is substantial. The cloud services not only include the production environment for the CAT, but they also include two industry testing environments, support environments for quality assurance and stress testing and disaster recovery capabilities. Moreover, the cloud storage costs are driven by the requirements of the Plan, which requires the storage of multiple versions of the data, from the original submitted version of the data through various processing steps, to the final version of the data.

Data volume is a significant driver of costs for cloud hosting services. When the Commission adopted the CAT NMS Plan in 2016, it estimated that the CAT would need to receive 58 billion records per day<sup>133</sup> and that annual operating costs for the CAT would range

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<sup>132</sup> For a discussion of the amount and type of cloud hosting services fees, see Sections 3(a)(2)(B)(i)(a), 3(a)(2)(B)(ii)(a), 3(a)(2)(B)(iii)(a) and 3(a)(2)(B)(iv)(A) above.

<sup>133</sup> Appendix D-4 of the CAT NMS Plan at n.262.

from \$36.5 million to \$55 million.<sup>134</sup> Through 2021, the actual data volumes have been five times that original estimate. The data volumes for each period are set forth in detail above.<sup>135</sup>

In addition to the effect of the data volume on the cloud hosting costs, the processing timelines set forth in the Plan contribute to the cloud hosting costs. Although CAT LLC has proactively sought to manage cloud hosting costs while complying with the Plan, including through requests to the Commission for exemptive relief and an amendment to the CAT NMS Plan, stringent CAT NMS Plan requirements do not allow for any material flexibility in cloud architecture design choices, processing timelines (*e.g.*, the use of non-peak processing windows), or lower-cost storage tiers. As a result, the required CAT processing timelines contribute to the cloud hosting costs of the CAT.

The costs for cloud hosting services also reflect the need for specialized cloud hosting services given the data volume and unique processing needs of the CAT. The data volume as well as the data processing needs of the CAT necessitate the use of cloud hosting services. The equipment, power and services required for an on-premises data model, the alternative to cloud hosting services, would be cost prohibitive. Moreover, as CAT was being developed, there were limited cloud hosting providers that could satisfy all the necessary CAT requirements, including the operational and security criteria. Over time more providers offering cloud hosting services that would satisfy these criteria have entered the market. CAT LLC will continue to evaluate alternative cloud hosting services, recognizing that the time and cost to move to an alternative cloud provider would be substantial.

The reasonableness of the cloud hosting services costs is further supported by key cost discipline mechanisms for the CAT – a cost-based funding structure, cost transparency, cost

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<sup>134</sup> CAT NMS Plan Approval Order at 84801.

<sup>135</sup> *See* Sections 3(a)(2)(B)(i)(a), 3(a)(2)(B)(ii)(a), 3(a)(2)(B)(iii)(a) and 3(a)(2)(B)(iv)(A) above.

management efforts (including regular efforts to lower compute and storage costs where permitted by the Plan) and oversight. Together, these mechanisms help ensure the ongoing reasonableness of the CAT's costs and the level of fees assessed to support those costs.<sup>136</sup>

**(ii) Technology: Operating Fees**

In approving the CAT Funding Model, the SEC recognized that it is appropriate to recover costs related to operating fees as a part of Historical CAT Assessments.<sup>137</sup> CAT LLC determined that the costs related to operating fees described in this filing are reasonable and should be included as a part of Historical CAT Costs 1. The operating fees include the negotiated fees paid by CAT LLC to the Plan Processor to operate and maintain the system for order-related information and to perform business operations related to the system, including compliance, security, testing, training, communications with the industry (*e.g.*, management of the FINRA CAT Helpdesk, FAQs, website and webinars) and program management. CAT LLC determined that the selection of FCAT as the Plan Processor was reasonable and appropriate given its expertise with securities regulatory reporting, after a process of considering other potential candidates.<sup>138</sup> CAT LLC also determined that the fixed price contract, negotiated on an arm's length basis with the goals of managing costs and receiving services required to comply with the CAT NMS Plan and Rule 613, was reasonable and appropriate, taking into consideration a variety of factors, including the breadth of services provided and market rates for

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<sup>136</sup> See Securities Exchange Act Rel. No. 97151 (Mar. 15, 2023), 88 Fed. Reg. 17086, 17117 (Mar. 21, 2023) (describing key cost discipline mechanisms for the CAT).

<sup>137</sup> Section 11.3(b)(iii)(B)(II)(B)(1) of the CAT NMS Plan.

<sup>138</sup> See Section 3(a)(2)(B)(i)(b) above.

similar types of activity.<sup>139</sup> The services performed by FCAT for each period and the costs related to such services are described above.<sup>140</sup>

**(iii) Technology: CAIS Operating Fees**

In approving the CAT Funding Model, the SEC recognized that it is appropriate to recover costs related to CAIS operating fees as a part of Historical CAT Assessments.<sup>141</sup> CAT LLC determined that the costs related to CAIS operating fees described in this filing are reasonable and should be included as a part of Historical CAT Costs 1. The CAIS operating fees include the fees paid to the Plan Processor to operate and maintain CAIS and to perform the business operations related to the system, including compliance, security, testing, training, communications with the industry (*e.g.*, management of the FINRA CAT Helpdesk, FAQs, website and webinars) and program management. CAT LLC determined that the FCAT-negotiated fees for Kingland's CAIS-related services, negotiated on an arm's length basis with the goals of managing costs and receiving services required to comply with the CAT NMS Plan, taking into consideration a variety of factors, including the services to be provided and market rates for similar types of activity, were reasonable and appropriate.<sup>142</sup> The services performed by Kingland for each period and the costs for each period are described above.<sup>143</sup>

**(iv) Technology: Change Request Fees**

In approving the CAT Funding Model, the SEC recognized that it is appropriate to recover costs related to change request fees as a part of Historical CAT Assessments.<sup>144</sup> CAT

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<sup>139</sup> See Sections 3(a)(2)(B)(i)(b), 3(a)(2)(B)(ii)(b), 3(a)(2)(B)(iii)(b) and 3(a)(2)(B)(iv)(b) above.

<sup>140</sup> *Id.*

<sup>141</sup> Section 11.3(b)(iii)(B)(II)(B)(1) of the CAT NMS Plan.

<sup>142</sup> See Sections 3(a)(2)(B)(i)(c), 3(a)(2)(B)(ii)(c), 3(a)(2)(B)(iii)(c) and 3(a)(2)(B)(iv)(c) above.

<sup>143</sup> *Id.*

<sup>144</sup> Section 11.3(b)(iii)(B)(II)(B)(1) of the CAT NMS Plan.

LLC determined that the costs related to change request fees described in this filing are reasonable and should be included as a part of Historical CAT Costs 1. It is common practice to utilize a change request process to address evolving needs in technology projects. This is particularly true for a project like CAT that is the first of its kind, both in substance and in scale. The substance and costs of each of the change requests are evaluated by the Operating Committee, and approved in accordance with the requirements for Operating Committee meetings. In each case, CAT LLC determined that the change requests were necessary to implement the CAT. As described above, the change requests cover various technology changes, including, for example, changes related to CAT reporting, data feeds and exchange functionality. CAT LLC also determined that the costs for each change request were appropriate for the relevant technology change. A description of the change requests for each FAM Period and their total costs are set described above.<sup>145</sup> As noted above, the total costs for change requests through FAM Period 3 represent a small percentage of Historical CAT Costs 1 – that is, 0.25% of Historical CAT Costs 1.

**(v) Capitalized Developed Technology Costs**

In approving the CAT Funding Model, the SEC recognized that it is appropriate to recover costs related to capitalized developed technology costs as a part of Historical CAT Assessments.<sup>146</sup> Capitalized developed technology costs include costs related to certain development costs, costs related to certain modifications, upgrades and other changes to the CAT, CAIS implementation fees and license fees. The amount and type of costs for each period

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<sup>145</sup> See Sections 3(a)(2)(B)(i)(d), 3(a)(2)(B)(ii)(d), 3(a)(2)(B)(iii)(d) and 3(a)(2)(B)(iv)(d) above.

<sup>146</sup> Section 11.3(b)(iii)(B)(II)(B)(1) of the CAT NMS Plan.



are described in more detail above.<sup>147</sup> CAT LLC determined that these costs are reasonable and should be included as a part of Historical CAT Costs 1.

These costs involve the activity of both the Initial Plan Processor and FCAT, as the successor Plan Processor.<sup>148</sup> With regard to the Initial Plan Processor, the Participants utilized an RFP to seek proposals to build and operate the CAT, receiving a number of proposals in response to the RFP. The Participants carefully reviewed and considered each of the proposals, including holding in-person meetings with each of the Bidders. After several rounds of review, the Participants selected the Initial Plan Processor in accordance with the CAT NMS Plan. CAT LLC entered into an agreement with the Initial Plan Processor in which CAT LLC would pay the Initial Plan Processor a negotiated, fixed price fee.<sup>149</sup> In addition, as described above, CAT LLC determined that it was appropriate to enter into an agreement with FCAT as the successor Plan Processor.<sup>150</sup>

#### (vi) Legal

In approving the CAT Funding Model, the SEC recognized that it is appropriate to recover costs related to legal fees as a part of Historical CAT Assessments.<sup>151</sup> CAT LLC determined that the legal costs described in this filing are reasonable and should be included as a part of Historical CAT Costs 1. Given the unique nature of the CAT, the number of parties involved with the CAT (including, for example, the SEC, Participants, Industry Members, and vendors) and the many regulatory issues associated with the CAT, the scope of the necessary legal services are substantial. CAT LLC determined that the scope of the legal services is

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<sup>147</sup> See Sections 3(a)(2)(B)(i)(e), 3(a)(2)(B)(ii)(e), 3(a)(2)(B)(iii)(e) and 3(a)(2)(B)(iv)(e) above.

<sup>148</sup> *Id.*

<sup>149</sup> See Section 3(a)(2)(B)(i)(e) above.

<sup>150</sup> See Section 3(a)(2)(B)(i)(b) above.

<sup>151</sup> Section 11.3(b)(iii)(B)(II)(B)(2) of the CAT NMS Plan.

necessary to implement and maintain the CAT and that the legal rates reflect the specialized services necessary for such a project. When hiring each law firm for a CAT project, CAT LLC interviewed multiple firms, and determined to hire each firm based on a variety of factors, including the relevant expertise and fees. In each case, CAT LLC determined that the hourly fee rates were in line with market rates for the specialized legal expertise. In addition, CAT LLC determined that the total costs incurred for each CAT project were appropriate given the breadth of services provided. The services performed by each law firm for each period and the costs related to such services are described above.<sup>152</sup>

### **(vii) Consulting**

In approving the CAT Funding Model, the SEC recognized that it is appropriate to recover consulting costs as a part of Historical CAT Assessments.<sup>153</sup> CAT LLC determined that the consulting costs described in this filing are reasonable and should be included as a part of Historical CAT Costs 1. Because there are no CAT employees<sup>154</sup> and because of the significant number of issues associated with the CAT, the consultants provided assistance in the management of various CAT matters and the processes related to such matters.<sup>155</sup> CAT LLC considered a variety of factors in choosing a consulting firm and determined to select Deloitte after an interview process.<sup>156</sup> CAT LLC also determined that the consulting services were provided at reasonable market rates, as the fees were negotiated annually and comparable to the

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<sup>152</sup> See Sections 3(a)(2)(B)(i)(f), 3(a)(2)(B)(ii)(f), 3(a)(2)(B)(iii)(f) and 3(a)(2)(B)(iv)(f) above.

<sup>153</sup> Section 11.3(b)(iii)(B)(II)(B)(3) of the CAT NMS Plan.

<sup>154</sup> As stated in the filing of the proposed CAT NMS Plan, “[i]t is the intent of the Participants that the Company have no employees.” Securities Exchange Act Rel. No. 77724 (Apr. 27, 2016), 81 Fed. Reg. 30614, 30621 (May 17, 2016).

<sup>155</sup> CAT LLC uses certain third parties to perform tasks that may be performed by administrators for other NMS Plans. See, e.g., CTA Plan and CQ Plan.

<sup>156</sup> See Section 3(a)(2)(B)(i)(g) above.

rates charged by other consulting firms for similar work.<sup>157</sup> Moreover, the total costs for such consulting services were appropriate in light of the breadth of services provided by Deloitte. The services performed by Deloitte and the costs related to such services are described above.<sup>158</sup>

### **(viii) Insurance**

In approving the CAT Funding Model, the SEC recognized that it is appropriate to recover insurance costs as a part of Historical CAT Assessments.<sup>159</sup> CAT LLC determined that the insurance costs described in this filing are reasonable and should be included as a part of Historical CAT Costs 1. CAT LLC determined that it is common practice to have directors' and officers' liability insurance, and errors and omissions liability insurance. CAT LLC further determined that it was important to have cyber security insurance given the nature of the CAT, and such a decision is consistent with the CAT NMS Plan, which states that the cyber incident response plan may include "[i]nsurance against security breaches."<sup>160</sup> In selecting the insurance providers for these policies, CAT LLC engaged in an evaluation of alternative insurers, including a comparison of the pricing offered by the alternative insurers.<sup>161</sup> Based on this analysis, CAT LLC determined that the selected insurance policies provided appropriate coverage at reasonable market rates.<sup>162</sup>

### **(ix) Professional and Administration**

In approving the CAT Funding Model, the SEC recognized that it is appropriate to recover professional and administration costs as a part of Historical CAT Assessments.<sup>163</sup> CAT

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<sup>157</sup> See Sections 3(a)(2)(B)(i)(g), 3(a)(2)(B)(ii)(g), 3(a)(2)(B)(iii)(g) and 3(a)(2)(B)(iv)(g) above.

<sup>158</sup> *Id.*

<sup>159</sup> Section 11.3(b)(iii)(B)(II)(B)(4) of the CAT NMS Plan.

<sup>160</sup> Section 4.1.5 of Appendix D of the CAT NMS Plan.

<sup>161</sup> See Sections 3(a)(2)(B)(i)(h), 3(a)(2)(B)(ii)(h), 3(a)(2)(B)(iii)(h) and 3(a)(2)(B)(iv)(h) above.

<sup>162</sup> *Id.*

<sup>163</sup> Section 11.3(b)(iii)(B)(II)(B)(5) of the CAT NMS Plan.

LLC determined that the professional and administration costs described in this filing are reasonable and should be included as a part of Historical CAT Costs 1. Because there are no CAT employees, all required accounting, financial, tax, cash management and treasury functions for CAT LLC have been outsourced at market rates. In addition, the required annual financial statement audit of CAT LLC is included in professional and administration costs, which costs are also at market rates.

CAT LLC determined to hire a financial advisory firm, Anchin, to assist with financial matters for the CAT. CAT LLC interviewed Anchin as well as other potential financial advisory firms to assist with the CAT project, considering a variety of factors in its analysis, including the firm's relevant expertise and fees.<sup>164</sup> The hourly fee rates for this firm were in line with market rates for the financial advisory services provided.<sup>165</sup> Moreover, the total costs for such financial advisory services was appropriate in light of the breadth of services provided by Anchin. The services performed by Anchin and the costs related to such services are described above.<sup>166</sup>

CAT LLC also determined to engage an independent accounting firm, Grant Thornton, to complete the audit of CAT LLC's financial statements, in accordance with the requirements of the CAT NMS Plan. CAT LLC interviewed this firm as well as another potential accounting firm to audit CAT LLC's financial statements, considering a variety of factors in its analysis, including the relevant expertise and fees of each of the firms. CAT LLC determined that Grant Thornton was well-qualified for the role given the balance of these considerations.<sup>167</sup> Grant Thornton's fixed fee rate compensation arrangement was reasonable and appropriate, and in line

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<sup>164</sup> See Section 3(a)(2)(B)(i)(i) above.

<sup>165</sup> See Sections 3(a)(2)(B)(i)(i), 3(a)(2)(B)(ii)(i), 3(a)(2)(B)(iii)(i) and 3(a)(2)(B)(iv)(i) above.

<sup>166</sup> *Id.*

<sup>167</sup> See Section 3(a)(2)(B)(i)(i) above.

with the market rates charged for these types of accounting services.<sup>168</sup> Moreover, the total costs for such financial advisory services was appropriate in light of the breadth of services provided by Grant Thornton. The services performed by Grant Thornton and the costs related to such services are described above.<sup>169</sup>

The professional and administrative costs also include costs related to the receipt of certain market data from Exegy. After performing an analysis of the available market data vendors to confirm that the data provided met the SIP Data requirements of the CAT NMS Plan and comparing the costs of the vendors providing the required SIP Data, CAT LLC determined to purchase market data from Exegy. Exegy provided the data elements required by the CAT NMS Plan, and the fees were reasonable and in line with market rates for the market data received.<sup>170</sup>

The professional and administrative costs also include costs related to a third party security assessment of the CAT performed by RSM. The assessment was designed to verify and validate the effective design, implementation and operation of the controls specified by NIST Special Publication 800-53, Revision 4 and related standards and guidelines. Such a security assessment is in line with industry practice and important given the data included in the CAT. CAT LLC determined to engage RSM to perform the security assessment, after considering a variety of factors in its analysis, including the firm's relevant expertise and fees. The fees were reasonable and in line with market rates for such an assessment.<sup>171</sup>

#### **(x) Public Relations Costs**

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<sup>168</sup> See Sections 3(a)(2)(B)(i)(i), 3(a)(2)(B)(ii)(i), 3(a)(2)(B)(iii)(i) and 3(a)(2)(B)(iv)(i) above.

<sup>169</sup> *Id.*

<sup>170</sup> See Section 3(a)(2)(B)(i)(i) above.

<sup>171</sup> *Id.*

In approving the CAT Funding Model, the SEC recognized that it is appropriate to recover public relations costs as a part of Historical CAT Assessments.<sup>172</sup> CAT LLC determined that the public relations costs described in this filing are reasonable and should be included as a part of Historical CAT Costs 1. CAT LLC determined that the types of public relations services utilized were beneficial to the CAT and market participants more generally. Public relations services were important for various reasons, including monitoring comments made by market participants about CAT and understanding issues related to the CAT discussed on the public record.<sup>173</sup> By engaging a public relations firm, CAT LLC was better positioned to understand and address CAT issues to the benefit of all market participants.<sup>174</sup> Moreover, CAT LLC determined that the rates charged for such services were in line with market rates.<sup>175</sup> As noted above, the total public relations costs through FAM Period 3 represent a small percentage of Historical CAT Costs 1 – that is, 0.1% of Historical CAT Costs 1.

**(B) Total Executed Equivalent Share Volume for the Prior 12 Months**

The total executed equivalent share volume of transactions in Eligible Securities for the period from December 2022 through November 2023 was 3,842,861,347,279.44 executed equivalent shares. CAT LLC determined the total executed equivalent share volume for the prior twelve months by counting executed equivalent shares in the same manner as it will count executed equivalent shares for CAT billing purposes.

**(C) Historical Recovery Period 1**

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<sup>172</sup> Section 11.3(b)(iii)(B)(II)(B)(6) of the CAT NMS Plan.

<sup>173</sup> See Section 3(a)(2)(B)(i)(j) above.

<sup>174</sup> See Sections 3(a)(2)(B)(i)(j), 3(a)(2)(B)(ii)(j), 3(a)(2)(B)(iii)(j) and 3(a)(2)(B)(iv)(j) above.

<sup>175</sup> *Id.*

CAT LLC has determined to establish a Historical Recovery Period of 24 months for Historical CAT Assessment 1 and that such length is reasonable. CAT LLC determined that the length of Historical Recovery Period 1 appropriately weighs the need for a reasonable Historical Fee Rate 1 that spreads the Historical CAT Costs over an appropriate amount of time and the need to repay the loans notes to the Participants in a timely fashion. CAT LLC determined that 24 months for Historical Recovery Period 1 would establish a fee rate that is lower than other transaction-based fees, including fees assessed pursuant to Section 31.<sup>176</sup> In addition, in establishing a Historical Recovery Period of 24 months, CAT LLC recognized that the total costs for Historical CAT Assessment 1 was less than the total costs for 2022 and 2023, and therefore it would be appropriate to recover those costs in two years. Furthermore, CAT LLC notes 24 months is appropriate because it is not currently proposing that Industry Members be required to pay another Historical CAT Assessment or CAT Fee with regard to Prospective CAT Costs at the same time.

**(D) Projected Executed Equivalent Share Volume for Historical Recovery Period 1**

CAT LLC has determined to calculate the projected total executed equivalent share volume for the 24 months of Historical Recovery Period 1 by doubling the executed equivalent share volume for the prior 12 months. CAT LLC determined that such an approach was reasonable as the CAT's annual executed equivalent share volume has remained relatively constant in recent years. For example, the executed equivalent share volume for 2021 was 3,963,697,612,395 executed equivalent shares, and the executed equivalent share volume for 2022 was 4,039,821,841,560.31 executed equivalent shares. Accordingly, the projected total

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<sup>176</sup> As the SEC noted in the CAT Funding Model Approval Order, recent Section 31 fees ranged from \$0.00009 per share to \$0.0004 per share. CAT Funding Model Approval Order at 62682.

executed equivalent share volume for Historical Recovery Period 1 is 7,685,722,694,558.88 executed equivalent shares.<sup>177</sup>

**(E) Actual Fee Rate for Historical CAT Assessment 1**

**(i) Decimal Places**

As noted in the Plan amendment for the CAT Funding Model, as a practical matter, the fee filing for a Historical CAT Assessment would provide the exact fee per executed equivalent share to be paid for each Historical CAT Assessment, by multiplying the Historical Fee Rate by one-third and describing the relevant number of decimal places for the fee rate.<sup>178</sup> Accordingly, proposed paragraph a)i)B) of the fee schedule would set forth a fee rate of \$0.000015 per executed equivalent share. This fee rate is calculated by multiplying Historical Fee Rate 1 by one-third, and rounding the result to 6 decimal places. CAT LLC determined that the use of six decimal places is reasonable as it balances the accuracy of the calculation with the potential systems and other impracticalities of using additional decimal places in the calculation.

**(ii) Reasonable Fee Level**

The Exchange believes that imposing Historical CAT Assessment 1 with a fee rate of \$0.000015 per executed equivalent share is reasonable because it provides for a revenue stream for the Company that is aligned with Historical CAT Costs 1 and such costs would be spread out over an appropriate recovery period, as discussed above. Moreover, the Exchange believes that the level of the fee rate is reasonable, as it is comparable to other transaction-based fees. Indeed, Historical CAT Assessment 1 is significantly lower than fees assessed pursuant to Section 31 (*e.g.*, \$0.0009 per share to 0.0004 per share),<sup>179</sup> and, as a result, the magnitude of Historical CAT

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<sup>177</sup> This projection was calculated by multiplying 3,842,861,347,279.44 executed equivalent shares by two.

<sup>178</sup> CAT Funding Model Approval Order at 62658, n.658.

<sup>179</sup> CAT Funding Model Approval Order at 62663, 62682.



Assessment 1 is small, and therefore will mitigate any potential adverse economic effects or inefficiencies.<sup>180</sup> Furthermore, the reasonable fee rate for Historical CAT Assessment 1 further supports CAT LLC's decision to seek to recover all Historical CAT Costs prior to 2022, rather than establishing separate Historical CAT Assessments for pre-FAM, FAM 1, FAM 2 and FAM 3 costs.

**(3) Historical CAT Assessment 1 Provides for an Equitable Allocation of Fees**

Historical CAT Assessment 1 provides for an equitable allocation of fees, as it equitably allocates CAT costs between and among the Participants and Industry Members. The SEC approved the CAT Funding Model, finding that each aspect of the CAT Funding Model satisfied the requirements of the Exchange Act, including the formula for calculating Historical CAT Assessments as well as the Industry Members to be charged the Historical CAT Assessments.<sup>181</sup> In approving the CAT Funding Model, the SEC stated that “[t]he Participants have sufficiently demonstrated that the proposed allocation of fees is reasonable.”<sup>182</sup> Accordingly, the CAT Funding Model sets forth the requirements for allocating fees related to Historical CAT Costs among Participants and Industry Members, and the fee filings for Historical CAT Assessments must comply with those requirements.

Historical CAT Assessment 1 provides for an equitable allocation of fees as it complies with the requirements regarding the calculation of Historical CAT Assessments as set forth in the CAT NMS Plan. For example, as described above, the calculation of Historical CAT Assessment 1 complies with the formula set forth in Section 11.3(b) of the CAT NMS Plan. In addition, Historical CAT Assessment 1 would be charged to CEBBs and CEBSs in accordance

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<sup>180</sup> *Id.*

<sup>181</sup> *See* Section 11.3(b) of the CAT NMS Plan.

<sup>182</sup> CAT Funding Model Approval Order at 62629.

with Section 11.3(b) of the CAT NMS Plan. Furthermore, the Participants would continue to remain responsible for their designated share of Past CAT Costs through the cancellation of loans made by the Participants to CAT LLC.

In addition, as discussed above, each of the inputs into the calculation of Historical CAT Assessment 1 – Historical CAT Costs 1 (including Excluded Costs), the count for the executed equivalent share volume for the prior 12 months, the length of the Historical Recovery Period, and the projected executed equivalent share volume for the Historical Recovery Period – are reasonable. Moreover, these inputs lead to a reasonable fee rate for Historical CAT Assessment 1 that is lower than other fee rates for transaction-based fees. A reasonable fee rate allocated in accordance with the requirements of the CAT Funding Model provides for an equitable allocation of fees.

**(4) Historical CAT Assessment 1 is Not Unfairly Discriminatory**

Historical CAT Assessment 1 is not an unfairly discriminatory fee. The SEC approved the CAT Funding Model, finding that each aspect of the CAT Funding Model satisfied the requirements of the Exchange Act. In reaching this conclusion, the SEC analyzed the potential effect of Historical CAT Assessments calculated pursuant to the CAT Funding Model on affected categories of market participants, including Participants (including exchanges and FINRA), Industry Members (including subcategories of Industry Members, such as alternative trading systems, CAT Executing Brokers and market makers), and investors generally, and considered market effects related to equities and options, among other things. Historical CAT Assessment 1 complies with the requirements regarding the calculation of Historical CAT Assessments as set forth in the CAT NMS Plan. In addition, as discussed above, each of the inputs into the calculation of Historical CAT Assessment 1 and the resulting fee rate for

Historical CAT Assessment 1 is reasonable. Therefore, Historical CAT Assessment 1 does not impose an unfairly discriminatory fee on Industry Members.

Finally, the Exchange believes the proposed fees established pursuant to the CAT Funding Model promote just and equitable principles of trade, and, in general, protect investors and the public interest, and are provided in a transparent manner and specificity in the fee schedule. The Exchange also believes that the proposed fees are reasonable because they would provide ease of calculation, ease of billing and other administrative functions, and predictability of a fee based on fixed rate per executed equivalent share. Such factors are crucial to estimating a reliable revenue stream for CAT LLC and for permitting Exchange members to reasonably predict their payment obligations for budgeting purposes.

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

Section 6(b)(8) of the Act<sup>183</sup> requires that the Exchange's rules not impose any burden on competition that is not necessary or appropriate in furtherance of the purpose of the Exchange Act. The Exchange does not believe that the proposed rule change will result in any burden on competition that is not necessary or appropriate in furtherance of the purposes of the Act. The Exchange notes that Historical CAT Assessment 1 implements provisions of the CAT NMS Plan that were approved by the Commission and is designed to assist the Exchange in meeting its regulatory obligations pursuant to the Plan.

In addition, all Participants (including exchanges and FINRA) are proposing to introduce Historical CAT Assessment 1 on behalf of CAT LLC to implement the requirements of the CAT NMS Plan. Therefore, this is not a competitive fee filing, and, therefore, it does not raise competition issues between and among the Participants.

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<sup>183</sup> 15 U.S.C. 78f(b)(8).

Furthermore, in approving the CAT Funding Model, the SEC analyzed the potential competitive impact of the CAT Funding Model, including competitive issues related to market services, trading services and regulatory services, efficiency concerns, and capital formation.<sup>184</sup> The SEC also analyzed the potential effect of CAT fees calculated pursuant to the CAT Funding Model on affected categories of market participants, including Participants (including exchanges and FINRA), Industry Members (including subcategories of Industry Members, such as alternative trading systems, CAT Executing Brokers and market makers), and investors generally, and considered market effects related to equities and options, among other things. Based on this analysis, the SEC approved the CAT Funding Model as compliant with the Exchange Act. Historical CAT Assessment 1 is calculated and implemented in accordance with the CAT Funding Model as approved by the SEC.

As discussed above, each of the inputs into the calculation of Historical CAT Assessment 1 is reasonable and the resulting fee rate for Historical CAT Assessment 1 calculated in accordance with the CAT Funding Model is reasonable. Therefore, Historical CAT Assessment 1 would not impose any burden on competition that is not necessary or appropriate in furtherance of the purpose of the Exchange Act.

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

Written comments were neither solicited nor received.

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

The foregoing rule change has become effective pursuant to Section 19(b)(3)(A)(ii) of the Act,<sup>185</sup> and Rule 19b-4(f)(2)<sup>186</sup> thereunder. At any time within 60 days of the filing of the

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<sup>184</sup> CAT Funding Model Approval Order at 62676-86.

<sup>185</sup> 15 U.S.C. 78s(b)(3)(A)(ii).

<sup>186</sup> 17 CFR 240.19b-4(f)(2).

proposed rule change, the Commission summarily may temporarily suspend such rule change if it appears to the Commission that such action is necessary or appropriate in the public interest, for the protection of investors, or otherwise in furtherance of the purposes of the Act. If the Commission takes such action, the Commission shall institute proceedings to determine whether the proposed rule should be approved or 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 (<https://www.sec.gov/rules/sro.shtml>); or
- Send an email to [rule-comments@sec.gov](mailto:rule-comments@sec.gov). Please include file number

SR-EMERALD-2024-01 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-EMERALD-2024-01. This file number should be included on the subject line if email 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 (<https://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 a.m. and 3 p.m. Copies of the filing also will be available for inspection and copying at the principal office of the Exchange. Do not include personal identifiable information in submissions; you should submit only information that you wish to make available publicly. We may redact in part or withhold entirely from publication submitted material that is obscene or subject to copyright protection. All submissions should refer to file number SR-EMERALD-2024-01 and should be submitted on or before [INSERT DATE 21 DAYS AFTER DATE OF PUBLICATION IN THE *FEDERAL REGISTER*].

For the Commission, by the Division of Trading and Markets, pursuant to delegated authority.<sup>187</sup>

**Sherry R. Haywood,**  
*Assistant Secretary.*

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<sup>187</sup> 17 CFR 200.30-3(a)(12).

## Exhibit 5

New text is underlined;  
Deleted text is in [brackets]

**MIAX Emerald Options Exchange Fee Schedule**

\* \* \* \* \*

9) Consolidated Audit Trail Funding Feesa) CAT Fees.i) Historical CAT Assessment 1.

A) Each CAT Executing Broker shall receive its first invoice for Historical CAT Assessment 1 in April 2024, which shall set forth the Historical CAT Assessment 1 fees calculated based on transactions in March 2024, and shall receive an invoice for Historical CAT Assessment 1 for each month thereafter in which Historical CAT Assessment 1 is in effect.

B) Consolidated Audit Trail, LLC shall provide each CAT Executing Broker with an invoice for Historical CAT Assessment 1 on a monthly basis. Each month, such invoices shall set forth a fee for each transaction in Eligible Securities executed by the CAT Executing Broker in its capacity as a CAT Executing Broker for the Buyer (“CEBB”) and/or the CAT Executing Broker for the Seller (“CEBS”) (as applicable) from the prior month as set forth in CAT Data. The fee for each such transaction will be calculated by multiplying the number of executed equivalent shares in the transaction by the fee rate of \$0.000015 per executed equivalent share.

C) Historical CAT Assessment 1 will remain in effect until \$225,125,740 (two-thirds of Historical CAT Costs 1) are collected from CAT Executing Brokers collectively, which is estimated to be approximately two years, but could be for a longer or shorter period of time. Consolidated Audit Trail, LLC will provide notice when Historical CAT Assessment 1 will no longer be in effect.

D) Each CAT Executing Broker shall be required to pay each invoice for Historical CAT Assessment 1 in accordance with paragraph (b).

b) Timing and Manner of Payments.

i) Each CAT Executing Broker shall pay its CAT fees as required pursuant to paragraph (a) each month to the Consolidated Audit Trail, LLC in the manner prescribed by the Consolidated Audit Trail, LLC.

ii) Each CAT Executing Broker shall pay the CAT fees required pursuant to paragraph (a) within thirty days after receipt of an invoice or other notice indicating payment is due (unless a longer payment period is otherwise indicated). If a CAT Executing Broker fails to pay any such CAT fee when due, such CAT Executing Broker shall pay interest on the outstanding balance from such due date until such fee is paid at a per annum rate equal to the lesser of (i) the Prime Rate plus 300 basis points, or (ii) the maximum rate permitted by applicable law.

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