

## **FORM FBOT—EXHIBIT D-1**

**Request:** Attach a description of (or where appropriate, documentation addressing) the following, separately labeling each description:

- (1) The order matching/trade execution system, including a complete description of all permitted ways in which members or other participants (or their customers) may connect to the trade matching/execution system and the related requirements (for example, authorization agreements).
- (2) The architecture of the systems, including hardware and distribution network, as well as any pre- and post-trade risk-management controls that are made available to system users.
- (3) The security features of the systems.
- (4) The length of time such systems have been operating.
- (5) Any significant system failures or interruptions.
- (6) The nature of any technical review of the order matching/trade execution system performed by the foreign board of trade, the home country regulator, or a third party.
- (7) Trading hours.
- (8) Types and duration of orders accepted.
- (9) Information that must be included on orders.
- (10) Trade confirmation and error trade procedures.
- (11) Anonymity of participants.
- (12) Trading system connectivity with clearing system.
- (13) Response time.
- (14) Ability to determine depth of market.
- (15) Market continuity provisions.
- (16) Reporting and recordkeeping requirements.

**Response:**

Please find below descriptions responding to the above 16 issues and the following supporting documents:

- WebICE User Guide: Attachment D-1a

- ICE Services Agreements: Attachments A-3b and A-3c

*(1) The order matching/trade execution system*

NGX exchange and clearing services are available through the ICE Platform, a leading electronic platform for trading energy products. In order to trade on the NGX market, Participants must also have access to the ICE Platform. The ICE Platform introduces potential counterparties to a transaction by electronically broadcasting orders via the trading system, which matches bids and offers sequentially based upon counterparty parameters established by Participants.

NGX's natural gas, power and crude oil products are accessible through WebICE which includes the trading screen for the ICE Platform.<sup>1</sup> Participants set their bilateral trading and clearing preferences using the appropriate WebICE tools.

*(2) The architecture of the system*

ICE hosts, operates, develops, maintains and supports the NGX Trading System under two outsourcing service agreements, the "ICE Services Agreements."<sup>2</sup> Under this framework, ICE provides the software and the network, and hardware connections, switches, routers and fiber required to deliver the NGX data to the NGX Gateway. As host to the NGX market, ICE also provides back-up and archival data management, configuration management, systems monitoring, operations and maintenance services. The ICE Trading Platform delivers data to the NGX Gateway in real time. Such data is communicated to the NGX Gateway via a redundant link.

The ICE Platform was developed internally by ICE and has been continually upgraded since it became operational. The ICE Platform is hosted by AT&T, Inc. The ICE Operations Center provides support to the NGX trading market from one hour prior to the commencement of trading in NGX products to two hours after trading ceases in the NGX market.

As part of the ICE Services Agreements, ICE also provides the ICEBlock facility ("ICEBlock") for the entry of block trades, which is available to Participants. ICEBlock serves as the electronic processing system for transactions in NGX products that have been arranged bilaterally outside of the ICE Platform. ICEBlock includes central computing hardware, application software, and databases. NGX may authorize ICE to provide ICEBlock to brokers who have been authorized by Participants to enter deals on their behalf.

*Execution Platform*

ICE provides the central order processing facilities for its trading system, the ICE Platform, in Chicago, Illinois. The ICE Platform contains an electronic order processing and matching and messaging engine ("Execution Platform") for NGX's natural gas, electricity and oil products.

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<sup>1</sup> The WebICE User Guide is appended as Attachment D-1a.

<sup>2</sup> See Attachments A-3b and A-3c.

The ICE Platform provides the order matching service. The ICE Platform is validated using a process that requires, among other things, the completion of comprehensive business and technical testing before the system is declared operational. Access to the ICE Platform is limited to authorized users.

### *Trading Application*

ICE provides the API through which authorized user's front-end trading application communicates with the Execution Platform. Authorized users are required to supply their own workstations. They may make use of ICE trading application Software, use front-end software supplied by an Independent Software Vendor or supply their own front-end Trading Application software.

### *Connectivity*

The ICE Platform is accessible via ICE trading application software, which is a browser-based interface, known as WebICE. Traders seeking to trade in NGX contracts can access the ICE Platform using WebICE, which transmits purchase and sale offers directly to the Execution Platform. WebICE is a java-based, distributed application, using Java WebStart for application launch and HTTPS/HTTP for TCP/IP communications.

The WebICE application can be run by most firms on their existing work stations with no or few modifications to their desktop PC or network. WebICE will operate with most proxy servers that use basic authentication as long as it can retrieve the proxy server settings (host name and port) from the browser or form an auto-proxy script. WebICE provides integrated support for authenticating proxies and will prompt the Authorized Representative for authentication credentials. Participants are provided with a User Manual, which provides them with the necessary configuration information, including hardware, software and operating system settings.<sup>3</sup>

### *Controls on trades*

In accordance with NGX's Risk Management Policy, each Participant's margin requirements are continuously monitored relative to such participant's collateral held by NGX.<sup>4</sup> At present, once a Participant's margin requirements reach 80% of available collateral, NGX may request additional collateral. Upon reaching levels of 90% and 95%, NGX may halt or liquidate positions, respectively. NGX is able to limit such Participant's activity by disabling the Participant's ability to enter orders on the ICE Platform. Such order limitations are managed on a real time basis. NGX automated controls advise staff that thresholds have been breached. At that time, a manual process is triggered whereby credit monitoring staff can recognize that a Participant is over an applicable limit.

### *(3) The security features of the systems.*

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<sup>3</sup> See Attachment D-1a, WebICE User Guide.

<sup>4</sup> See Attachment A-3a, CPA Schedule C.

The trading system includes a security system that provides user authentication, confidentiality and information integrity. It ensures the integrity of the trading system by using features embedded in the API that cannot be accessed externally. The security system is responsible for: (i) maintaining the database of currently certified users; (ii) authenticating certified users as they log on; (iii) distributing session keys as part of the login process; and (iv) maintaining a list of currently logged-on authorized users.

Only authorized users are allowed to use the system. Access is granted based upon a review and verification of access request forms by the NGX Application Support team, the group within NGX responsible for technical support. Such forms must include an approved signature or some other agreed upon auditable mechanism. Once an account has been set up for a new Participant by market administration, Registered Users are added by the Participant.

NGX personnel direct ICE to create, amend and delete NGX Registered Users access rights to the ICE Platform. User authentication is through the use of username and passwords. Passwords are required to be changed periodically. Passwords are provided to Registered Users following a security check verifying the identity of the person to whom the password is delivered. Although Registered Users may have access to the system, the trades cannot be executed until collateral is posted.

The security of the system also depends on the actions of system users. Each Participant is required by the CPA to implement suitable security measures to ensure that only those persons specifically authorized by the registered market participant have access to the user's passwords and security keys.

*(4) The length of time such systems have been operating.*

The ICE Platform has been utilized by NGX since the spring of 2007.

*(5) Any significant system failures or interruptions.*

In 2011, there were three interruptions, one on August 31 lasting 71 minutes, another on September 12 lasting 127, and a third on December 8 lasting 67 minutes.

*(6) The nature of any technical review of the order matching/trade execution system performed by the foreign board of trade, the home country regulator, or a third party.*

The ICE Platform order matching and trade execution system is reviewed annually by an independent auditor, following the standards of review set out in the Statement on Standards for Attestation Engagements No. 16, Reporting on Controls at a Service Organization, commonly known as SSAE No. 16. These standards are the successor standards to those contained in the U.S. Statement on Auditing Standards No. 70. The SSAE No. 16 audit standards require testing of controls to provide reasonable assurance that system security and other stated control objectives are satisfied. The ICE Platform and software controls are the subject of examination, including ICE's computer equipment, storage media, internal documentation, physical and environmental protection measures, and access to systems and data. The examination provides

independent assurance of the operational controls and security representations made by ICE about the ICE Platform.

*(7) Trading hours.*

The NGX system accepts orders from 5:30 am through 3:00 pm Monday through Friday and 8:30 am through 12:00 pm Saturday and Sunday.

*(8) Types and duration of orders accepted.*

*Cleared contracts (foreign futures and options)*

Only limit orders are processed by the Execution Platform for NGX foreign futures and options. All foreign futures and option contracts are required to be cleared. These include contracts in Canadian natural gas, oil and electricity and NGX futures contracts in natural gas with U.S. delivery points. The only options currently traded are for Canadian natural gas. Thus, each party must enter bids and offers into the system with a particular price indicated. Limit orders trade at the price stated in the order or better. Unfilled residual volume is maintained in the central order book until filled, withdrawn or cancelled. Iceberg orders are supported by the system.<sup>5</sup>

All bids and offers are displayed to the market. Resting orders may be modified or cancelled at any time prior to execution. All orders are cancelled at the end of each trading day and must be reentered beginning with the following trading session. There is no special opening auction or market-on-open order-type.

Orders entered into the Execution Platform are matched on a price/time priority within the parameters specified by Participants. With respect to foreign futures and option contracts, all bids and offers are displayed and available for matching using price/time priority. Under the price/time priority principle, lower offers take precedence over higher offers and higher bids take precedence over lower bids. In the case of multiple bids or offers at the same price, earlier bids and offers take precedence over later bids and offers respectively. Thus, under price/time priority of market orders, a bid (offer) is filled at the best price by the earliest entered offer (bid) at that price. If additional contract units are needed to fill the bid (offer) then the next oldest offer (bid) at that price is matched until all of the liquidity at that price has been exhausted. Then matches would commence at the next best price until the order is filled. The time assigned to an order is the time that it arrives at the Execution Platform.

*Forward contracts*

Forward contracts are also traded on NGX in Canadian natural gas and in oil and on ICE on U.S. natural gas. These contracts are not foreign futures or options and therefore, unless part of an EFRP transaction, not within the scope of the Application. In addition to forward contracts entered into off-market, forward contracts in Canadian natural gas and oil may be cleared by

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<sup>5</sup> In an iceberg order, the system will identify only a portion of the order size that is to be executed at a particular price. All matches will be filled at that price until the entire order has been filled.

NGX under the Exchange of Futures for Related Product provision of the CPA.<sup>6</sup> Forward contracts on NGX (with the exception of ICE Transactions discussed below) are displayed separately from foreign futures and option contract and each type is matched using price/time priority.

Forward contracts in natural gas with U.S. delivery points are traded on ICE. Foreign futures and option transactions on U.S. natural gas are NGX transactions.<sup>7</sup> Bids and offers for both are included within a single electronic display. Because of relative liquidity, market participants are able to enter an order which permits a bid or offer for an ICE forward transaction as necessary to obtain best execution to be matched and executed as a bid or an offer for a cleared NGX futures contract. Such Orders are termed by NGX in the CPA as “ICE-Originated Orders” and are termed by ICE to be “Clearing Enabled.” Under this procedure, ICE-Originated Orders are bids or offers for ICE forward contracts in U.S. natural gas which are matched using price/time priority with the overlay of the credit enablement. The credit enablement permits participants to provide that if the best execution results in a match against a counterparty that is willing to clear the transaction as an NGX U.S. natural gas futures contract, the transaction is executed as an NGX futures contract and is cleared. It should be noted that despite the origin of the order, the transaction matches and clears as an NGX transaction.

With respect to Orders to trade forward contracts on ICE, only limit orders are processed by the Execution Platform and trade matching is confined to a trader’s pre-approved counterparties, which are highlighted from non-approved counterparties through color-coding. Within the universe of pre-accepted counterparties, among those bids and offers will be matched using the price/time priority. There is no interaction between an Order for an ICE forward contract and NGX futures contract except for those instances in which the market participant designates the Order as an ICE-Originated Order.

The parties to forward contracts are required to make (take) delivery to (from) the other. NGX does not act as a central counterparty for, and is not involved in, the delivery process of forward contracts, except for those forward contracts which may have been submitted to NGX for clearing via its EFRP provision.

*(9) Information that must be included on orders.*

All orders on the trading system must include the following information: (1) commodity; (2) location; (3) start date and end date; (4) purchase or sale; (5) customer account; (6) daily contract quantity; (7) limit price; and (8) strike prices, put or call (for options). With respect to Gas Products with U.S. delivery points, as noted above, an ICE-Originated Order, if necessary to obtain best execution, match with respect to the NGX futures contract.

*(10) Trade confirmation and error trade procedures.*

Confirmations of orders successfully entered into the trading system are automatically generated and sent to authorized traders on-screen, as are confirmations with respect to all

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<sup>6</sup> See, Article 3.2 of the CPA.

<sup>7</sup> Financially Settled Futures Contracts in natural gas with U.S. deliverable points will be offered as NGX products. Contracting Parties would be able to trade such contracts on screen or clear contracts submitted via the EFRP rule.

matched trades. These confirmations are also captured automatically and retained as part of the permanent audit trail (discussed below).

NGX has established a policy for addressing erroneous trades entered into on the ICE Platform.<sup>8</sup> A Participant must notify NGX of an erroneous trade within ten minutes of the trade's execution. Following notification by a Participant, NGX will notify the market that a claim of an erroneous trade has been made. NGX contacts the counterparties to ascertain whether they consent to cancellation of the trade. If either refuses to consent to cancellation, NGX, in its discretion, may cancel the trade if its price is sufficiently far from the current market price.<sup>9</sup>

*(11) Anonymity of participants.*

Traders anonymously post bids and offers in any product for which they have been authorized to trade and within the size limitations to which they are subject. For foreign futures and options, bids and offers of all traders are available for execution to all approved participants. Following matching of a foreign future or option trade, Participants are notified that they have bought from NGX or sold to NGX the relevant contract. The identity of one counterparty to the other is never disclosed.<sup>10</sup>

*(12) Trading system connectivity with clearing system.*

The trading system has built-in connectivity with NGX's clearing system.<sup>11</sup>

*(13) Response time.*

According to ICE's February 9, 2011 Form 10-K, the ICE Trading Platform "delivers the fastest round-trip transaction times in the commodity markets, with average transaction times of less than one millisecond in our futures markets, and a blended average of one and a quarter milliseconds for futures and OTC markets."

*(14) Ability to determine depth of market.*

NGX has the ability to see an unlimited number of orders – there is no limitation on visibility to orders.

*(15) Market continuity provisions.*

The trading system's business continuity provisions are specified in the ICE Services Agreements.<sup>12</sup>

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<sup>8</sup> Attachment A-3a, CPA Article 3.7.

<sup>9</sup> NGX has specified a Market Price Band for determining when a trade is sufficiently far from the current market price to be cancelled. *See id.* at Article 1.2(ffff).

<sup>10</sup> This is in contrast to forward contract trading. The bids or offers of only counterparties that have been previously registered as acceptable to the forward contract trader are indicated as open to the trader to be hit or lifted. Following trade matching, the counterparties to a forward contract are identified to each other and are expected to go through normal commercial delivery processes.

<sup>11</sup> Attachments A-3b and A-3c, ICE Services Agreements Exhibit B, ¶ 1(b).

In the event that a disaster requires NGX to invoke its business continuity plan, ICE will begin recovery work as soon as reasonably practicable. ICE will support and assist NGX as reasonably necessary to execute the continuity plan.

To the extent necessary, ICE will adhere to its own continuity plan so that it can perform its obligations under the ICE Services Agreements. This plan provides for industry standard restoration times for minor failures and entire system failures, and outlines procedures for restoring service to NGX in the event of a disaster.

*(16) Reporting and recordkeeping requirements.*

The trading system's reporting and recordkeeping requirements are specified in the ICE Services Agreements.<sup>13</sup> ICE will maintain materially accurate and complete records with respect to the trading system and will preserve those records for a period of not less than five years, or longer if required by applicable law or regulation.

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<sup>12</sup> *Id.* at Article 3.3.

<sup>13</sup> *Id.* at Article 2.10.