



ICE NGX Canada Inc. Disclosure Framework

April 30, 2018



Responding Institution: ICE NGX Canada Inc.

Jurisdiction(s) in which ICE NGX operates: Canada and United States

Authorities regulating, supervising or overseeing the FMI: Alberta Securities Commission, Commodity Futures Trading Commission, European Securities and Markets Authority

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The date of this disclosure is April 30, 2018. This disclosure can be found at www.ngx.ca. For further information, please contact clearing@ngx.com or (403) 947-1700

Abbreviations:

AFI	Approved Financial Institution
ASC	Alberta Securities Commission
Board Code	ICE NGX Board Code of Conduct
Board Policy	ICE NGX Board Governance Principles
CCP	Central Counterparty
CFTC	Commodity Futures Trading Commission
CSA	Canadian Securities Administrators
CPA	Contracting Party Agreement
CPSS	Committee on Payments and Settlement Systems
CRA	Credit Rating Agency
CRO	Chief Risk Officer
CSR	Clearing, Settlement and Risk
DCO	Derivatives Clearing Organization
ERM Program	ICE Enterprise Risk Management Framework
FBOT	Foreign Board of Trade
ICE	Intercontinental Exchange, Inc.
ICE NGX	ICE NGX Canada Inc.
ICE NGX Board	Board of Directors for ICE NGX
ICE NGX Contracting Parties	Entities which have entered into the Contracting Party Agreement with ICE NGX
IOSCO	International Organization of Securities Commissions
ISP98	International Standby Practices 1998, International Chambers of Commerce Publication No. 590
LC	Letter of Credit
PFMI	Principles for Financial Market Infrastructures
Policy	Risk Management Policy Framework
QCCP	Qualified Central Counterparty
RMFAC	Risk Management, Finance and Audit Committee
RMC	ICE NGX Internal Risk Management Committee
RMP	Risk Management Program

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I. Executive Summary

The objective of this document (“Disclosure Framework”) is to provide relevant disclosures to ICE NGX Contracting Parties and market participants on the methods used by ICE NGX to manage the risks it faces as a central counterparty (“CCP”).

The Disclosure Framework is prepared in accordance with the internationally recognized “Principles for Financial Market Infrastructures” (“PFMIs”) published in February 2012 and developed jointly by the Committee on Payment and Settlement Systems (“CPSS”) and the Technical Committee of the International Organisation of Securities Commissions (“IOSCO”). No disclosure is provided with respect to Principles 11 and 24 as they do not apply to CCPs.

ICE NGX was incorporated in 1993 and has operated continuously since February 10, 1994. Headquartered in Calgary, Alberta, Canada, ICE NGX provides electronic trading, central counterparty clearing and data services to the North American natural gas, crude oil, and electricity markets. In this role, ICE NGX provides clearing services on a non-mutualized basis, whereby all Contracting Parties operate with ICE NGX as principals and directly clear with ICE NGX. On December 14, 2017 Intercontinental Exchange, Inc. (“ICE, Inc.”) acquired ICE NGX. ICE NGX is recognized by the Alberta Securities Commission as a clearing agency under the *Securities Act (Alberta)*, is registered with the U.S. Commodity Futures Trading Commission (“CFTC”) as a derivatives clearing organization (“DCO”), and is recognized as a third country CCP in accordance with Article 25 of the European Markets Infrastructure Regulation (“EMIR”) as approved by the European Securities and Markets Authority (“ESMA”) on January 28, 2016.

II. Summary of Major Changes since the Last Update of the Disclosure

Changes were made to update the information for the acquisition of ICE NGX by ICE, Inc. on December 14, 2017, related changes to the role of Chief Compliance Officer and legal name change from Natural Gas Exchange Inc. to ICE NGX Canada Inc. effective April 16, 2018.

III. General Background on the FMI

General Description of the FMI and the Markets it Serves

ICE NGX provides clearing services for all cleared transactions in the ICE NGX markets and ICE’s US physical gas markets. In this role, ICE NGX maintains a secure and efficient clearing operation, managing various risks across market participants and products. These services are provided to cleared transactions by a) reconciling and clearing transactions, and b) assuming the physical and financial integrity of each transaction and resulting position(s). When a transaction is accepted for clearing, ICE NGX is substituted as the counterparty to the transactions, thereby guaranteeing financial and physical performance of the transaction to the Contracting Party (“CP”) on each side of the transaction. This provides full cycle anonymity and introduces a neutral third party obligated to ensure the performance on both sides.



ICE NGX Contracting Parties clear contracts for their own accounts only; there is no intermediary clearing (no “customer transactions”). There is no mutualized or legal relationship amongst Contracting Parties and all collateral is segregated and for owner usage only. A list of Contracting Parties is set out on the ICE NGX website.

There is no mutualized guarantee fund; ICE NGX provides the full contribution to the guarantee fund.

ICE NGX maintains a Contracting Party Agreement, as well as policies and procedures designed to ensure the safety of all CP capital provided to ICE NGX as collateral and the certainty of physical and financial performance to the marketplace.

ICE NGX provides the following key functions:

Clearing	Establish appropriate Contracting Party requirements and support effective and efficient operations.
Settlement	Ensure contractual and financial obligations to Contracting Parties are met.
Delivery	Ensure contractual and physical delivery obligations to Contracting Parties are met.
Custody	Safeguard Contracting Party collateral by ensuring qualification of acceptable collateral and approved depositories.

ICE NGX utilizes clearing applications and technology owned and operated by itself. ICE NGX continuously monitors its clearing systems’ reliability and notes such systems availability is consistently at a rate above 99%.

ICE NGX is committed to ensuring the security and integrity of the clearing operation. ICE NGX does not enter into transactions nor take positions in energy products for any reason other than to provide clearing services.

Key Metrics

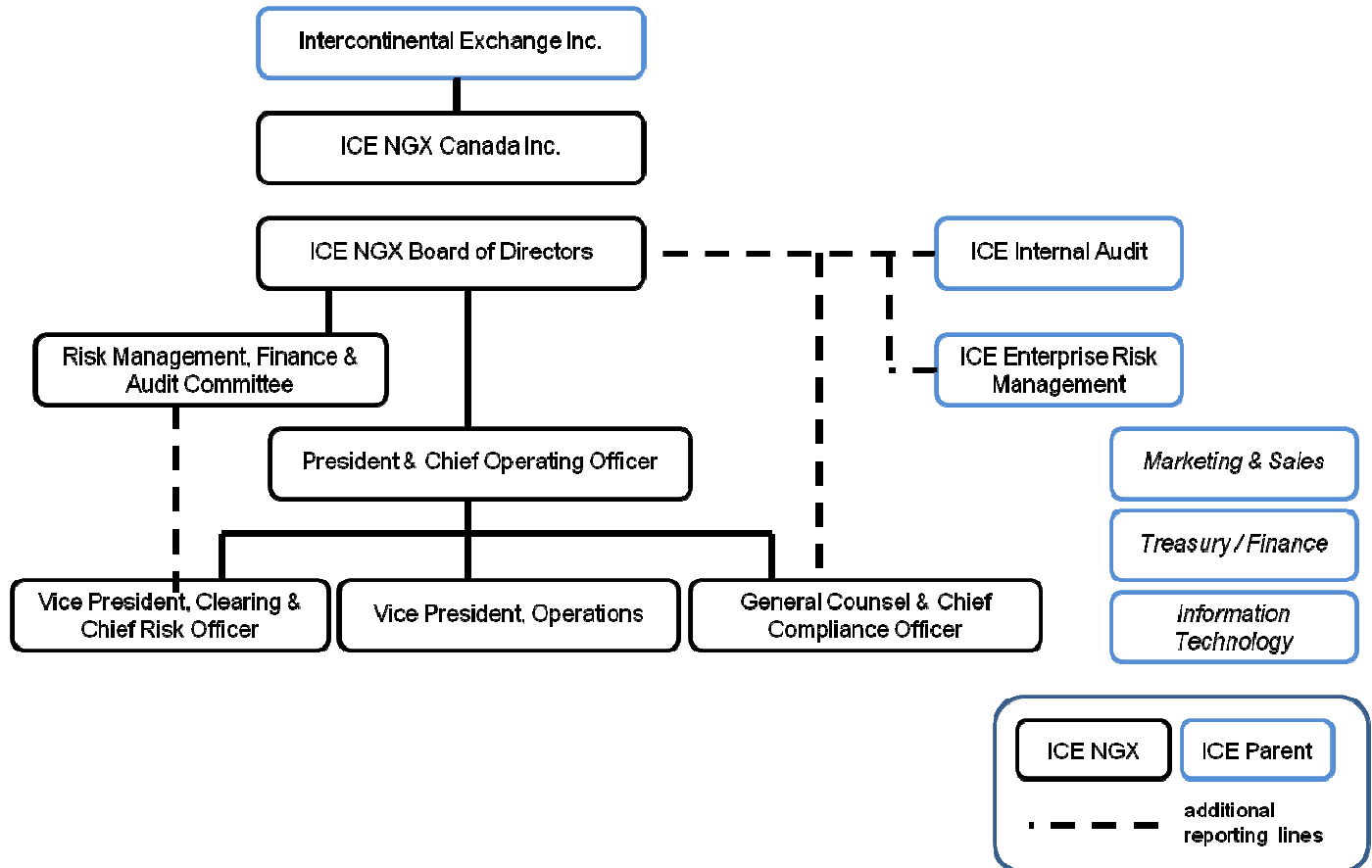
ICE NGX published a PFMI Quantitative Disclosure document in line with the recommendations laid out under CPMI-IOSCO’s public quantitative disclosure standards for central counterparties published in February 2015. The PFMI Quantitative Disclosure document is updated on a quarterly basis and provides key quantitative metrics that are relevant to understanding ICE NGX’s clearing services.

General Organization of the FMI

ICE NGX is an indirectly, wholly-owned subsidiary of ICE, Inc. ICE Inc. is the leading global network of exchanges and clearing houses offering the broadest portfolio of services for trading, clearing and listings. The policies and procedures of ICE NGX, including its Board Governance Principles, RMFAC Charter, the Global ICE Policies provide for the ICE NGX board and the board designated RMFA Committee.



The ICE NGX board is advised by the Risk Management, Finance and Audit Committee (“RMFAC”), the ICE NGX RMC and ICE NGX management. ICE NGX senior management report to the President & COO. The ICE NGX Chief Risk Officer has an additional reporting line to the Chair of the RMFAC and the CCO has an additional reporting line to the board. ICE NGX’s organizational structure is illustrated below.



The governance structure consists of the ICE NGX Board of Directors, including its Risk Management, Finance and Audit Committee, ICE NGX Senior Management team, business units and corporate functions, ICE enterprise risk management and ICE Internal Audit. The ICE NGX Board, directly or through its Risk Management, Finance and Audit Committee (“RMFAC”), is responsible for approving risk management framework policies and risk appetite statements, and overseeing the adequacy and operating effectiveness of the risk management program. The roles and responsibilities of the senior management team directly, or through an internal Risk Management Committee (“RMC”) include ensuring the appropriate design, operation and management of the risk management program, ensuring the accuracy, timeliness and consistency of risk management reporting, and reviewing periodic risk and performance reports as provided by ICE NGX’s Chief Risk Officer (“CRO”) and ICE’s Enterprise Risk Management team. Each business unit and corporate function have responsibilities for effectively managing ICE NGX’s clearing agency risks by establishing risk identification, assessment, measurement, management, monitoring and reporting processes and controls that are in accordance with the risk management program while maintaining adequate documentation of procedures. Risk



management functions, including decision making in critical and emergency situations, are performed by the Clearing, Settlements and Risk team at ICE NGX (“CSR”). CSR responsibilities include providing guidance on the risk management program, ensuring the implementation and ongoing compliance of the risk management program, planning, designing and implementing risk management practices and business continuity plans, developing external risk reporting protocols and disclosures where required or warranted for best practices, and periodically reporting to the ICE NGX Board of Directors or its Committees as appropriate. ICE NGX’s CRO is responsible for the CSR functions and reports directly to the independent chair of the ICE NGX RMFAC. The CRO is responsible for the overall implementation of the risk management framework and develops policies and procedures to ensure that ICE NGX remains PFMI compliant.

In addition, ICE Corporate Risk Management is responsible for coordinating the effective and consistent planning, designing and implementation of the ICE enterprise risk management program. It monitors the ongoing compliance and reporting of the risk management program across ICE. The internal audit function of ICE provides independent assurance to both the ICE NGX and ICE Boards of Directors and senior management teams on the effectiveness of risk management policies, processes and controls, and management’s assertions of control statuses across ICE.

Legal and Regulatory Framework

ICE NGX is incorporated under the *Canada Business Corporations Act*. The ASC is ICE NGX’s lead regulator in Canada. ICE NGX is recognized by the ASC under section 67 of the *Securities Act* (Alberta) as a clearing agency for natural gas, electricity and related contracts by an order issued effective October 9, 2008. The order was subsequently varied on: (i) April 9, 2009 to allow ICE NGX to also offer crude oil commodity contracts; (ii) on July 11, 2012, in connection with the acquisition of ICE NGX’s then parent company, TMX Group Inc., by Maple Group Acquisition Corporation (renamed TMX Group Limited); (iii) on December 19, 2013 to require ICE NGX to comply with the PFMIs; and (iv) on March 31, 2017 to align with National Instrument 24-102. The Bank of Canada together with the CSA formally recognized ICE NGX as a Qualified Central Counterparty on July 28, 2014.

ICE NGX is also regulated by the Commodity Futures Trading Commission (“CFTC”) in the U.S. as a Derivatives Clearing Organization (“DCO”). The CFTC registered ICE NGX as a DCO on December 12, 2008, which registration order was amended on March 20, 2013 following the implementation of *Dodd-Frank Wall Street Reform and Consumer Protection Act*.

ICE NGX filed an application with the European Securities and Markets Authority (“ESMA”) to be recognized as a third country CCP in accordance with Article 25 of the European Markets Infrastructure Regulation. The application was approved by EMSA on January 28, 2016.

Each ICE NGX Contracting Party is required to enter into the Contracting Party’s Agreement (“CPA”) which sets out the rules of the ICE NGX clearing system. The CPA is governed by the laws of the Province of Alberta and the federal laws of Canada applicable therein.

System Design and Operations



ICE NGX offers a number of exchange traded products for trading and facilitates their acceptance for clearing through a variety of trade venues, including electronic execution via WebICE, CalRock Energy Brokers, and ICE NGX TradePath. Transactions in ICE NGX products completed on these platforms are captured and routed to ICE NGX systems automatically for clearing in the ICE NGX clearinghouse. Prior to being accepted for execution, clearing participants must successfully complete the required membership application process which includes the implementation of trading permissions by the ICE NGX Clearing team. Multiple verification and reconciliation checks are performed intraday to ensure delivery of the respective system trade files to ICE NGX.

Once a trade file is received by ICE NGX, the trade is processed in real-time, immediately updating a client's trading reports and risk position found in the ICE NGX web reports. ICE NGX personnel monitor all updates during trading hours and physical and financial trading and clearing reports are continuously updated and monitored to ensure real-time information and accuracy for ICE NGX and its participants.

The ICE NGX clearing system ("CS") has four major components:

1. **DTS** – Data Transfer Service is responsible for loading and validating the company, user and trade files from the various exchanges. This is the entry point for trade information into the system. Once a trade has been received it is put on to the message queue for further processing. DTS is monitored in real time by both ICE NGX Operations and IT groups.
2. **CS Internal** – Clearing System Internal is the main application used to perform all clearing functions. It is a read write application that is only available to internal ICE NGX staff. All reporting functions take place here including operational, risk and financial.
3. **CS External** – Clearing System External is a modified version of the internal application. It is a read only application that is accessible over the internet to ICE NGX participants. Each participant must have a valid login to use the application. All reporting functions take place in this application including operational, risk, and financial.
4. **Compliance** – Compliance provides specialized reporting and investigation capabilities to ICE NGX's internal compliance staff. It is also used to automatically upload information to ICE NGX's regulators.



IV. Principle-By-Principle Summary

Principle 1: Legal Basis

An FMI should have a well-founded, clear, transparent, and enforceable legal basis for each material aspect of its activities in all relevant jurisdictions.

Summary Narrative

ICE NGX has a well-founded, transparent, and enforceable legal basis for each aspect of its activities in all relevant jurisdictions.

ICE NGX is a corporation established under the Canada Business Corporation Act and is in good standing. ICE NGX is governed by its Articles of Incorporation, Amendment and Amalgamation, its By-laws and the Contracting Party Agreement (construed in accordance with Canadian and Alberta laws, as applicable). ICE NGX is subject to the laws of Alberta and the federal laws of the Government of Canada, as applicable. ICE NGX currently conducts business in Canada and the United States.

In Canada, the Alberta Securities Commission ("ASC") has granted ICE NGX orders recognizing it as an Exchange and Clearing Agency. Alberta is ICE NGX's primary regulator in Canada. ICE NGX has been granted exemption orders from the Ontario Securities Commission ("OSC"), the Manitoba Securities Commission, the British Columbia Securities Commission, the Financial and Consumer Affairs Authority in Saskatchewan and the Autorité des marchés financiers in Quebec. In the U.S., ICE NGX is registered as a Derivatives Clearing Organization ("DCO"), to operate as a clearing house, and is registered as a Foreign Board of Trade ("FBOT"), to provide direct market access to U.S. participants, all under the jurisdiction of the Commodity Futures Trading Commission. As such, ICE NGX is subject to all laws pertaining to the netting and holding of collateral. In Europe, ICE NGX is registered as a third-party Central Counterparty CCP in accordance with Article 25 of the European Markets Infrastructure Regulation to operate a foreign clearinghouse. All recognition orders are publicly available on the respective regulatory body website (see Section 5 for a list of websites).

As a Clearing Agency and DCO, ICE NGX must provide an annual Chief Compliance report to the ASC and CFTC respectively, demonstrating compliance with each rule and regulation. In accordance with ASC and CFTC regulations, rule changes are self-certified with the regulators by providing the rule change and a written explanation. Some require discussion with the applicable regulators. The ASC also conducts regular oversight reviews of ICE NGX.

ICE NGX's rules (the "CPA") are governed by the laws of the province of Alberta, and the federal laws of Canada applicable therein. The governing law with respect to the CPA and most material contracts is Alberta law and the federal laws of Canada applicable therein. Most Contracting Parties or other parties with which ICE NGX does business are based in either Canada or U.S. All of these jurisdictions have stable legal regimes.

ICE NGX achieves a high level of confidence that the rules, procedures and

	<p>contracts related to its operations are enforceable in all relevant jurisdictions identified in Key Consideration 1 through internal and external legal analysis and ongoing oversight by its regulators. Various legal opinions from external counsel have been issued to support the legal certainty of material aspects of ICE NGX's rules, procedures and contracts. ICE NGX regularly engages external counsel in particular for matters requiring specialized expertise. As the laws applicable to ICE NGX change, this analysis is carried out on an ongoing basis, and any inconsistencies identified are addressed as required, including making changes to conform with amendments to Canadian and US laws.</p> <p>ICE NGX products qualify as eligible financial contracts which under Canadian law provide a safe harbour from Canada's insolvency regime and enable netting and other activities with respect to ICE NGX products. The finality of payment provisions set out in ICE NGX's rules, together with the federal insolvency regime under Canadian law providing a safe harbour for eligible financial contracts satisfy finality of settlement. Further, ICE NGX becomes a party to the transaction enabling it to ensure finality of the transaction.</p> <p>The CPA is subject to an extensive internal and external review process. ICE NGX's settlement bank and insurer also review and approve material changes in writing generally following a dialogue. Prior to any rule changes, ICE NGX must provide a self-certification regarding compliance with CFTC rules and provide an advance copy of the changes to the ASC. This extensive review and communication process ensures that such issues are identified early. The CPA is posted to ICE NGX's public website and outlines standard rules for participants. Contracting Parties are notified of all amendments in advance of their effectiveness.</p> <p>In addition, NGX conducts a financial review and ensures that each potential Contracting Party meets certain collateral threshold and operational requirements before becoming a Contracting Party. ICE NGX also takes collateral, has in place insurance to cover certain trading risks, and takes a first priority security interest in cash collateral. Each Contracting Party is legally bound by the CPA. The CPA sets out the rights and obligations of ICE NGX and Contracting Parties. The CPA permits novation and addresses trades made an error (described under Principle 8).</p>
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<p><i>Principle 2: Governance</i></p>	
<p><i>An FMI should have governance arrangements that are clear and transparent, promote the safety and efficiency of the FMI, and support the stability of the broader financial system, other relevant public interest considerations, and the objectives of relevant stakeholders.</i></p>	
<p>Summary Narrative</p>	<p>ICE NGX has governance arrangements that are clear and transparent, promote its safety and efficiency and support the stability of the broader financial system, other relevant public interest considerations and the objectives of relevant stakeholders.</p>

ICE NGX adheres to the following risk management principles which include:

- a) promoting and maintaining an enterprise-wide ethical culture that values the importance of effective risk management in day-to-day business activities and decision making, and encourages frank and open communication;
- b) business unit and corporate function ownership of all risks assumed in activities and accountability for the effective management of those risks, supported by the risk management and internal audit divisions also includes adequately defining responsibilities and levels of authority for risk-taking across the enterprise;
- c) employing effective and consistent risk management processes across the enterprise to ensure risks are transparent and remain within the approved risk appetite;
- d) employing sufficient resources and effective tools, methods, models and technology to support risk management processes; and
- e) ensuring the ERM Program reflects industry standards, legal and regulatory requirements; which is regularly reassessed.

The risk management principles are embedded within the ICE NGX objectives which are clearly defined through an annual strategic planning process involving ICE NGX senior management. This process identifies corporate objectives taking into account the opportunities and risks of the business on a long-term and short-term basis. The ICE NGX senior management team and ICE NGX Board monitor ICE NGX's performance against both short-term and long-term strategic plans and performance review/evaluations are performed annually.

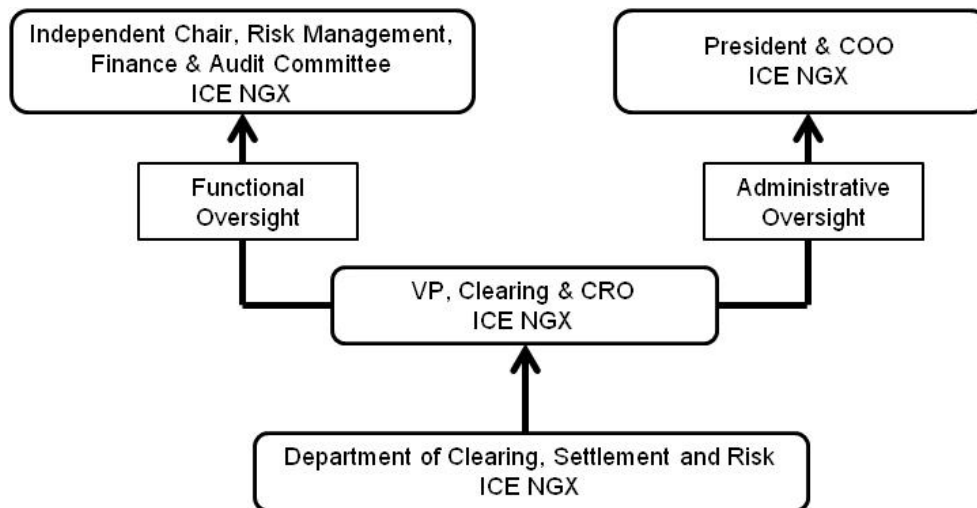
ICE NGX has a senior management team, an internal Risk Management Committee ("RMC"), a Board of Directors (the "Board") and a Board Risk Management, Finance and Audit Committee ("RMFAC"). The ICE NGX Board currently has seven members consisting of the ICE NGX President, three ICE Inc. executives and three independent directors; one of the independent directors is the Chair of the Board. The Risk Management, Finance and Audit Committee has four members consisting of one ICE Inc. executive and three independent directors, the Chair of which is an independent director.

The Board appoints the ICE NGX officers and prescribes the authority and duties to be performed by each officer pursuant to the ICE NGX By-laws. The Board is responsible for appointing officers that have the appropriate experience, skills, and integrity necessary to discharge ICE NGX operational and risk management responsibilities. ICE NGX has a Board Code of Conduct (the "Board Code"), a Board Governance Principles mandate, a Board Risk Management, Finance and Audit Committee Charter and a Risk Management Committee Charter. The names of the members of the ICE NGX Board are made publicly available.

ICE NGX provides the ICE NGX Board and the ICE NGX senior leadership with quarterly and annual reports. Pursuant to its recognition orders from the ASC and its exemption order from the OSC, ICE NGX must comply with certain corporate governance requirements. ICE NGX also provides the ASC and CFTC with certain quarterly, annual and other reports regarding other performance metrics, risk management and strategic goals and planning.

The ASC recognition order and the OSC exemption order also describe governance principles that apply to ICE NGX as a regulated entity and are publicly available.

The governance framework developed by ICE NGX, in conjunction with its parent company, ICE, is shown below.



The ICE NGX Board is primarily responsible for providing governance and stewardship to ICE NGX. It is in charge of appointing a competent senior management team to run the day-to-day operations of ICE NGX as well as overseeing and supervising the management of the business of ICE NGX by that team. The Board is also responsible for overseeing ICE NGX's systems of corporate governance and financial reporting and controls to ensure that ICE NGX reports adequate and fair financial information to its parent company, ICE, and that ICE NGX engages in ethical and legal corporate conduct. In addition the Board approves any waivers of the Codes and reviews the Codes annually. The Board Code contains specific policies in respect of conflicts of interest and fosters a climate of honesty and integrity.

The ICE NGX Board is responsible for setting the standards of business conduct contained in the Board Code. The ICE NGX Board regularly reviews and updates these standards as it deems appropriate to reflect changes in the legal and regulatory framework applicable to ICE NGX, the business practices within ICE NGX's industry, ICE NGX's own business practices, and the prevailing ethical standards of the communities in which ICE NGX operates.

With respect to corporate governance, the ICE NGX Board is expected to do the following:

- a. Establish an appropriate system of corporate governance.
- b. Establish committees and approve their respective charters and the limits of authority delegated to each committee.
- c. Review and assess the adequacy of the charter of each committee of the

	<p>Board on an annual basis.</p> <ul style="list-style-type: none"> d. Establish appropriate processes for the regular evaluation of the effectiveness of the Board, its chair, all the committees of the Board and their respective chairs, and all the members of the Board and its committees. e. Approve the nomination of directors and appointment of all ICE NGX officers. f. In consultation with the ICE’s Governance Committee, review the adequacy and form of directors’ compensation to ensure it realistically reflects the responsibilities and risks involved in being a director. g. In consultation with the ICE’s Governance Committee, establish a minimum attendance expectation for Board members in respect of Board and committee meetings, keeping in mind the principle that the Board believes that all directors should attend all meetings of the Board and each committee on which he or she sits, and review in advance all the applicable materials for such meetings. h. Establish appropriate processes to ensure that the independent members of the Board have the ability to meet to discuss the business and affairs of the Corporation without management or non-independent members of the Board being present. i. Establish clear and direct lines of responsibility and accountability, particularly between management and the board, and ensure sufficient independence for key functions such as risk management, internal control, and audit. j. Establish processes to ensure that the decisions of ICE and its affiliates are not detrimental to the Corporation. <p>The Chair of the ICE NGX Board is selected by the Board from the Directors elected by the sole shareholder. He/she provides leadership to the Board in matters relating to the effective execution of all Board responsibilities and works with the CEO to ensure that the organization fulfills its responsibilities to stakeholders including the sole shareholder, employees, clearing members, governments and the public.</p> <p>ICE NGX carefully selects directors with appropriate skills and knowledge to create the right overall mix of expertise including financial literacy, commodities, derivatives, clearing and risk management and reviews the individuals and overall composition each time the Board is reappointed.</p> <p>The Board includes independent board members. Independent directors meet the definition of independence set out in local laws and the CFTC subpart C DCO rules.</p> <p>ICE NGX carefully selects management with appropriate skills and knowledge to create the right overall mix of expertise including technology, finance, legal, clearing and risk management and the ICE NGX President reviews the individuals regularly and at least annually on a formal basis. ICE NGX’s Board monitors the performance of the ICE NGX President against a set of mutually agreed upon corporate objectives aimed at maximizing shareholder value. Annual performance</p>
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reviews are conducted across all members of the leadership team measuring performance against corporate and personal objectives.

ICE NGX's Senior Leadership team is comprised of the heads of all departments including Clearing/Risk/Settlements, IT, Legal, Finance, Marketing, and Business Development. The roles and responsibilities of management are set by the President of ICE NGX with a view to the core objectives of ICE NGX and management performance. This is done formally on a quarterly basis and informally on an ongoing basis. Further, written objectives are reiterated by the heads of each business department, including Clearing and Operations, to direct reports.

Potential conflicts of interest are mitigated by a) the collective objectives of the Senior Leadership team to maximize shareholder value while maintaining its public interest mandate and b) the extensive governance framework in place to allow for the effective risk management of ICE NGX's clearinghouse. Any actions that result in reduced risk management standards below the requisite standards would potentially a) expose the clearinghouse to losses resulting from inadequate collateral and/or financial resources, b) undermine the confidence of clearinghouse participants, and c) put ICE NGX offside with respect to its Board and regulatory risk management requirements. Any one of these potential outcomes would significantly diminish the value of the clearinghouse which directly contradicts the collective objectives of ICE NGX's Senior Leadership team. Accordingly, the Senior Leadership team pays special attention to risk management matters, including establishing steering sub-committees to manage implementation of the Principles for Financial Management Intermediaries (PFMI) and Dodd Frank requirements.

The biographies of ICE NGX's Chief Risk Officer, Louise Waterhouse, and Chief Compliance Officer, Rajeeve Thakur, are provided below:

- **Louise Waterhouse, Chief Risk Officer**, is responsible for the clearing and risk operations at ICE NGX. Waterhouse first joined ICE NGX in March 2009 as a Margin & Risk Analyst following several years at EPCOR Utilities as a Credit & Treasury Analyst. She re-joined ICE NGX in July 2012 following a year with RiskAdvisory, a division of SAS focused on risk management products and valuations. Waterhouse holds a B.Comm Finance from the University of Calgary. Reporting to the Chair of ICE NGX's Risk Management, Finance and Audit Committee, Waterhouse is accountable for managing the business risks in accordance with Board approved risk policies and appetite as well as global regulatory standards for qualified central counterparties. In addition, she is responsible for the development and execution of policies directing settlement and clearing operations.
- **Rajeeve Thakur, Chief Compliance Officer**, joined ICE NGX in July 2016 following two years at the Alberta Securities Commission and two and a half years in private practice focused in the areas of securities regulation and cross-border financing transactions. Thakur graduated from the University of Western with a LLB along with a JD from Washington and Lee University

	<p>in 2011. He is licensed as a Barrister and Solicitor in the Province of Alberta and an Attorney and Counselor at Law in the State of New York. As General Counsel and CCO, he is responsible for overseeing the management of relationships with multiple regulators, all ICE NGX regulatory applications and analyzing the effects of current or proposed regulations.</p> <p>ICE NGX is subject to the ICE Enterprise Risk Management (“ERM”) framework. ICE Corporate Risk Management is responsible for the design and coordination of the ERM Program in addition to the ongoing compliance and reporting for the Program across ICE. The ERM framework defines the governance structures and responsibilities and includes written risk policies at all levels which define ICE NGX’s risk appetite, highlight the key risks, and describe the manner in which those risks are properly managed. The ERM framework is structured in a manner that ensures that the risk management functions have sufficient authority, independence, resources, and access to the Board.</p> <p>In addition, ICE NGX has documented procedures and controls identifying the range of risks to which it is exposed, including procedures for monitoring and assessing those risks. These items are subject to an audit performed by ICE internal audit at least once per year, and are reviewed as required.</p> <p>ICE NGX's functional departments interact with Contracting Parties as appropriate to obtain feedback on major initiatives, rules, clearinghouse design, etc. A variety of other stakeholders, including regulators, are consulted on matters with a potential impact on the public. Pursuant to ERM Program, significant or material matters are taken to the Board for review, discussion or approval. ICE NGX internal policies also address conflicts of interest and ensure these matters are adequately managed. ICE NGX also seeks input on various matters from its Customer Advisory Committee consisting of various ICE NGX participants.</p> <p>Major decisions are communicated to stakeholders directly through ICE NGX Senior Management and ICE NGX employees as appropriate, depending on the issue and expected impact. Formal presentations may also be given by staff as appropriate. Major decisions resulting in rules changes must be publicly disclosed on the ICE NGX website pursuant to regulatory orders. Operational notices are also posted to the ICE NGX website.</p>
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<p><i>Principle 3: Framework for the Comprehensive Management of Risks</i></p> <p><i>An FMI should have a sound risk-management framework for comprehensively managing legal, credit, liquidity, operational, and other risks.</i></p>	
Summary Narrative	<p>ICE NGX has a sound risk management framework for comprehensively managing legal, credit, liquidity, operational and other risks.</p> <p>ICE NGX’s risk management program includes risk management policies,</p>

procedures and systems that enable ICE NGX to identify, measure, monitor and manage the risks faced by ICE NGX including legal, credit, liquidity, operational, collateral, custody and settlement risk. The ICE NGX RMC and RMFAC regularly review and recommend Board approval of the risk management framework including contracting party membership requirements, margin parameter settings, default management procedures, collateral management, counterparty risk reviews, liquidity analysis and stress scenarios. ICE NGX risk committees are mandated to regularly review the risks it bears from and poses to other FMIs, settlement banks, liquidity providers, exchanges and other trading platforms, and service providers.

Risks that arise naturally under the operations of ICE NGX include credit, commodity market, legal, liquidity, operational, and settlement.

ICE NGX also has policies, procedures and systems in place at an operational level to address these risks in a prudent and proficient manner. ICE NGX has documented procedures which outline application of given risk policies. Credit, Commodity Market, and Settlement risks are addressed through ICE NGX's Clearing, Settlement and Risk Processes and communicated to Contracting Parties and stakeholders through the Margin Methodology Guide. ICE NGX's Margin Methodology Guide is publicly disclosed which enables existing and potential participants to evaluate the risk management model employed by ICE NGX. Together with a number of web based reports a Contracting Party is able to review their position as appropriate. Operational risks are addressed through the Business Continuity Procedures ("BCP") and Disaster Recovery Procedures ("DRP"). Legal risk is actively mitigated with internal and external legal analysis and regulatory oversight.

ICE NGX's risk management business unit, lead by the ICE NGX CRO, is responsible for the regular review and updating of the risk management policies, procedures and systems. All material changes must be approved by the ICE NGX RMC. The RMC manages a variety of matters relating to risk management, including determining the eligibility of products for clearing, setting standards for membership and advising the ICE NGX Board on proposed changes to ICE NGX's risk model and default procedures. In addition it is required to review the policies and procedures of principal risks, with updates on those risks at least semi annually.

ICE NGX monitors risk management performance by conducting daily back-testing and stress testing to ensure that sufficient collateral or financial resources would be in place for an extreme, but plausible default event. Reviews of margin rates to reflect recent risk intensity are performed at least bi-weekly and more frequently if performance indicates changing market conditions. Other policies and procedures are considered as back-testing and stress testing are performed, and updated as appropriate.

ICE NGX utilizes an internally developed system with real-time reporting to monitor Contracting Party portfolios which reflect up-to-the-minute prices and positions, capturing exposure as outlined in procedures. ICE NGX requires Contracting Parties to fully collateralize their portfolio, including costs that are estimated to

occur during a liquidation of those positions in the event of default. ICE NGX ensures that a buffer of collateral exists to cover unforeseen amounts, including new trades. ICE NGX reporting allows for aggregation of positions within each Contracting Party clearing account, but does not aggregate between other accounts or Contracting Parties. Collateral is held in segregated accounts that are strictly used for resolving a default of the respective Contracting Party.

ICE NGX has a Customer Advisory Committee in place that meets twice a year. Consultations involve an overview of ICE NGX and any changes since the last meeting followed by a question and discussion period. Attendees include marketing and trading participants from ICE NGX's most active Contracting Parties.

ICE NGX provides a number of web based reports for Contracting Parties to review positions and associated margin requirements in real-time. Since Contracting Party positions are fully collateralized with a buffer for unforeseen events, Contracting Parties are naturally incented to have reduced risk portfolios as collateral levels are directly related to the risk of a portfolio and portfolio size. ICE NGX also establishes and maintains risk limits for each Contracting Party.

ICE NGX is a non-mutualized and fully collateralized clearinghouse whereby all Contracting Parties are margined before full utilization. ICE NGX's Risk Limit policy is structured such that collateral costs are directly tied to portfolio size. Collateral requirements for a Contracting Party increase when the risk limit is exceeded. The structure of this policy provides incentive for Contracting Parties to manage their position in order to minimize capital costs.

ICE NGX has a primary interdependency with its primary settlement bank in its functions of retaining Contracting Party collateral, facilitating daily and monthly invoice settlement process, and providing ICE NGX with credit facilities. ICE NGX performs ongoing credit analysis and monitoring of exposure to its settlement bank while regularly monitoring the settlement bank's ability to perform required tasks. To a lesser extent, ICE NGX has interdependencies on financial institutions issuing Letters of Credit ("LC") on behalf of Contracting Parties. ICE NGX also monitors the credit rating of financial institutions issuing letters of credit to ensure the issuer credit rating is A or higher, and ensures aggregate exposure from each bank remains within specified limits. Regular risk reports are provided to ICE NGX's CRO which provide details related to settlement bank exposure and may be reviewed in conjunction with the ICE NGX Board and RMFAC as required.

ICE NGX markets are listed on ICE's markets platform and as a result, depend on ICE's systems to be available for onscreen trading and trade file data. ICE NGX regularly receives and reviews an SSAE 16 Report for the ICE Trading Platform and ICE eConfirm System. This report includes independent testing and attestation as to the design and effectiveness of the internal controls for the ICE Trading Platform and eConfirm service. ICE NGX also monitors a variety of ICE connections and systems in real time including networking connections, file transfers and APIs.

Agreements with ICE NGX's primary settlement bank and ICE address system

availability standards and requirements along with procedures for operations failure and dispute management are reviewed regularly. ICE NGX also has alternate settlement bank arrangements in place that allow ICE NGX to meet settlement obligations in the event of the inability of its primary settlement bank to provide settlement services.

ICE NGX conducts daily liquidity stress tests to ensure that there is sufficient liquidity available to resolve non performance within credit facilities. The Clearing group monitors bank concentration risk, credit reports and other factors to determine Contracting Parties overall financial health. The IT and Operations departments monitor the ICE data feed on a daily basis in order to ensure operating reliability. ICE NGX's information and control systems allow for accurate and timely review of exposures at an individual and aggregate level. Performance and sensitivity data is available and reviewed on a daily basis outlining FMI exposures at product and portfolio levels. These reports facilitate measuring and monitoring the corresponding risks enabling ICE NGX staff to identify risks and manage them accordingly.

ICE NGX's Recovery and Wind-down plan outlines the scenarios which could prevent it from providing its critical services as a going concern. Such scenarios include insolvency of the clearinghouse and/or the default of a Contracting Party in an amount that exceeds the financial resources of the clearinghouse.

To mitigate the risk of loss resulting from a Contracting Party default in excess of financial resources, ICE NGX maintains sophisticated risk systems to measure exposures in real-time and ensures that collateral is sufficient to cover Contracting Party defaults, including instances of a Contracting Party's insolvency. In addition, ICE NGX maintains sufficient capital resources and a self-funded Guarantee Fund to facilitate an instance of a shortfall arising from the material default or insolvency of a Contracting Party.

With regard to its own operation, ICE NGX maintains sufficient resources to sustain its operations for the period of one year. Of this, the resources necessary to cover the first six months of operating expense is readily available and liquid. Accordingly, ICE NGX maintains sufficient resources to provide for an orderly wind-down should that be required. In this regard, ICE NGX notes that contracts with the greatest liquidity are near- term contracts. In the case of an insolvency of ICE NGX, as discussed below, Contracting Parties would have rights to set-off amounts owed to them by ICE NGX.

In the event ICE NGX decides to wind-down the business, close out procedures are outlined in the CPA and ICE NGX would follow the associated procedures to ensure an orderly and risk managed completion. The CPA gives both ICE NGX and a Contracting Party the right to terminate any outstanding transactions upon ICE NGX insolvency. The terminated transactions will be valued and any accounts receivable/payable from/to a Contracting Party will be set-off to determine any amounts owed to or by ICE NGX to or by any Contracting Party. ICE NGX has obtained external legal opinions confirming that its rights to set-off obligations are preserved under insolvency laws.

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Principle 4: Credit Risk

An FMI should effectively measure, monitor, and manage its credit exposure to participants and those arising from its payment, clearing, and settlement processes. An FMI should maintain sufficient financial resources to cover its credit exposure to each participant fully with a high degree of confidence. In addition, a CCP that is involved in activities with a more-complex risk profile or that is systemically important in multiple jurisdictions should maintain additional financial resources sufficient to cover a wide range of potential stress scenarios that should include, but not be limited to, the default of the two largest participants and their affiliates that would potentially cause the largest aggregate credit exposures to the CCP in extreme but plausible market conditions. All other CCPs should maintain, at a minimum, total financial resources sufficient to cover the default of the one participant and its affiliates that would potentially cause the largest aggregate credit exposures to the CCP in extreme but plausible market conditions.

Summary Narrative

ICE NGX effectively measures, monitors and manages its credit exposures to CPs and those arising from its payment, clearing and settlement process. ICE NGX maintains sufficient resources to cover its credit exposure to each CP fully with a high degree of confidence. In addition, ICE NGX maintains financial resources sufficient to cover a wide range of potential stress scenarios, including the default of one CP that would cause the largest aggregate credit exposure to ICE NGX in extreme but plausible market conditions.

ICE NGX mitigates exposures, including those arising from credit risk, by requiring full collateralization of Contracting Party positions which account for current and potential future exposures related to their respective portfolios. ICE NGX monitors Contracting Party positions and projected near-term positions in real-time to ensure that collateral balances continue to meet margin requirements at all times. Eligible collateral must be provided in the form of cash, LC from an ICE NGX approved financial institution, physical delivery sales credits and positive mark-to-market (“MtM”).

ICE NGX’s margin methodology framework is reviewed on an ongoing basis through daily back-testing and stress testing results. New products are fully reviewed prior to implementation, and regularly thereafter. Portfolio Margin prices are updated at least bi-weekly and more frequently in periods of high volatility. Initial margin rates which reflect changing market prices and volatility are updated at least monthly and more frequently in periods of high volatility as required.

ICE NGX’s Clearing System is updated continuously throughout the business day with trade data, collateral updates, and market prices which are all used to continuously calculate Contracting Party current and potential future exposures. In addition, ICE NGX implements risk limits for all Contracting Parties which are monitored on a daily basis. Should a Contracting Party exposure breach the risk limit, additional collateral requirements are applied. For clarity, ICE NGX only has secured exposure to Contracting Parties, which provide cash and/or LCs as

collateral in support of their own margin requirements. ICE NGX's rules allow for additional eligible collateral support to be requested when a Contracting Party's margin requirement meets or exceeds certain collateral utilization or minimum available margin thresholds as outline in Schedule C of the CPA.

Annual reviews are preformed on all Contracting Parties to review company specific risks and ensure each entity continues to meet Minimum Qualification Requirements as outlined in the CPA. Should a Contracting Party be deemed to pose additional risk to the exchange, the entity may be added to the Watchlist which is approved by the Manager, Clearing & Credit Risk and CRO and reported to the RMC on a quarterly basis. Contracting Parties on the Watchlist are monitored more closely and credit reviews may be performed more frequently.

Clearing also performs credit reviews on all LC issuing banks at least annually and monitors issuing bank concentration risk on a daily basis. In addition, ICE NGX subscribes to news filtering services, bankruptcy reporting services, and credit rating agency ("CRA") reports while maintaining active participation with industry credit groups.

ICE NGX does not consider the current product offering to contain items with complex risk profiles other than a small amount of financial gas options which are not correlated with Contracting Party defaults. Furthermore, ICE NGX does not currently believe it is, nor has been deemed to be, systemically important in any jurisdiction.

In addition to fully collateralized Contracting Party positions, ICE NGX maintains financial resources sufficient to meet 12 months operating expenses and under Cover 1, the single largest participant collateral shortfall in an extreme, but plausible stress scenario. ICE NGX maintains a cash balance funded by equity and provides access to a self-funded Guarantee Fund of USD \$100MM issued by the Bank of Nova Scotia held in trust at BNY Trust Company of Canada for all Contracting Parties to resolve any collateral shortfall upon a Contracting Party default. The USD \$100MM Guarantee Fund is backed by default insurance for the same amount issued by Export Development Canada ("EDC").

Daily testing is performed to determine that ICE NGX holds sufficient financial resources in the event of a default of its largest Contracting Party credit exposure. To ensure adequacy of total financial resources ICE NGX performs approximately 20 pricing and volatility stress scenarios which are considered extreme but plausible. The largest customer portfolio shortfall given the scenarios is considered for financial resource purposes. Daily stress testing pricing scenarios include relevant peak historic price volatilities, and implied volatilities, which are considered extreme, but plausible given a 5 year history. Additionally, ICE NGX conducts alternate stress scenarios which are beyond extreme but plausible levels which may highlight what levels of price moves or volatility changes may cause concern. Multiple simultaneous customer defaults given the scenarios are considered. Sufficiency of financial resources and the guarantee fund are reviewed daily. Financial resources must be in excess of regulatory minimums and approved by the Manager, Risk Analytics, and CRO to ensure sufficiency. If results indicate

	<p>financial resources are beginning to approach levels of insufficiency immediate action is taken to address as required. Results are reported quarterly to the ICE NGX RMC, ICE NGX RMFAC, ICE NGX Board, ASC and CFTC.</p> <p>Stress testing scenarios are reviewed for adequacy and reasonability in light of current market conditions on a monthly basis and are reviewed for recalibration at least annually. Monthly scenario review and results are reviewed and approved by the Manager, Risk Analytics. Annual scenario recalibration is approved by the Manager, Risk Analytics and CRO, followed by dissemination to the ICE NGX RMC and RMFAC.</p> <p>Should a Contracting Party fail to perform its contractual obligations with ICE NGX, the CPA together with the Clearing, Settlement and Risk procedures, outline the process to invoke the liquidation procedure. This includes the collapse of the defaulting party's collateral which is then applied to any and all obligations resulting from such failure. In the event insufficient collateral is on hand, ICE NGX may direct payment from the liquid financial resources or Guarantee Fund to cure any outstanding Contracting Party obligations as a result of the default.</p>
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<p><i>Principle 5: Collateral</i></p> <p><i>An FMI that requires collateral to manage its or its participants' credit exposure should accept collateral with low credit, liquidity, and market risks. An FMI should also set and enforce appropriately conservative haircuts and concentration limits.</i></p>	
<p>Summary Narrative</p>	<p>ICE NGX requires collateral with low credit, liquidity and market risks to manage its CP's credit exposure. ICE NGX requires and enforces conservative haircuts and concentration limits.</p> <p>ICE NGX accepts only USD and CAD cash or LCs in ICE NGX's standard LC format issued by an Approved Financial Institution ("AFI") as defined in the CPA. CRA ratings are used to determine LC issuing bank baseline eligibility requirements and weighting is applied to the CRA rating as one of several factors in assessing credit limits of LC issuing banks. ICE NGX monitors the CRA ratings of LC issuing banks on an ongoing basis and CRA ratings are factored into annual credit reviews conducted on all LC issuing banks. Other factors that impact the assessment of issuing bank risk are the bank country of origin, location of bank issuing branch, LC issuing jurisdiction, bank organizational structure and financial ratios.</p> <p>Aggregated issuing bank concentration cannot exceed an internal credit limit and each issuing bank is held to a maximum of 25% concentration of total value of LC collateral held. Monitoring is performed daily to ensure exposures remain in line with limits which further help to manage and mitigate potential wrong-way risk. It should be noted that for any Contracting Party that that is also an AFI, collateral must be provided in the form of cash or an LC issued through an unrelated AFI. Regular exposure reports aggregating clearing and issuing bank exposures are provided to the Manager, Clearing & Credit Risk and CRO. These reports are</p>

provided to the RMC, RMFAC and ICE NGX Board on a quarterly basis. Collateral balances are maintained in the Clearing System, both of which are updated daily upon receipt or return of collateral. All balances are approved by the Manager, Clearing & Credit Risk in line with ICE NGX collateral and bank policies. Credit reviews and concentration limits of all issuing banks are reviewed at least annually. Any changes to the policies are brought through the risk management framework process. ICE NGX monitors the credit ratings and creditworthiness of LC issuing banks on an ongoing basis and monitors aggregate issuing bank exposures on a daily basis to ensure issuing banks remain within their respective credit limit and concentration limit.

Since ICE NGX does not accept any asset classes outside of LCs and cash, MtM valuations are not required for collateral. The LCs accepted by ICE NGX must be issued in ICE NGX's standard LC format which requires one day drawdown provisions and are for a finite value and cash is liquid, therefore there is no change in the value. As LC's and cash are not subject to mark to market changes, haircuts on cash or LC's are not currently applied to collateral deposited with ICE NGX. Furthermore, since LC's and cash are not subject to mark to market changes procyclicality is mitigated in the nature of the instruments themselves. ICE NGX does not currently accept any asset classes outside of LC's and cash and haircuts are not currently applied to collateral deposited with ICE NGX. Cash collateral is held in segregated accounts and is not reinvested or reused by ICE NGX.

All collateral is held at a Canadian Schedule I bank with all cash collateral held in segregated bank accounts controlled by ICE NGX in the name of the Contracting Party. ICE NGX registers a first priority lien in Alberta and the Contracting Party's province or state of incorporation against all cash collateral posted. Cash collateral is not reinvested or reused by ICE NGX. LC's are required to be issued by an AFI through a North American branch in SWIFT form with a one business day payment period upon drawdown notification. LC's are subject to International Standby Practices 1998, International Chambers of Commerce Publication No. 590 ("ISP98") and for matters not addressed by ISP98 are generally governed by the laws of the Province of Alberta and applicable Canadian Federal Law.

ICE NGX's collateral management records are maintained in the Clearing System and in a daily spreadsheet, both of which are updated throughout each business day as collateral is received/returned. All collateral updates flow through to Real Time Risk Monitor and Margin Requirement reports enabling staff and customers to view current collateral levels along with associated margin requirements. At least monthly audits are performed by both ICE NGX and the Canadian Schedule I bank to ensure accuracy of collateral records. Clearing resources are dedicated to clearing activities, including margining and collateral management on a daily basis subject to market conditions. Resource requirements are assessed on a regular basis as part of ICE NGX's ongoing objectives measurement and strategic planning process.

Principle 6: Margin

A CCP should cover its credit exposures to its participants for all products through an effective margin system that is risk-based and regularly reviewed.

Summary Narrative

ICE NGX covers its credit exposures to its CPs for all products through an effective margin system that is risk-based and regularly reviewed.

ICE NGX's margin methodology includes the valuation of credit risk through the 55 day physical settlement cycle, initial margin and variation margin (MtM) on all net open forward positions for each clearing account. Contracting party positions are available through an online reporting portal that enables users to see positions and reports related to the Margin Methodology in real time. The Margin Methodology Guide without formula appendices is publicly available through the ICE NGX website and the same guide with formulas is available to any Contracting Party upon request. Clearing and Risk personnel work with clients on a regular basis to ensure an ongoing understanding of the margin methodology and associated margin requirements.

Margin Requirements are comprised of the sum of the following three components:

1. **Accounts Receivable (“A/R”) Risk** - the value of gas, power and/or crude oil already delivered that generates a net amount owing to ICE NGX;
2. **Variation Margin (mark-to-market)** - a calculation of the price at which an open position could be instantaneously liquidated given current market prices;
3. **Initial Margin (liquidation risk)** - a charge to an account for potential adverse changes in market prices (i.e. variation margin) during a liquidation scenario.

ICE NGX continuously calculates variation margin on all traded products that have not yet been delivered or expired which represent the change in value since traded. The market prices are updated in real-time based on the last traded price or end of day settlement prices.

Variation margin is comprised of two components:

1. **Offset Gain/Loss** - Any long/short positions that are offset by the opposite short/long position in an equivalent contract for a given day in the future comprise the offset position. Offset positions result in a known (crystallized) gain or loss being applied to the margin requirement for each Contracting Party. If a Contracting Party purchased forward contracts at a price lower than they sold the equivalent contracts, they are marked with a gain in the amount of the difference between the two values. Conversely, if a Contracting Party purchased forward contracts at a price higher than they sold the equivalent contracts, they are marked with a loss in the amount of the difference between the two values. This difference comprises the offset gain/loss portion of the variation margin.
2. **Open Variation Margin** - The exposure to net open positions held by a Contracting Party is calculated by determining the difference between the

value of the net open position at the time it was consummated, and its estimated value in the current market.

ICE NGX Instrument Settlement Price Methodology Guide outlines the standardized procedures for producing settlement prices and is available to Contracting Parties and regulators upon request. Pricing data is based on trading activity observed in the market and may be used to set prices of similar products (time/location). Additional pricing data may be procured by ICE NGX through third parties when sufficient data is not available. Daily settlement prices are calculated by ICE NGX Marketing and provided to Operations, Clearing and market participants for additional oversight. The settlement price data is used for determining initial margin requirements and calculating MtM in accordance with the Margin Methodology Guide.

When price data is not readily available, prices are estimated based on historical relationships to prices that are available, as well as a market survey. These prices are always subject to Operations, Clearing and market scrutiny when they are sent out prior to settlement time. The independence is verified by multiple market participants.

ICE NGX calculates Contracting Party initial margin requirements at a portfolio level, accounting for the diversification effect between long/short positions as well as for positions not perfectly correlated within the same commodity class. Daily back-testing results are monitored to ensure the initial margin remains within expected minimum performance requirements.

Initial margin is calculated by assessing the actual price movements that have occurred in recent history of each product, then applying a Value at Risk (“VAR”) model to determine the probability of those price movements occurring during a liquidation period. Initial margin is the result of applying this probability to the current market price of each product for each forward date, and is an estimate of the risk within a certain confidence level. Initial margin rates may be estimated conservatively with the data that is available, or may be set equal to a similar product with corresponding risk characteristics. As back-testing is performed on a daily basis, it is quickly noticed if margin rates are inappropriate for any product. Should discrepancies appear, further investigation is performed on the product to determine why the associated initial margin rate(s) are insufficient and recalibrated as required. Model back-testing and market dynamics are monitored by ICE NGX on a daily basis. The margin system has included configurable chargebacks to account for issues not covered by the core VaR model.

ICE NGX utilizes a non-parametric VaR calculation at the portfolio level based on an age-weighted historical simulation approach widely known as the BRW model (Boudoukh, et al., 1998). Daily portfolio value changes are estimated given current portfolio composition and historical returns for each product and forward tenor within the portfolio. The Historical VaR is estimated directly using the percentile of the empirical distribution, 99%. ICE NGX will prorate the result to a 2-day holding period. The model assumes a) a Contracting Party portfolio could be liquidated within a two day period upon default, and b) previous weighted price changes are

indicative of future price changes. Liquidation period model input has been estimated based on previous experience and expectations for future portfolio auctions. The confidence interval is set at a comparatively conservative level, and based on actual experience has delivered desired results.

In previous liquidation events ICE NGX has auctioned off portfolios in larger blocks of trades, and requires bidders to respond within a day. Historically, this has provided a good balance of liquidity and price for large and small defaults. As such, the majority of ICE NGX products use a 2-day liquidation period. ICE NGX uses sample periods of 2 years of history with more weight applied to recent history (ex. 70% weight is applied to most recent year). ICE NGX commits to ensuring a period of stress remains in the look-back window of VaR calculation. ICE NGX will include additional observations for each of the market days during the stress period as if they occurred immediately following the end of the normal look-back window of 2 years. For new products ICE NGX often uses a proxy product for determining initial margin rates to ensure that liquidation does not create adverse price defects. In the event of a default, ICE NGX management team members, including members from Legal, Operations, Marketing and Clearing, evaluate the defaulting customer's portfolio and other liquidation factors, including but not limited to current market conditions, the risk profile and portfolio composition, to determine the best liquidation approach.

Procyclicality is moderated by utilizing margin rates greater than the prescribed minimum parameters by including a stress scenario after the two year look back period, allowing cushion to stabilize rates in extreme conditions while still meeting regulatory requirements. ICE NGX does not allow collateral with market risk, as such, haircuts are not needed and not subject to procyclicality. The credit strength of each Contracting Party is considered independently, and collateral requirements adjusted as necessary, regardless of economic cycle. Contracting Parties in financial distress are more likely to need a clearinghouse to perform operations. ICE NGX conducts annual credit reviews and subscribe to rating and news agencies to monitor the financial strength of Contracting Parties which may exhibit wrong-way risk. Should a Contracting Party be deemed to pose additional risk to the exchange, the entity may be added to the Watchlist which is approved by the Manager, Clearing & Credit Risk and the CRO and reported to the ICE NGX RMC on a quarterly basis. Contracting Parties on the Watchlist are monitored more closely and credit reviews may be performed more frequently.

As a fully collateralized exchange, ICE NGX holds collateral against Contracting Party margin requirements in alignment with the collateral thresholds outlined in the CPA. The credit exposures of ICE NGX products are limited to invoiced and unpaid deliveries and delivered but not yet invoiced deliveries. Current and potential future exposures are calculated for the aggregate portfolios across all ICE NGX products.

Margin calls can be made at any time during the day, but are generally made within the first few hours of trading hours. Collateral deposits resulting from margin calls are due by close of the next business day. Should a Contracting Party fail to pay or deposit additional collateral, ICE NGX retains the right under the CPA to invoke the liquidation procedure which includes collapsing the collateral and liquidating the

	<p>defaulting party's portfolio.</p> <p>ICE NGX monitors portfolio and product level back-testing on a daily basis, with an external review conducted quarterly which includes an annual look-back. Back-testing is performed on two levels to review actual value changes in comparison to initial margin, and exceptions are noted:</p> <ol style="list-style-type: none"> 1. Product back-testing includes comparison of initial margin to 2-day product price changes. 2. Portfolio back-testing compares total Contracting Party initial margin across all positions to daily change in variation margin. <p>Coverage is evaluated across products and portfolios, including effects with other commodities within the commodity asset class. ICE NGX targets initial margin coverage not less than the generally accepted guidance appropriate for a single-tailed confidence level of 99 percent.</p> <p>In addition to the back-testing exercises described under Key Consideration 6, ICE NGX engages an independent qualified party to review the back-testing results on a quarterly basis which achieves two key objectives:</p> <ol style="list-style-type: none"> (i) ensuring that ICE NGX's systems are calculating initial margin as intended, in accordance with the model's specifications; and (ii) assessing the sufficiency of the initial margin in effect during the prior quarter as compared to actual price changes over that same period. <p>The results of the independent quarterly back-testing are reviewed and approved by the Manager, Risks Analytics, CRO and ICE NGX President with copies provided to the ASC.</p> <p>ICE NGX's contracts are primarily sensitive to changes in commodity price. As such, stress testing analysis is performed to determine impact of extreme events. The stress testing scenarios are set to include extreme market events, and extreme changes in correlations between prices.</p> <p>Performance of ICE NGX's margin model has been sufficient to date on existing products including during extreme market conditions. If performance was considered lacking over a short period, less than a month, margin rates would be updated accordingly. If margin methodology was found to underperform over multiple quarters, a more formal review would occur. ICE NGX discloses margin model performance results to the ASC on a quarterly basis and publicly through quarterly updates to its PFMI quantitative disclosure document. Back-testing results are reported to the Manager, Risks Analytics, CRO, and ICE NGX President daily and RMC, RMAC and ICE NGX Board on a quarterly basis.</p> <p>ICE NGX continuously reviews its margin model to ensure the methodology is in alignment with regulatory and risk management requirements. In addition, the model is validated by an independent arms length or third party on at least an annual basis.</p>
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Principle 7: Liquidity Risk

An FMI should effectively measure, monitor, and manage its liquidity risk. An FMI should maintain sufficient liquid resources in all relevant currencies to effect same-day and, where appropriate, intraday and multiday settlement of payment obligations with a high degree of confidence under a wide range of potential stress scenarios that should include, but not be limited to, the default of the participant and its affiliates that would generate the largest aggregate liquidity obligation for the FMI in extreme but plausible market conditions.

Summary Narrative

ICE NGX measures, monitors, and manages its liquidity requirements and resources through its liquidity management program. Such program is designed to ensure that ICE NGX has sufficient liquid resources to meet all of its payment obligations with a high degree of confidence.

ICE NGX only accepts collateral in the form of cash or LC in either Canadian or US dollar denominations. Cash collateral must be unencumbered and is held in segregated accounts at ICE NGX's settlement bank. LCs accepted by ICE NGX are for a finite value with a next day payment drawdown and payment provision. Per the Collateral Agreement maintained between ICE NGX and its primary settlement bank, ICE NGX may only access or release Contracting Party collateral in accordance with the CPA or as otherwise agreed to by the Contracting Party. ICE NGX does not re-invest Contracting Party collateral.

Because ICE NGX accepts only cash and LC's in Canadian or US dollar denominations which are not subject to mark to market changes, haircuts on cash or LC's are not currently applied to collateral deposited with ICE NGX. ICE NGX's real time risk systems are presented as a Canadian dollar equivalent, and as such the prevailing daily USD-CAD foreign exchange rate is applied to collateral posted in US dollar denominations. If in the future ICE NGX were to consider other forms of collateral, consideration would be given to the application of appropriate haircuts.

ICE NGX maintains an updated record of the amount of collateral it holds, distributed by financial institution (cash collateral held at Toronto-Dominion Bank and letters of credit provided as collateral by all banks). ICE NGX imposes issuing bank credit limits and concentration limits for LC's and monitors this on a daily basis. Regular exposure reports aggregating clearing and issuing bank exposures are provided to the Manager, Clearing & Credit Risk and CRO. These reports are provided to the RMC, RMAC and ICE NGX Board on a quarterly basis. Collateral balances are maintained in the Clearing System, both of which are updated daily upon receipt or return of collateral. All balances are approved by the Senior Manger, Clearing & Credit Risk in line with ICE NGX collateral and bank policies. Credit reviews of all issuing banks are performed at least annually.

ICE NGX ensures that it meets the PFMI and CFTC liquidity requirements for financial resources which include sufficient liquidity for the average daily settlements amounts.

ICE NGX has direct access to all settlement accounts through its settlement bank

online banking platform. The accounts are monitored by the Settlements team on an ongoing basis ensuring account balances remain within acceptable limits for liquidity provisions. Settlement personnel have settlement reports available through the ICE NGX Clearing system which provide them with all current and future settlement reports. In addition, ICE NGX Finance, ICE Finance, and ICE Treasury personnel oversee ICE NGX operational accounts to ensure sufficient operating liquidity.

ICE NGX conducts stress testing using extreme but plausible scenarios on all settlement invoice payments that are subject to market volatility to ensure there are sufficient liquid resources available to resolve largest non-payment. The extreme but plausible scenario used to determine largest invoice non-payment is a 97% price move which is consistent with Bank of Canada guidance. This scenario also assumes the same customer defaults on invoice payment on two sequential days. Additional scenarios are run for sensitivity and include 10% and 25% parallel forward price curve shifts, 99.7% and 99.9% confidence interval price moves and 1, 2 and 5 day invoice payment non-performance.

Liquidity stress testing is performed daily and results are reviewed by the Manager, Risk Analytics, Manager, Clearing & Credit Risk, and CRO. The stress testing methodology is reviewed regularly and is recalibrated for adequacy as required.

With respect to physical products, ICE NGX passes settlement payments for the notional value from the buyer to the seller for physical delivery. If the buyer doesn't provide a settlement payment on the appropriate settlement day ICE NGX has access to a demand daylight borrowing facility of CAD \$300MM (or equivalent USD value) in order to facilitate payment to the seller. ICE NGX may then collapse the collateral that is held on behalf of the defaulting buyer and use that collateral to repay the daylight borrowing facility. ICE NGX monitors accumulated invoice amounts to ensure the largest non-payment could be resolved by the daylight borrowing facility. Repayment of the daylight facility must be made on the business day immediately following settlement day. To the extent a shortfall remains, ICE NGX has access to an additional credit facility in the amount of CAD \$20MM (or equivalent UAD value) along with ICE NGX equity and cash reserves to facilitate repayment of the daylight facility.

ICE NGX does not consider the current product offering to contain items with complex risk profiles other than a small amount of financial gas options which are not correlated with Contracting Party defaults. ICE NGX does not believe it is systemically important in any jurisdiction.

ICE NGX's customer cash collateral, short-term credit facilities issued through ICE NGX's primary settlement bank, and ICE NGX's cash balance are all available same day for liquidity purposes.

ICE NGX holds a cash balance in the respective currency to ensure same day settlement of invoice payments even if non-payment of largest daily invoice related to market volatility. ICE NGX has a CAD \$300MM (or equivalent USD value) demand daylight revolving credit facility through its primary settlement bank for

physical settlement day liquidity purposes. This amount more than exceeds the value of the largest physical invoice non-payment. In addition, ICE NGX has a CAD \$20MM (or equivalent USD value) demand revolving credit facility to aid in managing delays in resolution of settlement shortfalls. These short-term borrowing facilities are not committed facilities and are available immediately when required.

Customer collateral may also be used to resolve non-payments. Cash collateral meets the same-day requirement for resolving non-payments. LC's contain provisions such that upon receipt of a drawdown notification, cash must be provided to ICE NGX by next or second business day. As such, LC collateral is not counted towards ICE NGX's qualifying liquid resources.

Supplemental liquid resources include customer collateral in the form of LCs and ICE NGX's self-funded Guarantee Fund of USD \$100MM. LC's are available to ICE NGX within 1-2 business days. The Guarantee Fund is comprised of a letter of credit issued by Bank of Nova Scotia held in trust by BNY Trust Company of Canada. Upon execution of the CPA, a Contracting Party becomes a member to the Deposit Agreement which contains provisions related to the escrow services and drawdown provisions in the event of default by ICE NGX. The Guarantee Fund is backed by default insurance in the same amount provided by Export Development Canada ("EDC"). These additional resources may be used to resolve any potential collateral shortfall that may occur in a Contracting Party default scenario. ICE NGX ensures that it meets the PFMI and CFTC liquidity requirements for financial resources.

As a fully collateralized exchange, ICE NGX's primary settlement bank and LC issuing banks can be considered the main liquidity providers. ICE NGX reviews all settlement banks and collateral issuing banks on a regular basis to provide assurance of liquidity performance both for credit facilities and collateral deposits. In the event that ICE NGX's primary settlement bank is not available, ICE NGX has an agreement with another Canadian Schedule I Bank to provide banking and settlement services.

ICE NGX's does not currently use a central bank to manage these items as it believes these are adequately met through its current settlement bank. In addition, ICE NGX has a service agreement in place with another Canadian Schedule I Bank to provide banking and settlement services in the event that ICE NGX's primary settlement bank is unavailable.

ICE NGX has direct access to Contracting Party collateral accounts held at the settlement bank and is able to initiate and authorize transfers between corporate controlled accounts and collateral accounts providing conditions specified under the CPA have met this. ICE NGX uses online access and direct correspondence with the settlement bank to access accounts, payment services and securities services with the settlement bank. No other services are currently employed by ICE NGX with its settlement bank.

The CPA clearly outlines Contracting Party payment obligations and ICE NGX recourse in the event of failure to provide payment when due. ICE NGX's

	<p>qualifying resources are available immediately to resolve same-day settlement non-payment. If a non-payment of a physical invoice occurred, ICE NGX would have immediate access to the CAD \$300MM (or equivalent USD values) demand daylight revolving credit facility from its primary settlement bank as a short-term source of liquidity. Per the conditions of the CPA, failure to pay constitutes a default by a Contracting Party whereby ICE NGX could invoke its liquidation rights and collapse the defaulting party's collateral to recover the invoice payment and repay ICE NGX's settlement bank.</p> <p>ICE NGX maintains a Financial Recovery and Wind-Down Plan which addresses any credit losses it may face as a result of any individual or combined default among its participants and how uncovered credit losses would be allocated. The Financial Recovery and Wind-Down Plan also includes the process to replenish any financial resources that ICE NGX may employ during a stress event. Replenishment of any of these liquid financial resources may be through supplemental liquid resources held at ICE NGX or funds raised through the parent organization. Current ICE NGX excess cash reserves would be sufficient to ensure ongoing availability of sufficient liquid resources.</p>
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Principle 8: Settlement Finality

An FMI should have a sound risk-management framework for comprehensively managing legal, credit, liquidity, operational, and other risks.

<p>Summary Narrative</p>	<p>ICE NGX provides clear and certain final settlement upon payment and receipt of funds.</p> <p>Payments or receipts by the Contracting Party as a result of transactions cleared through ICE NGX are due in accordance with the CPA and respective settlement dates. Settlements are deemed final upon remittance to ICE NGX and constitute full satisfaction of the payment or receipt obligations. The CPA, as supplemented by Canadian bankruptcy and insolvency laws, provides for the intended discharges to satisfy settlement finality. ICE NGX has obtained legal opinions supporting this view that provide ICE NGX with a high degree of certainty that settlement payments are final once received and applied.</p> <p>As a standalone FMI, ICE NGX does not have linkages to any other FMI.</p> <p>The ICE NGX settlement team manages payments on all settlement dates which are posted on the ICE NGX website. In the event ICE NGX is required to defer a settlement date, Contracting Parties are notified immediately. To date ICE NGX has not experienced an event that would cause a deferral of final settlement.</p> <p>ICE NGX effects daily settlements with Contracting Parties for financially-settled Canadian electricity contracts only. For all other cleared transactions, settlement occurs on a monthly basis. Settlement invoices are provided in advance of the settlement date and are for confirmed amounts that are not subject to additional</p>
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	<p>market based evaluations. All invoices are available through the ICE NGX online reporting portal.</p> <p>Settlement payments are processed intraday and reconciled at the end of the day to identify any outstanding payments. All payments are considered final when effected. ICE NGX's rules state that invoices are final and binding 120 days after settlement, provided a Contracting Party has not disputed such invoice. Settlement values are fully collateralized and as such when they are not received ICE NGX reserves the right to use customer collateral to cure the outstanding payment. Contracting Parties are advised of these requirements through the CPA as well as payment dates listed on ICE NGX's website.</p> <p>The CPA states that all payments are considered final when affected and as such, Contracting Parties must meet all their payment obligations. Subsequently, ICE NGX considers payment final upon receipt of funds. Should a payment be delayed, the responsible Contracting Party is notified of the default which requires resolution immediately. The Clearing team, Manager, Clearing & Credit Risk and CRO are notified of all non-payments and adjustments are made to the Clearing system to capture the non-payment. ICE NGX must notify its regulators of all material defaults including failure to pay if not remedied within two business days. Should a Contracting Party be unwilling or unable to resolve the default, ICE NGX may use collateral to cure the non-payment and invoke its liquidation rights if required.</p>
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Principle 9: Money Settlements

An FMI should conduct its money settlements in central bank money where practical and available. If central bank money is not used, an FMI should minimise and strictly control the credit and liquidity risk arising from the use of commercial bank money.

<p>Summary Narrative</p>	<p>ICE NGX conducts its money settlements through approved commercial banks. The financial institutions that ICE NGX uses for the clearinghouse settlement banks are the largest banks in Canada. They are reputable organizations that employ accounting practices, safekeeping procedures and internal controls that fully protect the funds they hold. ICE NGX's does not currently use a central bank to manage these items as it believes these are adequately met through its current settlement bank.</p> <p>ICE NGX uses a Canadian Schedule I commercial bank as its sole settling bank to conduct all settlements in both Canadian and US nominations. In the event that ICE NGX's primary settlement bank is not available, ICE NGX has an agreement with another Canadian Schedule I commercial bank to provide banking and settlement facilities.</p> <p>Both ICE NGX's primary and back-up settlement banks are Canadian Schedule I Commercial banks upon which ICE NGX performs regular credit reviews and monitors the CRA ratings and regulatory filings of its settlement banks on an ongoing basis. Factors considered during the credit reviews include CRA ratings,</p>
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	<p>bank organizational structure, financial ratios, cost of settlement transactions, availability of online and manual tools, and availability of dedicated staff.</p> <p>The Credit Agreement between ICE NGX and its primary settlement bank contain provisions for when fund transfers will occur. Contracting Parties are advised of these requirements through the CPA as well as public disclosure of settlement dates. ICE NGX uses the LVTS wire transfer system which ensures that wire transfers are final. Funds are transferred throughout the business day and are effected when received. ICE NGX Settlement personnel monitor settlement account for incoming and outgoing wire payments on an ongoing basis to ensure settlements are effected as intended.</p> <p>ICE NGX acts as an intermediary between buyers and sellers and does not take market positions. As such, ICE NGX does not conduct settlements on its own book.</p>
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<p><i>Principle 10: Physical Deliveries</i></p>	
<p><i>An FMI should clearly state its obligations with respect to the delivery of physical instruments or commodities and should identify, monitor, and manage the risks associated with such physical deliveries.</i></p>	
<p>Summary Narrative</p>	<p>ICE NGX's CPA clearly outlines all parties' obligations with respect to physical deliveries. ICE NGX regularly identifies, monitors and manages the risks associated with such physical deliveries.</p> <p>ICE NGX clears energy commodity futures for physical delivery at over 90 physical locations across North America. ICE NGX provides a 'handshake' title transfer at all of its locations. ICE NGX provides assurance to Contracting Parties that it will either deliver or pay costs of failing to deliver the product contracted for.</p> <p>All physical delivery obligations are outlined in the CPA and all Contracting Parties agree to these obligations before entering to transactions. Contracting Parties must provide valid pipeline account information in order to confirm their ability to physically delivery and receive products. ICE NGX has Operations personnel in both its Calgary and Houston offices who carry out specific responsibilities including nominating physical deliveries and ensuring those deliveries are effected in a timely manner and for the volumes expected. For each physical natural gas delivery point that ICE NGX clears, Operations personnel will submit a nomination at least once per day. The majority of locations are nominated at the first NAESB cycle (one day prior to delivery) to ensure time for alternate measures if necessary. ICE NGX clearing members are expected to accept those nominations (for certain locations, having a waiver in place is required), and a failure to either make or take delivery is considered a default under the CPA. Operations and Marketing teams work with customers on an ongoing basis to ensure their awareness and understanding of delivery obligations. ICE NGX provides web based reports to all participants with nominations and scheduling tools through the online reporting portal.</p>

	<p>In the event a Contracting Party fails to make or take delivery ICE NGX maintains physical backstopping agreements that Operations personnel can rely upon to rectify imbalances in clearing member deliveries. ICE NGX has backstopping provisions for physical product and when delivery obligations are not met, all associated costs of remedying the default are passed on to the defaulting party as outlined in the CPA. In the event that physical gas cannot be backstopped, the CPA outlines contingencies where the failing counterparty is charged market price for the failed delivery.</p>
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<p><i>Principle 11: Central Securities Depositories</i></p>	
<p><i>A CSD should have appropriate rules and procedures to help ensure the integrity of securities issues and minimise and manage the risks associated with the safekeeping and transfer of securities. A CSD should maintain securities in an immobilised or dematerialised form for their transfer by book entry.</i></p>	
<p>Not applicable, applies to FMI central securities depository classification.</p>	

<p><i>Principle 12: Exchange-of-Value Settlement Systems</i></p>	
<p><i>If an FMI settles transactions that involve the settlement of two linked obligations (for example, securities or foreign exchange transactions), it should eliminate principal risk by conditioning the final settlement of one obligation upon the final settlement of the other.</i></p>	
<p>Summary Narrative</p>	<p>All collateral payments, option premium payments and settlement payments to and from ICE NGX do not involve two linked obligations.</p> <p>For tracking purposes ICE NGX calculates Contracting Parties' margin requirements (which include net accounts receivable, initial margin and variation margin) as a Canadian-dollar equivalent. ICE NGX products are transacted in Canadian dollar and US dollar currencies, therefore a customer may have invoices in multiple currencies. ICE NGX settles Canadian-dollar and US-dollar denominated invoices with each Contracting Party, separately, on a net basis unless the Contracting Party has specifically asked to be invoiced in a different manner (e.g. separate invoices for physical natural gas and physical crude oil). When ICE NGX is expecting to receive payment from a Contracting Party in one currency and making payment in the other currency, ICE NGX will not release its payment until funds have been received from the Contracting Party as outlined in the CPA. Exceptions are made if ICE NGX has sufficient collateral on hand from the Contracting Party to facilitate payment. The ICE NGX settlement team works to ensure that payment has been received prior to releasing any payments.</p>

Principle 13: Participant-Default Rules and Procedures

An FMI should have effective and clearly defined rules and procedures to manage a participant default. These rules and procedures should be designed to ensure that the FMI can take timely action to contain losses and liquidity pressures and continue to meet its obligations.

Summary Narrative

ICE NGX has effective and clearly defined rules and procedures within the CPA that are designed to manage a CP default. ICE NGX's CPA and procedures are designed to ensure that ICE NGX can take timely action to contain losses and liquidity pressures and continue to meet its obligations.

Events of default are clearly outlined in the CPA that is publicly available through ICE NGX's website. An event of default occurs if a Contracting Party or affiliate is responsible for a Failure to Deliver, Failure to Pay, Failure to Take, Event of Default, Failure to Provide Eligible Collateral Support, Financially Settled Futures Party's Default or Option Party's Default. An "Event of Default" in respect of the Contracting Party will be deemed to occur on the occurrence and continuation of the following events: a credit support default, misrepresentation of credit support documents by the Contracting Party, Bankruptcy, or a merger that results in the surviving entity failing to assume all ICE NGX obligations. "Option Party's Default" means the occurrence of a material breach of representation or warranty made by a Contracting Party or a failure to perform its obligations under an option transaction. "Financially Settled Futures Party's Default" means the occurrence of a material breach of a representation or warranty in the CPA or a failure to perform transactional obligations.

Upon occurrence of a default, ICE NGX will notify the defaulting party immediately and the ICE NGX management team will determine the best recourse to address the default. As per the terms of the CPA, ICE NGX may exercise any or all of the following rights: (a) request additional collateral; (b) suspend the Contracting Party; (c) declare any amounts for oil or gas delivered or any unpaid invoices immediately due and payable and withhold payments due as if paid; (d) suspend deliveries of oil or take oil from the Contracting Party by amending the applicable notices for shipment, reallocating volumes or otherwise; (e) offset any deliveries or takes of oil under the CPA; (f) terminate any transaction or declare it immediately payable or to be performed (g) liquidate the Contracting Party's portfolio with ICE NGX. If a liquidation strategy is selected, any posted collateral will be collapsed, all current positions of the Contracting Party will be settled and any existing forward position transactions will be auctioned at the discretion of ICE NGX. Any and all auctions will be structured upon prevailing market positions as to limit potential market price distortions. All obligations and costs arising from these actions will be cured through the defaulting party's collateral. Following the event of liquidation the defaulting party may be terminated from the Exchange.

The Exchange may enter into physically settled futures transactions to set-off, in whole or in part, the obligations of the Contracting Party under physically settled futures transactions. Upon any failure by a Contracting Party to provide the required amount of collateral, ICE NGX may cause a Contracting Party suspension,

effect a close-out procedure, and/or initiate liquidation procedures. The rights of ICE NGX are outline in the CPA. Certain additional actions can be taken in response to certain types of default at ICE NGX's discretion.

ICE NGX has delivery insurance in the amount of USD \$100MM in place to protect positions relating to certain physical products. Additionally ICE NGX has in place a CAD \$300MM(or USD equivalent) demand daylight revolving credit facility to cover settlement non-payment amount, financial resources to cover the single largest potential collateral shortfall in an extreme stress event plus 12 months of operating costs, and a USD \$100MM Guarantee Fund.

ICE NGX has clearly defined procedures including roles and responsibilities for defaults, including tasks for the Clearing, Marketing, Operations, Legal departments as well as ICE NGX Management. This is documented in the ICE NGX Clearing, Settlement, and Risk procedures and is reviewed on an ongoing basis by all departments as well as ICE NGX management. The default discovery, notification and liquidation processes are simulated at least once annually and upon completion a report is delivered to ICE NGX management indicating the results and any recommendations for changes to default processes based on the simulation results.

ICE NGX's policies and procedures identify when relevant stakeholders must be contacted in an event of default. Key stakeholder contacts are contacted via email by the appropriate ICE NGX contact who can address the issue. Communication of default notices to the defaulting party and all relevant stakeholders including regulators, ICE NGX RMC and Board of Directors are conducted through various modes including email, fax, phone and courier as required.

Recourse of the Contracting Party in respect of any default is solely against ICE NGX, due to the non-mutualized structure. Notifications of the default are limited to the defaulting party and ICE NGX. The Contracting Party is entitled to the rights of recourse against ICE NGX set forth under the CPA in the event of any Failure to Deliver, Failure to Pay or Failure to Take by ICE NGX. The Clearing team regularly engages with Contracting Parties to review the liquidation process. Internal liquidation simulations are performed at least once annually using various default triggers and portfolios. A summary of each completed simulation exercise is presented to ICE NGX management, indicating all findings and highlighting any changes for review and approval.

Due to ICE NGX's direct cleared, non-mutualized structure Contracting Parties are not exposed to defaults by another Contracting Party. As such ICE NGX conducts all liquidation simulation events without participation by Contracting Parties.

Principle 14: Segregation and Portability

A CCP should have rules and procedures that enable the segregation and portability of positions of a participant's customers and the collateral provided to the CCP with respect to those positions.

Summary Narrative	<p>Due to ICE NGX's direct cleared, non-mutualized structure there is currently no customer clearing on ICE NGX. If at any time an ICE NGX Participant requests to clear on anything other than a self-cleared basis, ICE NGX would make the necessary adjustments to accommodate customer clearing, including a full legal assessment of the segregation and portability of customer funds under the relevant jurisdictions.</p> <p>Each Contracting Party self clears through ICE NGX's non-mutualized direct cleared model. Contracting Parties do not have clearing customers. Accordingly, Contracting Parties are not exposed to another Contracting Party's default and are insulated from a participant or fellow customer default. Collateral posted by Contracting Parties is only eligible to support their obligations making all transactions insulated from another customer default and resulting in no cross exposure.</p> <p>ICE NGX deposits all cash collateral in segregated interest bearing bank accounts separate from the corporate funds of ICE NGX or that of any affiliates or subsidiaries of ICE NGX. ICE NGX keeps all such collateral in trust and holds all of such amounts as trustee. In addition, segregated daily settlement accounts are created for participants in Financial Canadian Power products which settle on a daily basis.</p> <p>While ICE NGX allows for intermediated trading and clearing, to date all Contracting Parties self-clear for their own accounts. Contracting Parties have access to the ICE NGX online reporting portal that includes a suite of position and collateral reports. In addition, ICE NGX provides direct view only access to its settlement bank online reports to confirm cash collateral balances. In the event that a Contracting Party had customer positions, the existing reports are flexible enough to produce such views.</p>
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Principle 15: General Business Risk

An FMI should identify, monitor, and manage its general business risk and hold sufficient liquid net assets funded by equity to cover potential general business losses so that it can continue operations and services as a going concern if those losses materialise. Further, liquid net assets should at all times be sufficient to ensure a recovery or orderly wind-down of critical operations and services.

Summary Narrative	ICE NGX identifies monitors and manages its general business risks and holds sufficient liquid net assets to cover general business losses so that it can continue operations and services as a going concern if these losses materialize. As part of
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wider risk management processes, ICE NGX has established a number of mechanisms and metrics to monitor and manage clearing business, operational, regulatory and financial risks. Furthermore, ICE NGX's liquid net assets are at all times sufficient to ensure a recovery or orderly wind-down of critical operations and services.

ICE NGX has robust management and control systems through governance, enterprise risk management, financial statements and internal audit to ensure that ICE NGX identifies and is aware of general business risk.

ICE NGX's risk management framework addresses risks arising from general business including financial and operational risks. ICE NGX identifies and measures risks arising from poor execution of business strategy, negative cash flows, and unexpected large operating expenses. General business risks are monitored on an ongoing basis through weekly Senior Leadership meetings, monthly financial reporting, and ongoing review of management reporting. Formal measurement occurs on a monthly and quarterly basis and as required if a material change to inputs occurs.

ICE NGX holds sufficient liquid resources to withstand the risk of loss funded by equity such that it can continue to operate even if it incurs general business losses, based on its business risk profile.

ICE NGX complies with Financial Resource requirements as reflected in Part 39 of the CFTC DCO rules. These include effectively measuring, monitoring, and managing liquidity risks, maintaining sufficient liquid resources such that it can, at a minimum, fulfill its cash obligations when due. ICE NGX calculates liquid net assets as Cash less the average daily pay by Contracting Parties for the past quarter. Liquid net assets are compared against 6 months of forecasted operating expenses to ensure that operations would be sustainable for this period.

ICE NGX maintains a Financial Recovery and Wind-down Plan and holds sufficient liquid net assets to implement this plan. In addition to the resources held for participant defaults, liquid assets in the form of cash are held sufficient to cover 12 months of operating costs as required under CFTC financial resource requirements.

The liquid net assets funded by equity are in the form of cash, meeting the criteria of sufficient quality and liquidity.

ICE NGX conducts operational cash flow stress testing for scenarios that could negatively impact operational cash flow and liquidity of the business. Results of the stressed scenarios are compared against ICE NGX's existing covenants & regulatory requirements to ensure the business could withstand all stress scenarios and continue meet all obligations.

General business stress testing is currently carried out under the following scenarios:

	<ul style="list-style-type: none"> • 10%, 20% & 30% reduction in cash balances to simulate operational losses or other extenuating circumstances • Foreign exchange (CAD – USD) change based on an extreme unfavorable change in the foreign exchange rate as well as an increase in the proportion of US currency held to further exaggerate the effect. • Loss of the largest customer which could reduce ICE NGX revenue by an amount equivalent to the funds received from ICE NGX’s largest client. • Failure of the largest current project resulting in increased operating expenses equal to the capitalized portion of the largest capital project currently underway. <p>As mentioned above, results from all scenarios are subjected to existing financial resource testing to ensure compliance is maintained. General business cash flow stress testing is conducted quarterly in the absence of any material change to ICE NGX’s liquid net assets or potential operating losses.</p>
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Principle 16: Custody and Investment Risks

An FMI should safeguard its own and its participants’ assets and minimise the risk of loss on and delay in access to these assets. An FMI’s investments should be in instruments with minimal credit, market, and liquidity risks.

Summary Narrative	<p>ICE NGX safeguards its own and its CPs’ assets to minimize the risk of loss on and delay in access to these assets. ICE NGX does not reinvest contracting party collateral and only invests its own funds in instruments with minimal credit, market and liquidity risks.</p> <p>All collateral assets are warehoused at TD Bank, a Canadian Schedule I Commercial Bank. TD Bank is subject to significant regulation and capital requirements as a Chartered Bank under the Bank Act (Canada). To maintain compliance with the bank regulations, TD Bank must adhere to robust practices and have in place appropriate practices, procedures and internal controls. ICE NGX performs a regular credit review of its primary settlement bank and monitors credit and bank concentration limits in addition to monitoring CRA rating alerts received when a change in rating or outlook occurs. ICE NGX also monitors its primary settlement bank’s regulatory filings and, in conjunction with TD Bank, conducts monthly audits of all collateral records and completes regular reviews of procedures for collateral movements.</p> <p>ICE NGX has executed agreements between itself and TD Bank regarding the ownership of and access to customer collateral. The agreements are reviewed on a regular basis and any changes are reviewed by both internal and external legal counsel as well as legal counsel of the bank at which assets are held in custody. Cash assets are held in premium business savings accounts which are sufficiently liquid accounts to ensure prompt access. ICE NGX maintains a first priority security interest over certain assets of its Contracting Parties and following perfection of its security, may enforce its rights through these interests. LCs are warehoused at TD</p>
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	<p>Bank Trade Finance offices in Calgary, Alberta and supported with additional services through Trade Finance operations located in Montreal, Quebec. ICE NGX maintains relationships across both locations facilitating quick access to collateral funds.</p> <p>Cash collateral funds are deposited into segregated secure premium business savings accounts with the custodian bank and are not reinvested. Investment strategy for Contracting Party funds is defined in the CPA. Interest is earned on cash collateral at an interest rate as notified by ICE NGX and any interest earned in excess of the rates is deducted monthly by ICE NGX.</p> <p>ICE NGX follows similar investment practices with the organization’s own funds.</p>
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Principle 17: Operational Risk

A CCP should cover its credit exposures to its participants for all products through an effective margin system that is risk-based and regularly reviewed.

<p>Summary Narrative</p>	<p>ICE NGX identifies plausible sources of operational risk, both internal and external, and mitigates their impact through the use of appropriate systems, policies, procedures and controls. ICE NGX’s systems are designed to ensure a high degree of security and operational reliability and have adequate, scalable capacity. ICE NGX’s business continuity management aims for the timely recovery of operations and the fulfillment of ICE NGX’s obligations, including in the event of a wide-scale or major disruption.</p> <p>ICE NGX’s operational risk is managed through policies embedded with the ERM Program and internal procedures which include a Business Continuity Plan (“BCP”) and Disaster Recovery Plan (“DRP”).</p> <p>ICE NGX has three primary sources of operational risk:</p> <ol style="list-style-type: none"> 1. Financial and liquidity risks which are mitigated through a conservative margining regime, ICE NGX’s liquid financial resources and banking facilities; 2. Physical delivery risks which are mitigated through daily and monthly pipeline nominations and physical backstopping arrangements; and 3. Systems-related risks which ICE NGX manages on an ongoing basis through several mechanisms, including running redundant production servers (certain of which have built-in automatic failover protection), daily and weekly backups, and the DRP. <p>Technical risks are identified and managed using the DRP. ICE NGX relies on systems held in two separate data centers being available at all times. These resources ensure transactional data and market price information continue to be processed so that physical deliveries and margining and settlement obligations are not interrupted. In addition, ICE NGX maintains systems development life cycle documentation and an IT Change Management Policy (“CMP”). The CMP</p>
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describes the milestones for IT development and testing, including functionality, capacity and security testing, and the processes and authorizations required each time ICE NGX upgrades its systems, authorizes a change to employee access or requires a change to one of its production databases.

ICE NGX's BCP and DRP consider these sources of risk collectively to ensure that necessary exchange and clearinghouse functions continue upon activation of either the BCP or DRP.

ICE NGX has developed a risk framework and governance structure as outlined in Section B - General Organization of the FMI of this document.

ICE NGX operations including systems and procedures are subject to an internal and external audit on an annual basis, ongoing security reviews, and an annual financial audit conducted by a national accounting firm. Results of the audits are reviewed by the ICE NGX management team and results provided to the RMFAC, ICE NGX Board and ICE NGX's regulators.

ICE NGX may be audited by its regulators at their discretion, the results may be made publicly available through the respective regulator's website.

ICE NGX has an operational system uptime objective of 99.995% including the ongoing calculations of indices. These objectives are taken into consideration when making decisions on systems and through the strategic planning process.

ICE NGX is reliant on ICE's transactional platform reliability in order to receive trades in real time. This influences the operational risk management strategy as limited trades feeds may prevent effective position monitoring and margining. In the event ICE connectivity between ICE and ICE NGX is interrupted, ICE NGX has discretion to close markets on ICE until functionality is restored. ICE NGX has the ability to manually enter trades directly into the clearing system platform if required. Where available, ICE NGX's Marketing team may provide limited brokering activity to match buyers and sellers when the electronic platform is unavailable. There are redundant technical fail safes in place to ensure connectivity remains at all times and ICE NGX's Operations, IT and Market Surveillance teams continuously monitor market availability and activity to ensure the clearing system remains current.

The clearing system is stress tested with every major release to ensure transaction processing is not negatively impacted. In addition, ICE NGX performs load and stress testing on a regular basis results of which are reviewed by the ICE NGX Management team which includes the Vice President, Information Technology and CRO. In addition, ICE NGX monitors capacity with each major software upgrade or market addition. If an approaching capacity limit is forecasted recommendations are presented to the ICE NGX management team for approval and implemented accordingly.

The policies and procedures, including CMP and project management procedures for addressing the plausible sources of physical vulnerabilities and threats on an ongoing basis are found within appropriate documentation. ICE NGX policies, processes, controls and testing appropriately take into consideration relevant international, national and industry-level standards for physical security.

ICE has issued specific protocols regarding office security including policies regarding access cards and evacuation procedures. The physical security policies and procedures are operated by ICE Security and include the requirement of a photo authorization card to enter any ICE NGX/ICE premises including stairwells, washrooms, and offices. After hour access to building floors requires authorization cards for elevator use as well. Additionally ICE requires employee awareness regarding protocols and safety measures.

Electronic security is co-managed by ICE and ICE NGX and uses standard SSL based encryption which requires a password to access all systems and require regular password changes.

ICE NGX's BCP contains directions for ICE NGX to effectively respond to a disruptive incident in order to protect personnel and resources minimizing disruption to critical business services. Business recovery objectives maintain a level of service that will protect ICE NGX's relationship with staff, participants, regulators, vendors and other entities and uphold ICE NGX's reputation. The BCP identifies the steps necessary to achieve one or more of the following strategies:

1. Relocate personnel to an alternate recovery site;
2. Transfer work / processing responsibility to another geographic location;
3. Use manual procedures until systems are restored (if disabled);
4. Identify and recreate Work-In-Progress lost during the event and re-enter it in an efficient manner; and/or
5. Address backlogged work created by task prioritization.

The BCP address potential points of failure relating to key staff, facilities, information systems, external service providers and vital records by identifying effective recovery strategies and solutions for actual failure and by documenting in a prescribed format the resources and actions required.

The BCP consists of six stages in the standard recovery process described below.

- **Stage 1 - Immediate Response** - encompasses immediate response actions to address safety, emergency notification, damage assessment, and relocation logistics. It contains usage guidelines and general information for Business Units in the event of disaster.
- **Stage 2 – Arrival and Set-up at the Alternate Recovery Facility** - focuses on performing any manual processes in advance of system restoration. This includes retrieval of salvaged items from the damaged site as required.
- **Stage 3 – Prepare for Critical Processing** – requires the BCP teams to verify the functionality of the restored systems and restore deferred or lost work.
- **Stage 4 – Resume Critical Processing (Business Resumption)** - requires the BCP teams to resume critical business processes and begin regular reporting to the CMT on the progress of their recovery.
- **Stage 5 – Migrate to Interim Site** - In the event of a long-term outage (e.g., greater than six weeks), it may be necessary to move from the alternate site(s) to an interim location while the home site is repaired/reconstructed.

	<ul style="list-style-type: none"> • Stage 6 - Return to Home Site - Once the damaged site has been repaired, reconstructed, or a new location has been selected and prepared, the affected business units will return to their home/permanent office location. <p>In addition, the DRP has recovery times for different scenarios. All recovery times are designed to be able to meet end of the day events. ICE NGX has two separated data centers that are more than 20k apart. Critical trade data is replicated in real time between both data centers.</p> <p>The BCP and DRP are reviewed and tested on at least an annual basis. However, most BCP functions (remote connection, data centers, etc.) are used more often in the regular course of business. Testing includes ICE NGX, the offsite data centers, and some required vendors/pipeline operators. ICE NGX takes steps to ensure that a failover between sites is as transparent as possible to Contracting Parties. No changes are required to Contracting Parties' networks or configurations.</p> <p>ICE NGX has outsourced hosting of its data centers to a third party which goes through a rigorous audit process and meets high level industry standards.</p> <p>Settlement banks services are generally accessed through online portals. In the event of a bank system failure back up manual process are in place. These processes are tested regularly, the results of which are provided to the CRO. Should ICE NGX's primary settlement bank become unavailable, ICE NGX has arrangements with an alternative settlement bank to facilitate banking and settlement services.</p> <p>ICE NGX monitors a number of connections in real time related to its platform sharing agreement with ICE. In the event of a system disruption related to ICE, ICE NGX's IT department immediately notifies ICE and works with ICE to rectify any issues as appropriate. ICE NGX's participants do not provide any third party services or utilities.</p> <p>ICE NGX does not have any links to any other FMI or CCP.</p>
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<i>Principle 18: Access and Participation Requirements</i>	
<i>An FMI should have objective, risk-based, and publicly disclosed criteria for participation, which permit fair and open access</i>	
Summary Narrative	<p>ICE NGX maintains objective, risk-based and publicly disclosed criteria for participation, which permits fair and open access.</p> <p>The membership requirements of ICE NGX are publicly disclosed in the CPA and are designed to permit fair and open access, while protecting ICE NGX and its CPs. The membership requirements are the same for all applicants and include fitness criteria, financial standards, operational standards and appropriate</p>

registration qualifications with applicable statutory regulatory authorities. ICE NGX applies a due diligence process to ensure that all applicants meet the required criteria and conducts on-going monitoring of CPs.

Prior to becoming a Contracting Party, an applicant must submit a completed application form, which requests various information about a company, its affiliates (if applicable), a list of the officers, directors, principals and significant shareholders, past Contracting Party status, a list of the regulatory authorities which have authority with respect to the applicant, and past or current disciplinary action imposed on the applicant or certain of its representatives by regulatory authorities.

An applicant must also satisfy the Minimum Qualification Requirement, that is, the applicant must be a business entity with a net worth exceeding \$5MM or total tangible assets exceeding \$25MM, or the applicant must be controlled, directly or indirectly, by any one or more business entities satisfying these criteria. An applicant that does not satisfy the Minimum Qualification Requirement or that satisfies the Requirement but wishes to transact or clear as a Contracting Party through a Contracting Party willing to act on behalf of such a Contracting Party, may request participation rights as a “Customer Participant”.

Contracting Parties are expected to satisfy the Minimum Qualification Requirement on an ongoing basis. This is verified by ICE NGX on at least an annual basis, more frequently for business entities close to the minimum threshold. A Contracting Party must also maintain adequate and appropriate regulatory approvals to support its trading and clearing activities. Disciplinary actions taken against a Contracting Party by applicable regulatory authorities are considered with respect to ongoing participation eligibility.

Compliance Staff subscribe to email services that provide notification when a market participant has been disciplined by an applicable regulatory authority; Compliance staff also routinely search for and review those disciplinary actions imposed to verify that a Contracting Party remains in good standing. In addition, they also subscribe to several news feeds, including industry publications and press releases from regulatory authorities, exchanges and clearinghouses. These subscriptions help to ensure Compliance staff are promptly notified when a market participant or certain of its senior personnel has been disciplined and/or restricted from certain types of activities, which may in turn impact the continuing eligibility of a Contracting Party. Compliance staff survey the websites of various media outlets, regulatory authorities, exchanges and clearinghouses for similar news items. Information considered by Compliance staff in this context is generally available through the public domain unless otherwise provided by the Applicant or Contracting Party. While ICE NGX does not require that a Contracting Party re-submit the information required for new applicants on an annual basis, ICE NGX may request supplemental information from time to time to ensure a Contracting Party remains in good standing.

ICE NGX's CPA is publicly disclosed on ICE NGX's website and includes several representations to which market participants are held on an ongoing basis. These

include, but are not limited to, understanding of all risks and costs associated with trading and clearing through ICE NGX, that the Contracting Party is willing to assume those risks, and that the Contracting Party is a sophisticated investor. In certain regulatory jurisdictions a representation may apply wherein Contracting Party asserts that it is eligible to transact and clear ICE NGX products. All sign up requirements and details of the sign up process are available on ICE NGX's website. In addition, Marketing, Operations and Clearing staff continually work with customers to ensure their understanding of client participation requirements for new and existing clients.

Contracting Parties also represent that they have the requisite capacity to make/take delivery, can respond to and satisfy a request for additional collateral within one business day and will make invoice payments on an ongoing basis.

Each Contracting Party must meet minimum available margin requirements at all times, with market participants that wish to clear products associated with a higher risk profile required to maintain additional available margin.

For a business entity that may apply as a Customer Participant it is important to note that a Contracting Party acting on its behalf assumes all of the Customer Participant's liabilities to ICE NGX, as outlined in the Contracting Party's Agreement. To date all ICE NGX Contracting Parties are direct participants.

ICE NGX's participation requirements are reviewed on an ongoing basis, and adjustments may be proposed if such requirements are deemed too liberal or too restrictive or might otherwise expose ICE NGX to unacceptable risks. Also, ICE NGX may amend participation requirements to conform with amendments to applicable legislation.

When ICE NGX personnel are of the belief that a Contracting Party's continuing eligibility may be in jeopardy that Contracting Party may be added to the Watchlist. ICE NGX monitors companies on its Watchlist more closely and may request updated information, including financial statements and regulatory filings more frequently.

Contracting Parties represent that they will at all times satisfy the participation requirements. If they no longer satisfy the requirements they will be notified by ICE NGX. ICE NGX may, depending upon the circumstances, allow the Contracting Party an opportunity to continue to trade/clear while working to correct the deficiency to ICE NGX's satisfaction or it may issue a Contracting Party Suspension, revoking access to ICE NGX's markets. The consequences of a Contracting Party suspension are clearly outlined in the CPA

Principle 19: Tiered Participation Arrangements

An FMI should identify, monitor, and manage the material risks to the FMI arising from tiered participation arrangements.

Summary Narrative	<p>ICE NGX does not currently have tiered participation arrangements.</p> <p>To date all ICE NGX Contracting Parties are direct participants. The CPA includes provisions for tiered participation procedures and requirements. ICE NGX also has reports that would enable transparent position and exposure reporting for tiered participants.</p> <p>The CPA discusses an option for a business entity to submit an application as an indirect participant (Special Participant or Customer Participant) through another Contracting Party willing to act on its behalf and assume its obligations to ICE NGX. However, to date ICE NGX has not received such a request from any Applicant.</p>
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Principle 20: FMI Links

An FMI that establishes a link with one or more FMIs should identify, monitor, and manage link-related risks.

Summary Narrative	<p>Not applicable. ICE NGX does not have links to another FMI. To the extent that ICE NGX has engaged in the assessment with the opportunity of another FMI link, a risk assessment of potential sources of risk would be conducted and reviewed by ICE NGX management, RMC, RMFAC and the ICE NGX Board as appropriate.</p>
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Principle 21: Efficiency and Effectiveness

An FMI should be efficient and effective in meeting the requirements of its participants and the markets it serves.

Summary Narrative	<p>ICE NGX is efficient and effective in meeting the requirements of its CPs and the markets it serves.</p> <p>ICE NGX's objective is to provide secure, capital-efficient counterparty risk management and post-trade services for ICE NGX markets.</p> <p>ICE NGX has evolved its operating structure, products and services since inception in 1994 based on the ongoing feedback of market participants. Marketing, Operations and Clearing maintain daily contact with our Contracting Parties on many fronts and continually receive feedback on our product and service offerings. In addition to daily interaction, Clearing and Marketing meet regularly with Contracting Parties to present overviews of our clearing structure and services and to obtain feedback. The result of these interactions is an ongoing investment in IT system enhancements, regular introduction of new products and services, and</p>
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changes to procedures and processes to ensure alignment with market requirements on the proviso that ICE NGX's core clearinghouse and operating principles are not compromised.

While verbal feedback and direction from ICE NGX's Contracting Parties are essential feedback mechanisms, the clearest and most objective form of feedback is based upon the volume of business cleared through ICE NGX. Volumes will fluctuate based on a number of external factors (i.e. price volatility, capital costs etc.) however, ICE NGX closely tracks volume trends in aggregate and by individual company, ensuring that it has a good understanding of the rationale for any change in volumes. If such rationale is based upon shortcomings of ICE NGX's services, technologies or structures, ICE NGX will take appropriate action to remedy the deficiency.

ICE NGX's website provides a number of customer resources to ensure participants have all necessary information related to ICE NGX products and services. Additionally ICE NGX has a formal Customer Advisory Group led by the Marketing team that meets on a regular basis to discuss ICE NGX products and services. Feedback from this group is one of the factors integrated into business development objectives and strategic planning process.

In addition to the Contracting Party feedback process discussed above, ICE NGX uses industry benchmarks and comparisons when (a) available and (b) as applicable to ICE NGX's business, to evaluate its efficiencies in margin rates and volume trends. The evaluation of efficiency and effectiveness are performed on an ongoing basis.

ICE NGX maintains a highly structured process for development, review, and approval of annual goals and objectives. This is based on a waterfall model whereby ICE establishes overall objectives as approved by its Board of Directors and then each subsidiary, business unit and level of management within the business units develop objectives that align with the overall ICE goals. These objectives are provided in written form, reviewed and approved by each manager, and maintained by every employee for ongoing performance review assessments.

ICE NGX's overall vision is to be a global leader in transacting and clearing physical commodities. On a more granular level, ICE NGX has operational objectives including:

- financial and volume targets;
- objectives to ensure maximum Contracting Party capital efficiencies are achieved through portfolio diversification offsets, product diversity that allows for more set-off opportunities, and margin methodologies that reduce costs while ensuring collateral requirements are met;
- targeted system maximum "downtime" thresholds;
- maximum staff turnover targets to ensure ICE NGX is maintaining qualified and experienced personnel; and
- regulatory alignment of objectives to ensure cleared transactions meet regulatory requirements of both the clearinghouse and the Contracting

	<p>Parties.</p> <p>ICE has a defined performance compensation structure that ensures that all personnel are measured against the aforementioned objectives, and compensation varies in accordance with performance. This structure necessitates that the objectives are measurable and achievable.</p>
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Principle 22: Communication Procedures and Standards

An FMI should use, or at a minimum accommodate, relevant internationally accepted communication procedures and standards in order to facilitate efficient payment, clearing, settlement, and recording.

Summary Narrative	ICE NGX uses relevant internationally accepted communication procedures and standards in order to facilitate efficient payment, clearing, settlement and recording through TCP/IP protocols. ICE NGX uses SSL/TLS encryption with complex keys and delivers services using a combination of HTTPS and SSH protocols.
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Principle 23: Disclosure of Rules, Key Procedures, and Market Data

An FMI should have clear and comprehensive rules and procedures and should provide sufficient information to enable participants to have an accurate understanding of the risks, fees, and other material costs they incur by participating in the FMI. All relevant rules and key procedures should be publicly disclosed.

Summary Narrative	<p>ICE NGX has clear and comprehensive rules and procedures that provide sufficient information to enable CPs to have an accurate understanding of the risks, fees and other material costs they incur at ICE NGX. All relevant rules and key procedures are available to CPs. The ICE NGX CPA and other pertinent information are publicly available on the ICE NGX website.</p> <p>The ICE NGX CPA clearly and comprehensively detail CP rights, obligations and risks and document the operation of ICE NGX in general as well as under non-routine, though foreseeable, events (e.g. CP default).</p> <p>The CPA provides all information relating to the risks, fees and costs of trading and clearing in ICE NGX's markets, as well as all rules pertaining to obligations of the Contracting Party to ICE NGX and vice versa, including but not limited to margining, settlement and defaults. The CPA also details what constitutes a Contracting Party default, the implications of such a default, and the means through which a default may be resolved, as well as the terms and conditions applicable if ICE NGX declares a force majeure event or if either ICE NGX or its regulators declares an emergency situation exists. The CPA provides clear descriptions for all Contracting Party rights and obligations as well as the rights and obligations of ICE NGX relating to trading and/or clearing in ICE NGX's markets, includes trade-in-error provisions, margining, settlement, and default rules, as well as the terms and</p>
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conditions applicable if ICE NGX declares a force majeure or if ICE NGX or one of its regulators declares an emergency situation. In situations where ICE NGX or its regulators may exercise discretion the degree of discretion is also stated.

ICE NGX ensures its rules and procedures are clear and comprehensive through implementation and use. As situations arise where there may be uncertainties or ambiguities identified in the rules or procedures ICE NGX will make amendments accordingly. For changes to procedures ICE NGX personnel may amend or revise from time to time as needed, while changes to the CPA require advance notice to several stakeholders, including ICE NGX's regulators, settlement banks and insurance provider. Following the review of those stakeholders, the Contracting Party's Agreement provides for a further 6 business days advance notice to Contracting Parties prior to the effective date of a new or amended rule. This is disclosed via email to all participants and stakeholders as well as on ICE NGX's website.

ICE NGX's trade matching engine is provided through ICE, and as such each Contracting Party must also execute an ICE Participant's Agreement to access trading software. Because ICE is the software provider ICE provides participants with the necessary technical documentation and appropriate related materials, including access to demonstration systems, specifications for submitting orders via API interface, etc.

ICE NGX's Clearing system is developed in-house and is accessible via any internet browser, negating the need for extensive systems-specific documentation. ICE NGX has made available to Contracting Parties a technical specification that provides guidance for accessing ICE NGX's reports via an API.

ICE NGX does maintain technical documentation (e.g. Systems Development Life Cycle, Change Management Policy, etc.) relating to its systems, but does not disclose any system information to participants or the public. ICE NGX will provide this information to its regulators upon request

The CPA contains all information relating to all items associated with trading and/or clearing in ICE NGX's markets. ICE NGX publicly discloses a Sign-up Guide, which describes the steps required to become a Contracting Party as well as specific requirements for acceptable forms of collateral, and a Margin Methodology Guide that explains ICE NGX's margining rules and triggers as well as settlement and payment cycles. Prior to executing the CPA, Marketing and Clearing staff will typically engage in discussion with an Applicant to ensure there is a clear understanding of the rules pertaining to margining, settlement and defaults. Further consultation regarding ICE NGX's procedures is done through the Customer Advisory Group with the Marketing group. Additionally, the Clearing and Marketing groups visit with Contracting Parties throughout the year to assist with any issues they may have regarding ICE NGX's model. ICE NGX's Clearing overview is available on the website which described the business, clearing model, regulatory structure and default waterfall of ICE NGX.

When ICE NGX personnel identify a Contracting Party that struggles to comply with

	<p>requests for additional collateral, making timely settlement payments, or making/taking physical delivery on a recurring basis, the Contracting Party is contacted in order to communicate the need to comply with its rules and employ cross department additional monitoring procedures. ICE NGX personnel will work with the Contracting Party on these matters to ensure a clear understanding is achieved. Encouraging the Contracting Party to regularly monitor its exposures and deliveries is often sufficient.</p> <p>ICE NGX fees associated with products and services are outlined in the CPA and publicly disclosed on its website. In the event ICE NGX intends to amend any of its fees or services, product listings, or any of the terms and conditions the CPA, ICE NGX must provide at least six business days advance notice to Contracting Parties. In accordance with that rule, ICE NGX ensures it makes an amendment available on its website at least six business days prior to the effective date and will concurrently notify Contracting Parties of the amendment via email.</p> <p>ICE NGX publicly discloses various transactional and risk data through quarterly PFMI Quantitative disclosures and its observance of PFMI principles, which is updated as required following material changes to the risk management infrastructure or at a minimum every two years. At the end of each trading day for each product and tenor offered for trading and clearing ICE NGX makes available the number of transactions, total volume traded, open, high, low, and settlement price and open interest. This information may be retrieved on an historical basis, for up to 5 days prior through ICE NGX's website. Additional historical data is available to Contracting Parties via secure login.</p> <p>In addition to market data, the CPA, the Margin Methodology Guide, and the Sign-Up Guide, ICE NGX provides a publicly disclosed Index Methodology Guide, which details the methods for calculating ICE NGX's natural gas, electricity and crude oil indices. These documents are updated as necessary.</p> <p>All information on ICE NGX's website is provided in the English language only.</p>
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<p><i>Principle 24: Disclosure of Market Data by Trade Repositories</i></p> <p><i>A TR should provide timely and accurate data to relevant authorities and the public in line with their respective needs.</i></p>	
<p>Not applicable as applies to FMI trade repository classification.</p>	



V. LIST OF PUBLICLY AVAILABLE RESOURCES

From the ICE NGX website (www.ngx.com) under Customer Resources

- Contracting Party Agreement
- ICE NGX Fee Schedule
- ICE NGX Index Methodology Guide
- ICE NGX Margin Methodology Guide
- ICE NGX Product Summary
- ICE NGX PFMI Quantitative Disclosures

From the ICE website (www.theice.com) under Investor Relations]

- Quarterly and Annual Reports
- Regulatory Filings

From the Alberta Securities Commission website (www.albertasecurities.com)

- ICE NGX Clearing Agency Recognition Order and subsequent amendments
- ICE NGX Exchange Recognition Order and subsequent amendments

From the US Commodity Futures Trading Commission website (www.cftc.gov)

- ICE NGX Derivatives Clearing Organization registration
- ICE NGX Foreign Board of Trade registration

From the European Securities and Market Authority website (www.esma.europa.eu)

- ICE NGX third country CCP recognition

From Industry Canada website (www.ic.gc.ca) under Corporations

- List of Directors
(<https://www.ic.gc.ca/app/scr/cc/CorporationsCanada/fdriCrpDtIs.html?corpId=4224434>)