



ICE Clear Netherlands

Compliance with Principles for Financial Market Infrastructure - January 2021 -

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Compliance with Principles for Financial Market Infrastructure

Document history

Version	Date	Responsible	Description
1.0	20190604	CCO	Set-up [replaces 2017 edition]
1.1	20190604	CCO	Final version after internal review
2.0	20200131	CCO	Processing changes resulting from DNB reviews on Principles 12, 15, 17, 19 and 20.
3.0	20201009	Risk Analyst	Added assumptions stress test to paragraph 5 - Principle 4 to remediate finding Compliance test - publicly available information.
4.0	20210122	CCO/MT	Extensive 2020 review. For a summary of changes please refer to chapter 3.

Version control

Item	Description
Document name	ICNL FMI disclosure document
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1. Introduction

Responding institution	ICE Clear Netherlands B.V.
Jurisdiction(s) in which the FMI operates	The Netherlands
Authority(ies) regulating, supervising or overseeing the FMI	<ul style="list-style-type: none"> • De Nederlandsche Bank • Netherlands Authority for the Financial Markets
The date of this disclosure is	22 January 2021
This disclosure can also be found at	https://www.theice.com/clear-netherlands/regulation
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2. Executive summary

ICE Clear Netherlands (ICNL) offers secure and capital-efficient clearing services for European equity derivatives products. It combines a transparent pricing structure with robust risk management systems.

As part of our strategy to provide clearing capabilities in the regulatory jurisdictions and time zones where you do business, ICNL operates under the Dutch regulatory system. The Dutch Central Bank (DNB) and the Netherlands Authority for the Financial Markets (AFM) regulate ICNL.

The clearing house has a license in accordance with articles 14 and 17 of the European Market Infrastructure Regulation (EMIR) No. 648/2012 on OTC derivatives, central counterparties and trade repositories. In July 2018 the company received regulatory authorisation to clear equity and index derivatives traded on ICE Endex (Regulated Market transactions). In December 2018 the company cleared the first block trades executed on ICE Endex, an ICE Group Regulated Market operating in The Netherlands.

Applicants for ICNL membership are required under ICNL's Rulebook to meet certain membership criteria at the time of application and thereafter whilst a clearing Member.

Each clearing Member is obliged to sign a Clearing Member Agreement (CMA) with ICNL which will include provisions pursuant to which the clearing house's rules become contractually binding to both the clearing Member and clearing house.

This FMI disclosure template contains the self-assessment of ICNL against the CPMI-IOSCO Principles for Financial Market Infrastructures. ICNL has presented the full assessment to DNB and AFM as part of the ongoing supervision under EMIR.

The self-assessment has been performed using PFMI Disclosure Framework and Assessment Methodology. The key questions have been answered based on the available policies and procedures.

The conclusion is that all principles as defined in the CPMI-IOSCO framework are observed.

3. Summary of major changes since the last update of the disclosure

The last complete assessment took place in 2019 and publication was done in December of that year. In 2019, DNB performed reviews on the Principles 12, 15, 17, 19 and 20. Based on these reviews and ICNL's responses to the questions raised changes have been made in the summary of these Principles. In October 2020, a small revision was done, namely the assumptions regarding the stress test were added in Principle 4 to ensure this information is readily available for the public.

Throughout 2020, the ICNL Management Team reviewed the Principles that were not covered by the DNB review. In summary the major changes incorporated in this version are:

- Spelling and grammar corrections and more consistency in terminology and definitions.
- Alignment with changes made in several key Risk policies triggered by regular annual reviews as well as the application and receipt of the Declaration of No Objective on changes in the Anti-Procyclicality measures.
- Alignment with changes in the Governance (composition Board, MT and organisational structure as well as the effectiveness assessment of the Board).
- Alignment of risk management framework with ERM policy.
- More detailed description of the numerous Default tests annually being executed and reported.
- Re-definition of critical business processes.
- Further alignment with the Stress Test policy including exposure to the core risk factors that are captured by stress scenarios.
- Further alignment with the Collateral and Haircut Policy including the (non-) acceptance of certain Financial Instruments as well as with the Counterparty monitoring procedures used to independently monitor the counterparty risk.
- Further detailing payments to and from Clearing Members pursuant to the Delivery Procedures that take place to and from relevant Target2 Accounts and/or Nominated Accounts.
- Further alignment to changes made in the Customer Protection Framework and the account set-up.
- Further detailing adherence to the participation requirements.
- More extensive description on link arrangements including the identification and monitoring the sources of risk arising from the link arrangement.
- Inclusion of the implementation of The Compliance Programme.

4. General background on the FMI

4.1 General description of the FMI and the markets it serves

ICNL operates as central counterparty (CCP) offering secure and capital-efficient clearing services for European equity derivatives products. It combines a transparent pricing structure with robust risk management systems.

4.2 General organisation of the FMI

Please refer to our website (<https://www.theice.com/clear-netherlands/regulation>) for an overview of the organisational and governance structure.

4.3 Legal and regulatory framework

ICNL operates under the Dutch regulatory system. DNB and the AFM regulate ICNL.

ICNL has a license in accordance with articles 14 and 17 of the European Market Infrastructure Regulation (EMIR) No. 648/2012 on OTC derivatives, central counterparties and trade repositories.

4.4 System design and operations

ICNL employs advanced and prudent risk management practices, giving customers the confidence that risk is managed in a competent and timely manner. Positions are updated and margin requirements recalculated on a near real-time basis, reducing risk exposure.

5. Principle-by-principle summary narrative disclosure

This section should provide a summary narrative disclosure for each applicable principle.

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**The legal basis should provide a high degree of certainty for each material aspect of an FMI's activities in all relevant jurisdictions.**

ICNL operates as a central counterparty (CCP) for equity and index derivatives traded on ICE Endex, which holds a license to operate a regulated market. These equity derivatives include single stock options, and index options.

The material activities of ICNL that require a high degree of legal certainty include those covered in the Principles for Financial Market Infrastructures. These include some of the examples mentioned in the question above:

- rights and interests in financial instruments;
- settlement finality;
- netting;
- arrangements for DvP, PvP or DvD;
- collateral arrangements (including margin arrangements);
- default procedures.

The jurisdictions that are relevant for each material aspect of ICNL's activities are the jurisdictions in which ICNL performs its business. This includes:

- the jurisdiction in which ICNL has its statutory seat;
- the jurisdiction(s) in which the trading platforms for which ICNL clears have their statutory seat;
- the jurisdiction(s) in which the Members of ICNL have their statutory seat.

With respect to ICNL's current service offering the relevant jurisdictions are the Netherlands (Dutch law), France (French law) and the United Kingdom (English law). Both ICNL and ICE ENDEX are established under Dutch law. ICE NL's Clearing Members are all established under these jurisdictions.

Legal basis for each material aspect

ICNL operates based on open offer. ICNL has ensured the legal basis for open offer by means of legal opinions provided by external lawyers.

These legal opinions cover the material aspects of operating a CCP. The legal opinions also consider the enforceability of these aspects under Dutch, French and English laws.

The overall conclusion of the opinions is that ICNL can enforce its rules both under Dutch, French and English laws. Furthermore, EMIR creates the legal basis for ICNL to operate as a CCP by setting EU wide requirements for CCPs.

The system operated by ICNL has been designated by the Dutch Ministry of Finance pursuant to the EU Settlement Finality Directive. Any contract arising pursuant to the Clearing Rules (in particular Part 4 and Part 12) qualifies as an entry into a settlement finality system and is irrevocable in the sense of the Dutch Bankruptcy Law (Faillissementswet).

An FMI should have rules, procedures, and contracts that are clear, understandable, and consistent with relevant laws and regulations.

The ICNL rules, procedures, and contracts are reviewed internally and externally as appropriate. Part of this review is to determine that the rules, procedures, and contracts are understandable.

All rules and procedures and contracts have been reviewed by an external legal counsel. Furthermore, as part of the EMIR license process all rules and procedures and contracts have been reviewed and where applicable approved by the Dutch Central Bank (DNB), the Netherlands Authority for the Financial Markets (AFM), and the EMIR College of Regulators (EMIR College). Furthermore, next to internal departmental reviews, the internal and external auditors review ICNL's policies.

Apart from the approvals as part of the internal governance process (please refer to PFMI Principle 2 Governance) all rules, procedures, and contracts must be approved before coming into effect. Depending on the type of document and the significance of the change, documents are approved by the Management Team, the Board, the Risk Committee, the Audit Committee and/or the NCA.

Furthermore, DNB and AFM have a right of prior approval for significant changes made to the rules, and procedures and certain contracts of ICNL. Depending on the sort of changes made the EMIR College may need to provide their approval as well.

An FMI should be able to articulate the legal basis for its activities to relevant authorities, participants, and, where relevant, participants' customers, in a clear and understandable way.

The legal basis for the CCP activities of ICNL is set out in the Clearing Rules. The rules of ICNL are governed by Dutch law. Furthermore, the activities of ICNL are regulated by EMIR and the Dutch Act on Financial Supervision.

The ICNL website provides the necessary information on the legal basis to the relevant authorities, clearing Members, clearing Members' customers, and the public at large.

An FMI should have rules, procedures, and contracts that are enforceable in all relevant jurisdictions. There should be a high degree of certainty that actions taken by the FMI under such rules and procedures will not be voided, reversed, or subject to stays.

ICNL has obtained legal advice regarding the material aspects of its activities and whether its rules, procedures, and contracts are enforceable under Dutch, French and English law. The legal opinions provided by external lawyers demonstrate that these are indeed enforceable under French, Dutch and English law.

Furthermore, ICNL has been designated as a final system as a system pursuant to the EU Settlement Finality Directive. This provides a high degree of certainty that its rules, procedures, and contracts will not be voided, reversed or become subject to stays.

ICNL has always been able to enforce the rules and procedures relevant to its CCP activities and CCP arrangements.

An FMI conducting business in multiple jurisdictions should identify and mitigate the risks arising from any potential conflict of laws across jurisdictions.

The primary place of business of ICNL is in the Netherlands. ICNL does have clients that have

their statutory seat in the United Kingdom or France and are therefore governed by English and French law respectively.

ICNL has obtained legal advice that its rules, procedures, and contracts are enforceable under Dutch, French and English law. The legal advice has not identified potential conflict-of-laws issues that may hamper ICNL's CCP activities.

Principle 2 - Governance

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.

Summary narrative

An FMI should have objectives that place a high priority on the safety and efficiency of the FMI and explicitly support financial stability and other relevant public interest considerations.

ICNL offers secure and capital-efficient clearing services for European equity derivatives products. It combines a transparent pricing structure with robust risk management systems. ICNL employs advanced and prudent risk management practices, giving customers the confidence that risk is managed in a competent and timely manner.

The objectives are further defined in the Articles of Association of ICNL. The objectives described above can be found on the ICNL website - <https://www.theice.com/clear-netherlands>.

Measurement of ICNL's performance in meeting its objectives is performed by the Board. However, ICNL sets and measures performance at all levels within the company.

At corporate level this is translated into ICNL's mission, goals, and strategy for each year. The global company objectives are translated to the ICNL objectives and a risk appetite statement. This statement is at least annually reviewed by the Board and minuted.

ICNL objectives are consistent with the requirements laid down in EMIR. These objectives are also articulated on the ICNL website: www.theice.com/clear-netherlands. The objectives place a high priority on safety and efficiency. Since ICNL is EMIR compliant, ICNL explicitly supports financial stability and other public interest considerations.

An FMI should have documented governance arrangements that provide clear and direct lines of responsibility and accountability. These arrangements should be disclosed to owners, relevant authorities, participants, and, at a more general level, the public.

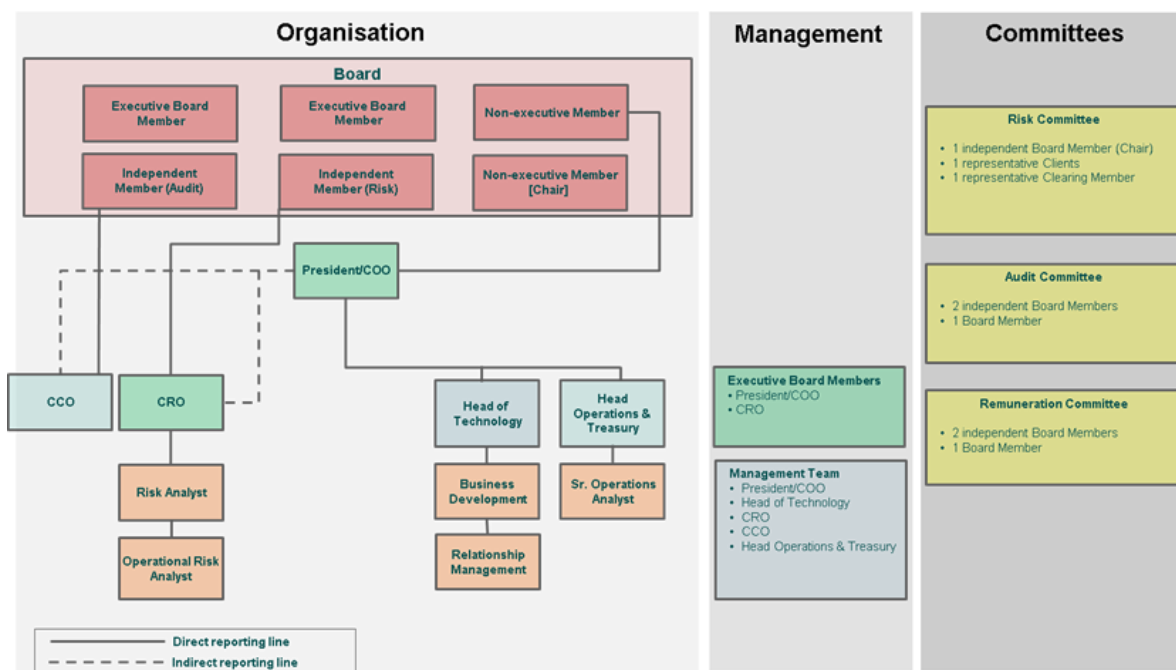
ICNL is governed by a one-tier Board comprised of two executive board members and four non-executive board members. ICNL complies with the EMIR requirement that a minimum of one-third of the Board is comprised of independent Board members. In addition to the Board, the Management Team is responsible for the day-to-day activities.

The Board members collectively manage ICNL and are responsible for its strategy, structure and performance, including the assessment and management of the risks related to ICNL's activities. In carrying out their duties, the members of the Board are guided by the interests and continuity of ICNL taken into consideration the interests of all ICNL's stakeholders and society at large. The Board members are accountable for the performance of its duties to the General Meeting of Shareholders.

The lines of responsibility and accountability within ICNL are pictured in the figure below. Furthermore, these arrangements are documented in:

- The deed of incorporation
- The company by-laws
- The terms of reference of the Board
- The terms of reference of the risk, remuneration, and audit committees

Figure: ICNL Governance and lines of responsibility



ICNL provides accountability to its owners, participants and other relevant stakeholders via its annual report. Furthermore, accountability to the owners is established by the fact that ICE has two (non-executive) representatives in the Board.

The governance arrangements are fully disclosed to ICNL's owner and its relevant authorities. ICNL's Clearing Members and the public can find a high level overview of the governance arrangement on the ICNL website - https://www.theice.com/publicdocs/images/ICNL_Governance.png

The roles and responsibilities of an FMI's board of directors (or equivalent) should be clearly specified, and there should be documented procedures for its functioning, including procedures to identify, address, and manage member conflicts of interest. The board should review both its overall performance and the performance of its individual board members regularly.

The roles and responsibilities are specified on an individual level for the Independent members. Both the CRO and the CCO have direct reporting lines to these Independents. Several documents facilitate ICNL's governance arrangements like the articles of association and the Board rules of procedure. In practice, both the executive and non-executive members of the Board are responsible for the policy and general affairs of ICNL. The executive directors are responsible for ICNL's daily management. The non-executive members are responsible for the supervision of the conduct of management. No specific powers are delegated to specific Board members.

It is statutory facilitated (section 2:239a Dutch Corporate Law) that the supervision of the performance of the Board is delegated to the non-executive directors.

Furthermore, it must be noted that all Board members are very experienced and reputable members who have been approved by the regulators. Part of their screening has been the completion of a so-called SKILLS-matrix, highlighting their fields of expertise. In practice, ICNL has a setup that indeed capitalizes on specific expertise and background of certain Board members by appointing them in the several EMIR Committees that are installed.

ICNL has established a conflict of interest policy to manage any conflicts of interest, including those of Board members. All ICNL employees including Board members have a duty to disclose any possible conflicts of interest to the CCO. The conflict of interest policy will be reviewed at least once a year.

To facilitate the functioning of the board ICNL has established a Management Team. The Management Team will be responsible for the day-to-day activities. The Management Team is comprised of the President/COO, Head of Technology, CRO, CCO and the Head of Operations & Treasury.

Furthermore, ICNL has also established the following committees:

- Risk Committee
- Audit Committee
- Remuneration Committee

The roles and responsibilities for these committees have been documented in the terms of reference including requirements regarding composition.

The Board's overall performance is reviewed continuously by means of periodic meetings in which material company information is reviewed and, if deemed necessary, approved. This information contains among others strategic, financial and operational information. Next to this review, it's important to note that the Board is appointed by the General meeting of shareholders. This general meeting adopts the annual accounts and auditor's report and discharges and appoints the individual Board members from their obligations in respect of the management of ICNL.

The performance of the individual Board members depends on the specific role of the Board member in the (1-tier) structure. The performance of the Executive Board members, who are responsible for the day-to-day management of ICNL, are executed in the normal functional reporting framework. The performance of the non-executive shareholder members is reviewed along the reporting lines within the organisation by which they are employed. Finally, the performance of the independent non-executive members is reviewed by the shareholder as ICE can appoint/dismiss these persons.

Also, the Board is periodically subject to an effectiveness self-assessment. Through an extensive list of questions on governance, meetings, composition, individual and combined performance the effectiveness of each and every individual Board member as well as of the Board as a whole is measured.

The board should contain suitable members with the appropriate skills and incentives to fulfill its multiple roles. This typically requires the inclusion of non-executive board member(s).

ICNL deems that its Board members have the appropriate skills and incentives. Apart from the

competency matrix used by ICNL to compose its board this is ensured by the fact that all board members have been screened and approved by DNB (and AFM).

On group level there is a Board approval and nomination process in place. The ICE Board of Directors is responsible for approving candidates for board membership and has delegated the screening and recruitment process to the Nominating & Corporate Governance Committee. The Nominating & Corporate Governance Committee seeks to create local Board of Directors that consists of a diverse group of qualified individuals that function effectively as a group. Qualified candidates for director are those who, in the judgment of the Nominating & Corporate Governance Committee, possess strong personal attributes and relevant business experience to assure effective service on local Board. Personal attributes considered by the Nominating & Corporate Governance Committee when evaluating a board candidate include leadership, integrity, ethics, contributing nature, independence, interpersonal skills and effectiveness. Experience and qualifications considered by the Nominating & Corporate Governance Committee when evaluating a board candidate include financial acumen, general business experience, industry knowledge, diversity of viewpoints, special business experience and expertise in an area relevant to ICE.

There are three main elements to the compensation package: base salary, annual bonus and long-term incentive:

- Base salaries are established based on an evaluation of internal comparisons and external market rates for the position. An individual's base salary is set relative to this internal/external market rate based on the individual's experience, knowledge, skills and abilities;
- Employees also have a target annual bonus opportunity that is expressed as a percentage of base salary. These percentages vary based on the level of the applicable position, and awards use an individual's performance rating for that year, as determined through ICE's performance management process;
- If employees are eligible to receive a yearly long-term incentive award, such long-term incentive award is made in the form of ICE equity units and has a (deferred) three-year vesting schedule to ensure risk alignment.

Staff engaged in risk management, compliance and internal audit are compensated in a manner that is:

- independent of the business performance of ICNL; and
- adequate in terms of responsibility as well as in comparison to the level of remuneration in the business areas.

The Remuneration Committee is responsible for determining the appropriate level of remuneration by balancing short term performance vs. long term achievement of the objectives.

Non-Executive Directors not linked to ICE receive a competitive fixed quarterly contribution.

The ICNL Board includes four non-executive Board members. Of these four two are designated independent Board members. ICNL defines an independent board member as independent in accordance with the Dutch Corporate Governance code.

The roles and responsibilities of management should be clearly specified. An FMI's management should have the appropriate experience, a mix of skills, and the integrity

necessary to discharge their responsibilities for the operation and risk management of the FMI.

To facilitate the functioning of the Board ICNL has established a Management Team. The Management Team will be responsible for the day-to-day activities. The roles and responsibilities of management are included in the terms of reference of the Management Team. Responsibilities are divided in line with the job title. The Management Team is comprised of the:

- President/COO
- Head of Technology
- Chief Risk Officer
- Chief Compliance Officer
- Head of Operations & Treasury

ICNL management objectives are set on a yearly basis. These objectives are evaluated during the year and maybe amended as necessary during the year.

ICNL management's roles have been set by the ICNL Board. Furthermore, the roles of the management team are partly prescribed by EMIR.

Evaluation of the performance of management by comparing actual performance vs. the objectives set at the beginning of each year. Furthermore, as part of the ICE HR policies individual members of the Management Team are evaluated based on a competency matrix.

The Board has the prerogative to remove management if necessary. Removal of management would be done based on the performance review of the management or an individual member of the management team.

The board should establish a clear, documented risk-management framework that includes the FMI's risk-tolerance policy, assigns responsibilities and accountability for risk decisions, and addresses decision making in crises and emergencies. Governance arrangements should ensure that the risk-management and internal control functions have sufficient authority, independence, resources, and access to the board.

The Board has established a risk management framework in accordance with the requirements in EMIR. This risk management framework covers all the relevant risks that are referenced in the principles to follow. The risk management framework is reviewed at least on a yearly basis by the Risk department, MT as well as by the by the Risk Committee who advises the Board on the adoption.

For each of these risk areas relevant rules, procedures, and contingency measures have been drafted.

ICNL has defined its Risk Appetite per category of risk type. For each of these risk types ICNL has defined it appetite statement, KPI's, metrics/limits, and monitoring frequency.

The risk management framework assign responsibility and accountability to the ICNL Board and management to make sure that the organization remains within the limits. The framework also includes escalation procedures.

The Chief Risk Officer (CRO) will have primary responsibility to make sure that ICNL responds to all risks it faces in accordance with the risk tolerance set.

The CRO is responsible for the establishing and maintaining an independent risk management function to support the management and organization on all risk related matters. The CRO is also responsible for enabling the efficient and effective governance of significant risks.

The process described above is laid down in the risk policies. Furthermore, the terms of reference of the Risk Committee also includes references to this process.

The handling of the day to day risk management is mainly the task of the ICNL Risk Management Department and the ICE Risk Oversight Department. The ICNL Risk Management Department is headed by the CRO.

The CRO has an indirect reporting line to the President/COO and a direct reporting line to the Independent Board member responsible for Risk.

The audit function has been outsourced to ICE Clear Europe. ICNL management reports to the audit committee on audit related matters. Internal Audit is a permanent invitee of the committee.

ICNL risk management models are reviewed on a yearly basis by an independent body; either within the ICE group (IV team) or externally.

The ICNL model validation process description sets out the procedures for validating the models and methodologies used by ICNL. The scope of the model validation is all methodologies adopted to calculate its margin, collateral haircut, Guaranty fund and other financial resources methodologies and framework for calculating the liquid financial resources.

The board should ensure that the FMI's design, rules, overall strategy, and major decisions reflect appropriately the legitimate interests of its direct and indirect participants and other relevant stakeholders. Major decisions should be clearly disclosed to relevant stakeholders and, where there is a broad market impact, the public.

ICNL takes account of the interests of its participants and other relevant stakeholders through the fact that these parties have a seat in the Risk Committee and can provide input on the decision making. Furthermore, this is ensured by the fact that ICNL is under supervision of DNB and AFM, and the EMIR College.

The Risk Committee has the right to advise the ICNL Board on any Obligatory Matters as defined in the terms of reference. The advice given by the Committee is independent of any direct influence by the Management of ICNL.

The composition of the committee also contributes to its independence as it is comprised of:

- Such number of independent members who meet the criteria for independence as set out in any corporate governance standards applicable to ICNL, or which the ICNL Board otherwise determines reflects best practice corporate governance that is required from time to time, of which at least one is an independent member of the ICNL Board who will be the Chairman of the Committee nominated by the ICNL Board;
- Such number of members who work in a senior capacity and/or risk management role for a Clearing Member of ICNL or part of the group to which a Clearing Member belongs that is required;
- and such number of representatives of Clients of Clearing Members who have a senior position in the daily risk management of the Client;
- provided that: (1) at least 25% but not more than 50% of Committee members are independent members; (2) not more than 50% of Committee members are Clearing

Members; and (3) no Clearing Member or Client representatives are also employees of ICNL.

Should members of ICNL management attend the committee meetings this will always be in a non-voting capacity. Finally, DNB and AFM have a standing invitation to attend the meetings.

ICNL has implemented a Conflict of Interest Policy to identify and manage all possible conflicts of interest between ICNL, the employees, managers and all other relevant persons with control or close links, and ICNL's Clearing Members or clients of Clearing Members, as required by EMIR.

Major changes are disclosed to the public via the ICNL website as they are incorporated in the relevant documents on the website. ICNL's Clearing Members will be notified on changes via Circulars However, ICNL does not publish a log of major board decisions to the public. Stakeholders would be made aware of any decision impacting them as appropriate. This may include discussion via the risk committee as appropriate.

Finally, ICNL will disclose major decision to DNB, AFM and the EMIR College of Regulators as appropriate.

Principle 3 - Framework for the comprehensive management of risks

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

Summary narrative

An FMI should have risk-management policies, procedures, and systems that enable it to identify, measure, monitor, and manage the range of risks that arise in or are borne by the FMI. Risk-management frameworks should be subject to periodic review.

ICNL acts as a central counterparty. As such it places itself between the two counterparties to a trade conducted on ICE Exend. As such ICNL faces risks that arise from:

- Clearing Members
- the clients of Clearing Members
- securities settlement and payment systems
- settlement banks
- liquidity providers
- central securities depositories
- trading venues served by ICNL
- Trade repositories

In particular, ICNL bears the following risks:

- counterparty risk
- credit risk
- market risk
- liquidity risk
- operational risk

ICNL has also charted the dependencies on systems/people from inside the organisation/outsourcing partners. Regular contact with service managers and reporting of KPI's support the management of these dependencies.

ICNL has established a risk framework which encompasses all policies, procedures and controls to help identify, measure, monitor, and manage the risks that arise in or are borne by ICNL.

Intercontinental Exchange Inc. has adopted a "Three Lines of Defense" model for managing risks within ICE, Inc. and its regulated subsidiaries. The "Three Lines of Defense" model distinguishes between the First Line functions (business and operations) that directly own and manage risk versus the Second Line functions (Enterprise Risk Management, Legal & Compliance, and others) that oversee and challenge the First Line. The Third Line (Internal Audit) provides independent assurance of the functions of the First and Second Lines.

Three Lines of Defense Model



Adopted from the Institute of Internal Auditors Position Paper "The Three Lines of Defense in Effective Risk Management and Control". January 2013

To manage any possible **credit risk** ICNL has established a framework for accepting collateral and has set concentration limits. The acceptable collateral is published via the circular List of Permitted Cover & Limits on Collateral. ICNL has also established the Investment Management Policy to limit the risk of loss when investing its own or its participants' resources.

To manage **market risk** ICNL uses the ICE® Risk Model ("IRM").

ICNL has put into place the Back-Testing Policy and the Stress Testing Policy in order to ensure that Collateral, Guaranty fund and other financial resources provide sufficient coverage under the various scenarios considered. If the results of the back tests, stress tests, sensitivity tests, reverse stress tests show an insufficient coverage, ICNL will increase overall coverage of its financial resources to an acceptable level by the next margin call.

To manage **counterparty risk** ICNL uses the ICE Global Counterparty Risk Monitoring Policies. ICNL periodically performs risk reviews of Clearing Members.

To manage its **liquidity risk**, ICNL has established the Liquidity Risk Management Policy and the Liquidity Risk Management Procedures, taking into account the liquidity needs towards any entity towards which ICNL has a liquidity risk exposure.

These policies include effective operational and analytical tools to identify, to measure and to monitor ICNL settlement and funding flows on an on-going and timely basis, including its use of intraday liquidity, and include the assessment of its potential future liquidity needs under a wide range of potential stress scenarios.

To manage **operational risk** ICNL has established the operational risk management framework which includes business continuity and recovery plans, amongst others.

The ICE Risk Oversight function which is operated at group level functions as the 2nd line of defence for the management of the risks ICNL is exposed to. Key elements in performing this 2nd line function are the monitoring of risks against the risk appetite matrix and maintaining the risk register.

As mentioned above ICNL uses IRM to manage the market and credit risk it incurs from its counterparties. Furthermore, ICNL uses the following risk management systems:

- APEX Intraday System for intraday monitoring of market and credit risk.
- IRM Parameter Manager via which risk parameters in IRM can be changed and the impact of these changes on margin requirements can be assessed.
- ICE Market Data Services to obtain market prices used amongst others for monitoring of counterparty & collateral risk.
- Oracle databases with risk related information like settlement prices, prices of underlying values and the outcomes of various stress scenarios which can be queried via SQL Developer. These databases contain a full history. Based on these databases several risk reports are run on a daily basis.
- Descriptions of (follow-up on) operational incidents that occur are stored in ServiceNow. From ServiceNow reports with incidents and assigned severity level can be obtained.

IRM assesses the risk of a portfolio, by calculating the maximum likely loss that could be suffered by a Clearing Member on its portfolio based on parameters set by ICNL. The core of IRM risk analysis is to simulate potential market moves and calculate the profit or loss on individual contracts given the market moves using IRM Risk Arrays.

IRM calculates 16 different scenarios in order to determine the amount of initial margin that should be charged. Several possible changes in the price of the underlying value of the options and futures are considered (an upward and a downward shift of the current price of $\frac{1}{3}$, $\frac{2}{3}$, 1 and 2 times a pre-determined scanning range set for each underlying value). Furthermore, it is verified what happens if the underlying price remains unchanged. In each of these situations (except for the scenarios whereby the underlying price is shifted by 2 times the scanning range) also an upward and a downward volatility shift (set for each underlying value) is applied. This results in a total of 16 scenarios to which different weightings can be assigned. Scanning ranges and volatility shifts are based on a margin period of risk of 2 days and a level of confidence of 99%. Based on the applicable combination of price and volatility shift, all positions with the same underlying value in the portfolio of a Clearing Member are revalued. The scenario that results in the worst loss constitutes the scanning risk. An inter-commodity spread credit is subtracted from the scanning risk to reflect the fact that some underlying price variations are correlated. The resulting figure is compared with a short option minimum charge. The short

option minimum charge is based on the net short position in that specific combined commodity and calculated to cater for the fact that far out-of-the-money positions with a low delta will otherwise not attract sufficient initial margin within IRM. The higher of the two constitutes the final risk from which, if applicable, net option value is subtracted. These calculations are made for each underlying value (combined commodity) in portfolio and summed per Clearing Member account. The total amount of exposure towards each Clearing Member and how it is composed can be obtained directly and near-to-real from the systems. Each day multiple stress scenarios are run, of which the results per Clearing Member account can be viewed via Oracle databases / SQL Developer. The stress test results are also used for liquidity risk management purposes.

Accounts held at Citibank NA (the appointed settlement agent) which are used for the processing of transactions by Clearing Members and for facilitating direct debits for meeting margin requirements by Clearing Members, can be monitored real time. ICNL Operations constantly monitors the transaction flow.

Furthermore, accounts are held at Wells Fargo and ABN Amro Clearing Bank, for operational expenses, and Euroclear Bank which is operated by J.P. Morgan Chase Bank, for the processing of proceeds from non-cash collateral. These accounts can be monitored on a real-time basis via a web GUI. Risk reviews of Clearing Members and service providers are performed on a regular basis.

Management of risks is the responsibility of the ICNL Risk Management department. ICNL Risk Management operates based on policies and procedures established by the ICNL Board who assumes the final responsibility and accountability for managing ICNL's risks.

The Risk Committee of ICNL advises the Board of ICNL on various matters related to risk management. The terms of reference of this committee are set-up in accordance with the EMIR requirements.

The handling of the day to day risk management is the task of ICNL Risk Management. ICNL Risk Management's objectives are to monitor, manage and control the risk exposures of ICNL within acceptable parameters as stipulated by the Board of ICNL.

The ICNL Risk Management department is headed by the CRO. The CRO has an indirect reporting line to the President/COO who is responsible for Audit, Risk Management, and Compliance. The CRO also has a direct reporting line to the independent member of the ICNL Board, who also acts as the chair of the ICNL Risk Committee.

The tasks of the CRO and the ICNL Risk Management Department are described in the risk framework. The 2nd line of defence is responsible for checking whether the policies are in place and whether they meet EMIR requirements.

ICNL assesses the effectiveness of its risk management policies, procedures, and systems by analysing the test results described in the Margin Testing policy and the Liquidity Risk Management Framework.

The following assessment is made by ICNL on a routine basis:

- KPI's for operational risk.
- Incident analysis and follow up.
- Credit risk: yearly assessment counterparty

- Market risk: testing adequacy of margins and the default fund through back and stress testing respectively.
- Default procedures testing via very regular (3/4 times a year) default test exercise among other things based on the ESMA best practices.
- On a quarterly basis, the liquidity plan is reviewed whereby it is verified what the sources of liquidity risk are and how these risks can be mitigated. Furthermore, the liquidity stress tests are (re)defined and access to lending facilities is tested.
- On a monthly basis, the Risk Appetite Matrix is reviewed by the Risk Oversight function

Next to the above assessment, the Risk Oversight department receives reports and can take action based on these reports. The Risk Oversight department is also responsible for the control testing program and execution over time. ICNL's risk systems in use and the liquidity risk management framework are reviewed by an independent third party on a yearly basis. Internal audit performs yearly audits on the policies and procedures used by risk management.

ICNL will review its Enterprise Risk Framework at least once a year. Furthermore, as mentioned above ICNL, at least on a quarterly basis, reviews whether the stress testing scenarios, models and liquidity risk management framework, and underlying parameters and assumptions are correct. Back testing results of initial margin figures are available daily. Based on stress testing results it is verified daily if the Guaranty fund is still sufficiently large. If the tests reveal breaches, risk parameters can be changed immediately. Any escalation will follow the predefined process where the Risk Oversight department will be the first line of escalation

An FMI should provide incentives to participants and, where relevant, their customers to manage and contain the risks they pose to the FMI.

On daily basis ICNL provides a margin and stress test report to each Clearing Member which enables participants and the customers of participants to manage and contain the risks they pose to ICNL.

The margin reporting covers:

- the account types
- the account numbers
- the account names
- the net option value of the portfolio
- the initial, delivery and contingent variation margin amounts
- the margin requirements
- the collateral available
- any excess collateral
- any deficits.

ICNL also makes available on a daily base an Ice Risk Model Array file and Margin Rate file (both available on the ICNL website, risk section). The Member is able to download the ICE Risk Model software from the ICNL website, also the IRM user guide is published on the ICNL website. With aforementioned information, the Member is able to calculate/replicate the margin as calculated by ICNL.

Furthermore, ICNL provides its participant's access to several CCP application GUI's providing (real time) information on processed transactions/positions maintained/banking activities etc.

IRM provides ICNL's participants and their customers with the incentive to monitor and manage the risk they pose to the CCP. This incentive comes from the fact that a balanced portfolio would require less margin than a directional portfolio.

Other incentives to monitor and manage risks towards ICNL are provided by the availability of a GUI and detailed daily margin reports.

It should be noted that if a Clearing Member does not timely deliver the securities or does not provide the funds necessary for settlement within the Central Securities Depository "CSD", then a fail management fee will apply. The fail fee components are described in the Circular Publication Fee Schedule Non-Trade Related Fees as published on the ICNL's website. In case securities are not delivered in time, ICNL can decide to start a buy-in procedure. The buy-in process is further described in the ICNL Delivery Procedures available on the ICNL website. Aforementioned measures should enhance settlement discipline and forestall liquidity pressures.

ICNL is operating in a highly competitive environment that is also highly regulated. These two factors drive the way ICNL designs its policies and systems to be effective to manage and contain risk.

Furthermore, ICNL participants have influence on the risk management design through the Risk Committee.

An FMI should regularly review the material risks it bears from and poses to other entities (such as other FMIs, settlement banks, liquidity providers, and service providers) as a result of interdependencies and develop appropriate risk-management tools to address these risks.

The risk ICNL bears from other entities is part of the risk framework described above and in the Principles below.

As part of its business continuity planning, ICNL performs a Business Impact Analysis (BIA). The BIA gives, for all processes identified as critical, an overview of all the (inter)dependencies when looking at systems, sourcing and location. The possible business risk that might follow from these interdependencies is considered by ICNL.

The Business Continuity Plan (BCP) charts the criticality of ICNL's functions and processes to the other involved parties (ICE Endex, Clearing Members, settlement agent etc.). A scenario based risk analysis is used to identify how various scenarios affect the risks to ICNL's critical business functions.

ICNL reviews its risk framework including its BCP at least on a yearly basis. Furthermore, risks are monitored daily and the various tests are performed on during the year.

Finally, through the group Vendor management procedures, risks are managed as well.

An FMI should identify scenarios that may potentially prevent it from being able to provide its critical operations and services as a going concern and assess the effectiveness of a full range of options for recovery or orderly wind-down. An FMI should prepare appropriate plans for its recovery or orderly wind-down based on the results of that assessment. Where applicable, an FMI should also provide relevant authorities with

the information needed for purposes of resolution planning.

The ICNL Business Impact Analysis contains a list of all (critical) processes and the impact against key risk indicators (financial impact, reputational impact and regulatory impact). In total ICNL has identified 18 processes with their respective IT services and/or applications and mapped these for recovery time and strategies. ICNL has identified the following critical processes:

- Deal capture including cancellations
- Position Transfer
- Corporate Event (CA)
- Exercise Assignment
- Expiration and EOD process
- Collateral Valuation / cover call process
- Confirm payment / receipt
- Accept/Withdrawal Collateral
- Deliveries/Settlement
- Product opening from Corporate Event (CA)
- Settlement Prices
- Margin Calculation
- Intraday risk system
- Margining end of day
- Custody reconciliations
- Cash management APS and investment
- Daily Member cash account reconciliations
- Liaison with banking services outsource provider
- SWIFT messages management
- Calculate collect concentration charges
- Calculate and collect stress loss charges
- Swift messages management
- Custody reconciliations

These processes, except position transfer (4 hours), have an RTO of maximum 2 hours.

The Intercontinental Exchange, Inc. Major Incident Response Plan outlines for several categories of incidents which steps need to be taken and who needs to be contacted.

The crisis scenario's identified are:

- lack of staff
- building – evacuation of premises
- building - no access to premises
- Data or voice communications unavailable
- Pandemic
- IT issues.

Recovery or orderly wind-down plans

ICNL has drafted a detailed Recovery and Wind Down Plan. The Plan identifies and details ICNL's critical services, stress scenarios, recovery tool sets, options and triggers, structural weaknesses, recovery plan limitations, links between ICNL and other FMI's, and recovery plan

review and governance.

ICNL has described the key recovery or orderly wind down strategies as part of its Recovery and Wind Down Plan. The chapter on recovery tool sets, options and triggers. ICNL's Recovery Options have been grouped into Recovery Tool Sets that reflect their generic purposes. The Recovery and Wind Down plan contains an overview of ICNL assessment of each Recovery Tool Set having regard to the assessment criteria set out in the regulatory guidance. The Plan is reviewed regularly and at least on an annual basis.

ICNL has identified the Recovery Options available to ICNL through the ICNL Rules and where appropriate the relevant Default Management Framework that could be used when other Recovery Options have either not been effective or have otherwise failed - typically because of Clearing Member default in market conditions that are so extreme to not currently be plausible for stress testing.

The use of the Recovery Options would be at ICNL discretion and would typically be expected to be implemented through close discussions with the ICNL Board, Risk Committee, ICE Inc., Clearing Members, regulators and other stakeholders.

The Recovery Options may also require discussion with relevant exchanges and trading venues or participants that rely on the clearing solution provided by ICNL.

Q.3.4.5: How are the plans for the FMI's recovery and orderly wind-down reviewed and updated? How frequently are the plans reviewed and updated?

ICNL's second line functions are responsible for implementing and ensuring that the Recovery Plan remains up-to-date and reviewed in accordance with the internal review and governance control arrangements set out below.

Internal review

On an annual basis, the policy owner (the ICNL President and COO) will revise the Recovery Plan and present the revised version to the Management Team. After this, the owner will arrange for the Recovery Plan to be subject to the governance control set-out below.

The Recovery Plan is to be reviewed as part of any change management process which could significantly affect the operation of ICNL Critical Functions and the ability of ICNL to continue to operate as a clearing house without requiring external assistance.

Material changes to the Recovery Plan must be reviewed by ICNL management and be subject to governance control, as set out below. Minor changes to the Recovery Plan are to be incorporated as part of the routine review process.

Governance Control

The Recovery Plan will be subject to an annual review by the owner, MT and the Risk Committee. Recommendations and discussions are recorded and submitted to the Board in a timely manner. The scenarios and actions that support the Recovery Plan will be subject to Board approval annually. Ad hoc reviews may be commissioned if the business materially changes, for example upon the introduction of a new service.

Material changes to the Recovery Plan or the scenarios, including those brought about by

market events, will be subject to Board approval, following their review and discussion by the MT.

Exception Handling

Deviation from the Recovery Plan will require the President & Chief Operating Officer to inform the Board at the earliest opportunity.

Testing of the Recovery Plan

Elements of the Recovery Plan are tested as part of normal operations and risk management procedures as follows:

- Default fire-drills
- Model performance validation - i.e. stress testing and back testing
- Independent risk model validation
- Liquidity stress testing
- BCP/DR testing
- Penetration testing and vulnerability scanning

Regulatory Changes

ICNL will notify to relevant regulatory authorities of any material changes to the Recovery Plan, including significant changes to the scenarios. Proposed regulatory changes will be assessed prior to implementation.

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

An FMI should establish a robust framework to manage its credit exposures to its participants and the credit risks arising from its payment, clearing, and settlement processes. Credit exposure may arise from current exposures, potential future exposures, or both.

ICNL defines credit risk as the risk 'that a counterparty, whether a participant or other entity, will be unable to meet fully its financial obligations when due, or at any time in the future'. To manage its credit risk, ICNL has setup a comprehensive risk management framework, the ICNL Counterparty Monitoring Procedures and the ICE Enterprise Risk Management Policy (ERM) are examples of parts of this framework.

ICNL is exposed to credit risk in relation to the current or prospective impact on ICNL's earnings and capital as a result of a Clearing Member's failure to comply with a financial or contractual obligation. As guarantor ICNL must fulfill a defaulting Clearing Member's obligations towards the other Clearing Members. ICNL is therefore liable for losses resulting from the liquidation of a defaulting Clearing Member's portfolio. In order to protect itself, and by extension the wider market, from these potential losses ICNL holds original margin in respect of all open Clearing Member positions. The main principles that ICNL follows when setting the parameters to determine the original margin requirement of a Clearing Member are described in the ICNL F&S Margin Requirement Policy.

This counterparty credit risk may have two dimensions:

- pre-settlement or replacement cost risk – which is the loss from replacing open contracts with the defaulting Clearing Member by buying/selling in the market.
- settlement or principal risk – which is the risk of loss on deliverables or receivables from the defaulting Clearing Member.

ICNL has mitigated these risks through prudent and careful monitoring of the credit exposures it faces in relation to each Clearing Member (as these exposures are closely linked to market risk reference is made to Principle 2). The foundation of the Clearing Member monitoring is a credit performance assessment as described in the ICNL Counterparty Monitoring Procedures.

The ICNL Collateral and Haircut Policy sets out the arrangements by which ICNL considers the eligibility of assets for inclusion on the list of eligible collateral and the appropriate valuation, haircut and limits procedure. ICNL accepts both cash and non-cash collateral whereby haircuts

are imposed on non-cash collateral and cross-currency (cash) exposure. Eligible collateral and the respective minimum haircuts have also been laid down in the Collateral and Haircut Policy and is also published via a Circular (published on website ICNL). Cash collateral is collected via a direct debit on the Target2 account of the Clearing Member or by means of a direct debit construction on an account held by a Clearing Member at a commercial bank. For the latter construction, the MT, DNB and Risk Committee have given approval. On receipt with commercial bank, cash collateral is immediately swept to the ICNL Target2 account. Non-cash collateral is held on an account at Euroclear Bank in the name of ICNL operated by JP Morgan. Non-cash collateral is held based on title transfer. The credit risk of ICNL towards its Clearing Members can also be further mitigated by position and trading limits set at Client level in order to control potential losses should a default occur. These limits enable ICNL to exert some control over the build-up of participants' positions, which, together with price changes, determine changes ICNL's exposures to its Clearing Members.

New products (i.e. e.g. starting the clearing of trades on new exchanges, of new products on already cleared exchanges), which are essentially new applications, first need the approval of the ICNL Board, the DNB and the AFM. An approval of the ICNL Head of Risk Management is a must before going further within this procedure. Regarding the clearing of new classes of instruments, the ICNL Board will ask the Risk Committee for its advice.

As part of the EMIR license ICNL is obliged to submit changes to its risk framework for approval to DNB. This obligation includes new products. This ensures that the framework is also reviewed to meet current market practices.

An FMI should identify sources of credit risk, routinely measure and monitor credit exposures, and use appropriate risk-management tools to control these risks.

Sources of credit risk are identified using the ICNL risk management framework. ICNL identified concentration risk and investment risk as sources of credit risk.

ICNL Risk Management produces a daily risk report. This report includes per Clearing Member account:

- Collateral (with type and value post- and pre-haircut)
- Margin requirements with breakdown in scanning risk, intermonth charge, inter-commodity spread credit and short option minimum
- Net liquidation value
- Stress testing results (uncollateralized stress loss after a 15%, 25% and 40% movement)
- Results of back testing of Original Margin figures

On a daily basis, the above figures are monitored and any breaches are immediately reported to the management team. Periodically, ICNL Risk Management produces a risk analysis for each Clearing Member based amongst others on published financials, ratings and any issues that occurred in the preceding period in accordance with the ICNL Counterparty Monitoring Procedures.

The collateral monitoring policy is set out within the Collateral and Haircut policy. ICNL applies a strict collateral policy, only allowing cash and a limited amount of government bonds as eligible collateral ("Permitted Cover").

For government bonds ICNL monitors the creditworthiness in which the external ratings play an important role. However, ICNL also takes also into account other sources of information such as CDS movements. The use of the Monthly Credit Scores report is an example of how ICNL is monitoring the ratings. CDS developments of the eligible issuers can be tracked via ICE Data Services.

The Investment Management Policy sets out the policy to ensure effective supervision, monitoring and evaluation of the investment portfolio of ICNL. The policy aims to meet EMIR and the EMIR 'regulatory technical standards on requirements for central counterparties' (EMIR RTS). The EMIR Regulations include the following requirements:

- Invest only in cash or in highly liquid financial instruments with minimal market and credit risk, and capable of being liquidated rapidly with minimal adverse price effect.
- Deposit with operators of securities settlement systems that ensure the full protection of those financial instruments. Alternatively, other highly secure arrangements with authorised financial institutions may be used.
- Cash deposited through highly secure arrangements with authorised financial institutions or through standing deposit facilities of central banks.
- Ensure assets belonging to Clearing Members are identifiable separately by means of differently titled accounts on the books of the third party with prompt access to the financial instruments when required.
- Ensure that overall risk exposure to any individual obligor remains within the Policy constraints.
- The primary objectives of the Investment Management Policy are to: safeguard the principal (safety);
- provide sufficient liquidity to meet all operational requirements (liquidity);
- obtain a reasonable rate of return (yield);
- conform to legal and regulatory requirements (legal).

ICNL has chosen to apply the following conditions to its investments:

- The asset must be able to be re-valued on a daily basis and quoted intraday by third party financial market news information providers;
- Assets acceptable as non-cash permitted cover must be highly liquid with either an active sale and repurchase agreement, with a diverse group of buyers and sellers or are secured instruments that are freely convertible into cash;
- The market for the asset should have sufficient price history to permit ICNL the ability to analyse the statistical returns of such assets.
- Financial Instruments issued by a Clearing Member, or any entity that is part of the same group as the Clearing Member, will not be accepted.
- Financial Instruments issued by a CCP or any entity whose business involves providing services critical to the functioning of ICNL will not be acceptable (unless that entity is an EEA central bank or a central bank of issue of a currency in which the CCP has exposures).

Where two counterparties belong to the same group, the individual limits are applied per counterparty per their individual rating, but the exposure to the group is restricted to the One Obligor Exposure limit.

The method used by ICNL to evaluate for credit and market risk for each type of financial instrument includes credit ratings for credit risk & CDS spreads for market risk with a built-in trigger at a CDS level of 150 basis points (bps).

ICNL also conducts a non-financial risk assessment which includes whether there is government support for its counterparties and any other factors ICNL expert judgment deems relevant. This assessment has become less relevant in the current climate.

As mentioned above the Investment Management Policy dictates that ICNL can only invest in authorized investments, i.e. cash, repos and certain fixed-income securities and other instruments with debt-like characteristics on a fixed rate and floating rate basis.

ICNL controls the identified sources of credit risk by using concentration limits and limits on where and how investment can be made. This is done by following the policies described above.

A CCP should cover its current and potential future exposures to each participant fully with a high degree of confidence using margin and other prefunded financial resources (see Principle 5 on collateral and Principle 6 on margin). 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 to cover a wide range of potential stress scenarios that should include, but not be limited to, the default of the two participants and their affiliates that would potentially cause the largest aggregate credit exposure for the CCP in extreme but plausible market conditions. All other CCPs 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 participant and its affiliates that would potentially cause the largest aggregate credit exposure for the CCP in extreme but plausible market conditions. In all cases, a CCP should document its supporting rationale for, and should have appropriate governance arrangements relating to, the amount of total financial resources it maintains.

Coverage of current and potential future exposures to each participant

ICNL bases its coverage of exposure on the 3 layers of the risk framework described below:

Layer 1 – Membership requirements

Only eligible firms will be accepted as a Clearing Member of ICNL (see Principle 18).

Layer 2 – Collateral

ICNL requires Clearing Members to deposit Collateral at ICNL to meet the margin requirements on the open positions.

Layer 3 – Guaranty fund

In the unlikely event that a Clearing Member goes into default and the collateral of the Clearing Member is not enough to cover the liquidation cost of the portfolio of the Clearing Member the Guaranty fund provides an additional significant buffer, which buffer can be applied for twice.

The Guaranty fund contributions of non-defaulting Clearing Members will only be used after the following are exhausted in the sequence listed below:

- the Collateral of a defaulting Clearing Member
- the Guaranty fund contribution of the defaulting Clearing Member
- ICNL pre-funded dedicated own resources (also known as skin in the game)

These financial resources shall enable ICNL to withstand the default of at least the two Clearing Members to which it has the largest exposures under extreme but plausible market conditions. The extreme but plausible market conditions and the measurement of the corresponding exposures are subject of the Stress Testing Policy. The Guaranty fund framework and governance is described below.

Additionally, when the Default Fund is exhausted, the Rules allow for the cancellation of the open contracts, resulting in a full “tear up” The Capital of the CCP is not touched for Member default consequences.

Layer 1 provides assurance that all Clearing Members are qualified to be accepted as Clearing Members, whereas layer 2 provides assurance that the portfolio of the Clearing Member can be liquidated in case of a default under normal or mildly extreme circumstances without additional costs to the other Clearing Members. Layer 3 provides assurance that if the circumstances turn extreme, there will still be enough funds to cover for a potential default.

To cover current and potential exposures ICNL uses the IRM model to calculate the necessary financial resources.

IRM assesses the risk of a portfolio, by calculating the maximum likely loss that could be suffered by the portfolio based parameter set by ICNL. The core of IRM risk analysis is to simulate potential market moves and calculate the profit or loss on individual contracts give the market moves using IRM Risk arrays.

IRM Risk Arrays represent a contract’s hypothetical gain/loss under a specific set of market conditions from a set point in time to a specific point in time in the future. Risk Arrays used by ICNL consist of 16 profit / loss scenarios for each contract. Each Risk Array scenario is comprised of different market simulation, moving the underlying price up or down and/or moving volatility up or down. The Risk Array representing the maximum likely loss becomes the Scan Risk for the portfolio.

Initial margin is a returnable deposit based on a Member’s open positions. It is calibrated to be sufficient to cover the expected cost of closing out a defaulting Member’s position in normal market conditions to a 99% confidence interval. Model performance is monitored daily via both portfolio and contract level back-testing.

ICNL has put into place the Back-Testing Policy and the Stress Testing Policy, in order to ensure that Collateral, Guaranty fund and other financial resources provide sufficient coverage under the various scenarios considered. If the results of the back tests, the stress tests show an insufficient coverage, ICNL will increase overall coverage of its financial resources to an acceptable level by the next margin call.

Additional financial resources

As required by EMIR, the Guaranty Fund is sized to cover the default of the two largest participants in extreme but plausible market conditions. As part of the default waterfall ICNL is

also required by EMIR to hold own assets available.

Furthermore, as part of the EMIR license ICNL holds capital additional financial resources to cover for legal/operational risk, credit/counterparty/market risk not already covered by margin and Guaranty fund contributions, and business risk.

ICNL calculates the additional resources based on the EMIR requirements. The levels are reviewed on a daily basis and reported monthly because these are dependent on a percentage of a certain base number – e.g. the capital charge for credit/counterparty/market risk not covered by margin and Guaranty fund contributions is calculated as 8% of the risk weighted exposure amounts.

The rationale regarding the holding of total financial resources is document as part of the risk framework. The risk framework consist of all the policies and procedures regarding the management of risk. This includes for instance the amount of dedicated own resources made available publicly on the ICNL website.

The information is also shared with the regulators monthly in the Monthly Risk Report.

The management of the total amount of financial resources is part of the risk framework. On a day to day basis the risk is managed by the Chief Risk Officer. The Chief Risk Officer has a reporting line to the ICNL Board. The risk framework is established by the ICNL Board. ICNL also has established a Risk Committee – mandatory under EMIR – where stakeholders can provide input on risk issues.

The information is also shared with the regulators monthly in the Monthly Risk Report.

A CCP should determine the amount and regularly test the sufficiency of its total financial resources available in the event of a default or multiple defaults in extreme but plausible market conditions through rigorous stress testing. A CCP should have clear procedures to report the results of its stress tests to appropriate decision makers at the CCP and to use these results to evaluate the adequacy of and adjust its total financial resources. Stress tests should be performed daily using standard and predetermined parameters and assumptions. On at least a monthly basis, a CCP should perform a comprehensive and thorough analysis of stress testing scenarios, models, and underlying parameters and assumptions used to ensure they are appropriate for determining the CCP's required level of default protection in light of current and evolving market conditions. A CCP should perform this analysis of stress testing more frequently when the products cleared or markets served display high volatility, become less liquid, or when the size or concentration of positions held by a CCP's participants increases significantly. A full validation of a CCP's risk-management model should be performed at least annually.

Stress testing

The policy for stress testing is laid down in the Stress Testing Policy, the Liquidity Risk Management Policy, and the Liquidity Risk Management Procedures. Review of the suite of stress scenarios is performed annually or whenever large market events occur or appear likely to materialize. If required new scenarios will be added. Stress testing is applied to assess the outcome under stressed circumstances. ICNL assumes that extreme but plausible market stresses can be reflected by market price (risk factor) moves at the 99.9% percentile. In the Stress Testing Policy ICNL has defined the risk factors that should be covered by the stress tests such as movements in underlying price, volatility shifts at any point on the surface,

changes in dividends and interest rate movements. Stressed option prices are calculated by means of the trinomial model (single stock options) or the Black 76 model (index options) with the shifted risk factors as input. The stressed prices are combined with theoretical baseline prices in order to determine the stress scenario profit and loss on a specific account. The uncollateralized stress losses are calculated per account by subtracting the amount of posted collateral from the stress loss. Stress scenario results are subsequently aggregated per Clearing Member and Clearing Member group. Any gains on Proprietary (House) Accounts can offset stress losses on Customer Accounts. However any gains on Customer Accounts cannot offset losses on Proprietary (House) Accounts.

The stress tests focus on testing whether the combination of margin, Guaranty fund contributions, dedicated own resources and other financial resources are sufficient to withstand the specified stress tests. The total amount of Guaranty Fund Contributions made by Clearing Members should be adequate to cover the first and second, non-mutually exclusive, largest uncollateralised losses (i.e. losses that exceed Original Margin - "Cover 2" as described in article 53(1) of Regulation (EU) 153/2012) from Clearing Members (and of any other Clearing Members part of the same Group) as modelled by agreed stress-testing scenarios. Each committee meeting ICNL Risk Management will present to the ICNL Risk Committee detailed information regarding the overall size and asset composition of the F&O Guaranty Fund, the stress test scenarios and results on which the overall size of the F&O Guaranty Fund is based and other factors that the Clearing House considers relevant to the level of the F&O Guaranty Fund such as the amount of additional margin collected in Stress Loss Charge ("SLC").

In order to ensure that sufficient pre-funded resources are held at all times where stress-testing results are observed to be greater than the prevailing level (of segments) of the Guaranty Fund, as appropriate, a SLC will be applied to the Clearing Member(s) driving the highest stress-testing results.

The stress tests for the total financial resources are performed daily. In case the requirement resulting from the stress test is higher than the collateral and the Guaranty fund contribution of the Clearing Member, ICNL can take action by contacting the Clearing Member and define which actions are required such as reducing the risk profile or posting of additional collateral or default fund contributions.

The stress tests for the liquid financial resources are also performed daily by the ICNL Operations & Treasury Department. In circumstances whether additional liquidity is required and may potentially lead to a liquidity shortfall, ICNL could undertake the following steps:

- Adjust the composition of the collateral received i.e. more cash and less in government bonds
- Request additional collateral from Clearing Members

The escalation process in case of a liquidity shortfall is that the ICNL Operations & Treasury Department informs the CRO and ICNL Board of Directors. They decide whether ICNL needs to take any additional action to obtain additional liquidity.

ICNL Risk Management reports the stress test results and their analysis to the Clearing Members daily. ICNL Risk Management reports the stress tests results and their analysis on a monthly basis to the MT and quarterly to the Risk Committee and Board. In case the requirement resulting from the stress test is higher than the collateral and the Guaranty fund

contribution of the Clearing Member, ICNL can act by contacting the Clearing Member and define which actions are required such as reducing the risk profile or posting of additional collateral or default fund contributions.

The escalation process in case of a liquidity shortfall is that the ICNL Treasury Department informs the CRO and ICNL Board. They decide whether ICNL needs to take any additional action to obtain additional liquidity.

Review and validation

Stress test are performed and reported daily. A wide range of parametric and historic scenarios are considered – e.g. shifts in prices, volatilities, dividends. Next to this concentration and liquidity risk is reported and monitored on a daily basis.

The ICNL Model Validation Guidelines sets out the minimum expectations to be used by ICNL when performing the independent model validation exercises and the performance assessments. The scope of the model validation is all methodologies adopted to calculate its margin, collateral haircut, guaranty fund, concentration charge and other financial resources methodologies and framework for calculating the liquid financial resources. ICNL validates all its models at least annually.

As mentioned earlier in this report, ICNL use the IRM model. Validation of this model is carried out on a yearly basis by the independent model validation team of ICE.

In conducting stress testing, a CCP should consider the effect of a wide range of relevant stress scenarios in terms of both defaulters’ positions and possible price changes in liquidation periods. Scenarios should include relevant peak historic price volatilities, shifts in other market factors such as price determinants and yield curves, multiple defaults over various time horizons, simultaneous pressures in funding and asset markets, and a spectrum of forward-looking stress scenarios in a variety of extreme but plausible market conditions.

The policy for stress testing is laid down in the F&O Stress Testing Policy. For each Clearing Member ICNL runs all stress testing scenarios and computes stress losses daily. ICNL has two types of scenarios used to size their guaranty fund: historical and theoretical. These stress testing scenarios enables ICNL to calculate the financial resources necessary to withstand the default of at least the two Clearing Members to which it has the largest exposures under extreme but plausible market conditions.

Historical stresses generally are best done keeping most or all material market moves over the stressed time period, thereby capturing the effects of stressed co-movement between risk factors.

Theoretical scenarios are created based on some sort of estimate of plausibility. The table below provides a list of risk factors to which ICNL has exposure. All core risk factors are captured by at least one stress scenario described in the Stress Testing Policy.

Risk Factors	Description	Captured in Stress Test?	Explanations
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Underlying contract price movement	Risk arising from movement in underlying price changes	Yes	Stress shocks are calibrated from historical contract prices reflecting underlying value volatility
Convenience Yield/Term structure changes	Variation in the shape of the forward curve including tilting and curvature	No	This is captured primarily through PCA based theoretical stress scenarios. Some Historical stress scenarios target curve shift by replicating historical term structure changes
Yield curve	Variation in the volatility of rates along the yield curve	Yes	This is captured primarily by dividing the yield curve in various maturity segments and perform volatility surface modification stress scenarios. These scenarios are captured in the sensitivity scenarios.
Implied Volatility	Movement of implied option volatility	Yes	Implied volatilities are calibrated to historically observed ATM volatility movements
Volatility Smile/Skew	Variation in the volatility levels at different strike or moneyness	Yes	Calibrated volatility shocks are applied to prevailing volatility smile.
Cross-volatility	Variation in the volatility levels of two underlying values	No	If there is a material amount of “volatility relative value” type risk positions in the portfolio (for example Brent versus WTI implied volatility) then stress scenarios should challenge these positions.
Spread Risks	Risk related to the movement of two underlying prices which widens or tightens	No	Historical stress scenarios in general incorporate historical variations in contract spreads. There are specific scenarios targeted at stressing spread risks of major spread positions to which the Clearing House is exposed

Expiry specific scenario definition/application	Stress shocks are defined per maturity bucket structured based on relative distance to maturity (nearbyness). This structure is agnostic to particular expiry month and many scenarios ignore potentially high expiry specific contract volatility or correlation structure e.g. seasonal effects	No	The relative maturity approach can dampen, amplify or ignore expiry risk of specific contracts e.g. seasonal contracts. It is difficult to apply expiry specific risk into stress tests without replacing the system configuration to fixed maturity
Correlation and interdependencies	Correlation relationship between and among underlying risk factors	Yes	In addition to primary asset-specific risk factors, a series of correlation scenarios are introduced to highlight correlation risks between and among market risk factors. These scenarios are captured in the sensitivity scenarios.
Concentration risk	Risk arising from a significant amount of exposure held by one or a few Clearing Members	No	The stress test will by design capture large stress losses arising from concentrated positions. However, this risk is captured through concentration risk charges applied to Clearing Member positions. This is a specific process unrelated to Stress Test.
Basis risk	Risk arising from less than perfectly correlated movements between government and other fixed-income interest rates	No	To capture imperfect hedges in interest rate risk
Dividend risk	Risk arising from changes in dividends	Yes	To calculate the effects of forecasted dividend scenarios breaking down to zero.
Exchange rates	Risk arising from changes in fx rates other than the reporting currency	No	To capture the effects of changes in exchange rates between the currency in which margin calls are made and the currency in which ICNL clears its products.

ICNL has defined a risk appetite with respect to the outcome of extreme but plausible stress tests:

- The sum of the collateral, Guaranty fund contributions of all Clearing Members and other financial resources of ICNL shall be greater than the two largest negative outcomes under extreme but plausible stress tests;
- The sum of the Guaranty fund contributions of all Clearing Members shall be greater than the maximum of the largest outcome of the stress test across all Clearing Members and the sum of the second and third largest outcomes of the stress test.

An FMI should establish explicit rules and procedures that address fully any credit losses it may face as a result of any individual or combined default among its participants with respect to any of their obligations to the FMI. These rules and procedures should address how potentially uncovered credit losses would be allocated, including the repayment of any funds an FMI may borrow from liquidity providers. These rules and procedures should also indicate the FMI's process to replenish any financial resources that the FMI may employ during a stress event, so that the FMI can continue to operate in a safe and sound manner.

Allocation of credit losses

Part 9 of the ICNL Clearing Rules sets out the measures that can be taken in case of a default of a Clearing Member.

In Rule 906 of the ICNL Clearing Rules it is described how, when contracts are terminated after a Default, a net sum is calculated for each different proprietary account and customer account of the Defaulter. All sums payable or to be received by the Defaulter in respect (of settlement) of Contracts recorded in the relevant Account are netted and held against Collateral and Guaranty fund Contributions posted by the Defaulter.

Rule 908 describes the application of these assets upon an event of default. Rule 908 (b, c, e and g) outlines the sequence in which Clearing Member Guaranty Fund Contributions and Clearing House Guaranty Fund Contributions are applied. Rule 909 describes when ICNL can use its Powers of Assessment and how Assessment Contributions are calculated.

Replenishment of financial resources

ICNL can request the surviving Clearing Members to replenish the default fund after exercising the first round of contributions in case of a default. Rule 908 of the ICNL Clearing Rules describes the application of these assets upon an event of default.

Principle 5 - Collateral

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.

Summary narrative**An FMI should generally limit the assets it (routinely) accepts as collateral to those with low credit, liquidity, and market risks.**

ICNL has a Collateral and Haircut Policy in place stating general principles for the acceptance process of only high liquid cash (EUR) and non-cash (EUR denominated) collateral ("Permitted Cover"). The acceptance process also safeguards the compliance with the requirements as pre-defined by EMIR (EMIR/ RTS 153/2013 Annex I). ICNL pre-defined both absolute as relative limits for collateral within its policy. Procedures are in place to daily monitor the set limits and other defined controls.

ICNL does not accept collateral on an exceptional base. This is not required due to the product range cleared by ICNL.

ICNL publishes their most recent list of Permitted Cover, haircuts and limits on collateral on the ICNL website. Additional information on restrictions for collateral and limits described within the ICNL Finance Procedure as published on the website.

The ICNL collateral monitoring policy is set out in the collateral and haircut policy.

ICNL monitors the value of collateral and considers specific features that impact the value of collateral such as market liquidity and interest rate and credit spread movements. For government bonds ICNL monitors the creditworthiness in which the external ratings play an important role. However, for the same reason as with the ratings of counterparties – rating adjustments could be lagging – ICNL takes also into account other sources such as the CDS movements.

ICNL limits the chance of incurring wrong-way risk by limiting acceptable collateral to highly liquid government bonds and cash. Wrong-way risk is further mitigated as ICNL does not invest its capital in its own securities or those of its parent undertaking or its subsidiary. The ICNL wrong-way risk policy is set out in the Wrong Way Risk Policy. The focus of this policy is to identify and mitigate wrong way risk (WWR) inherent in adverse correlations between a Clearing Members creditworthiness and market price movements in the position they hold.

More specific, the collateral WWR mitigation is captured in the Collateral and Haircut Policy. ICNL monitors collateral on deposit on a daily basis. Where ICNL considers there to be strong general WWR between a Member and the asset they have posted, ICNL will ask the Member concerned to change the composition of their collateral portfolio to mitigate that risk.

Additionally, ICNL has in place counterparty monitoring procedures that it uses to independently monitor the counterparty risk that each of its Clearing Members present to ICNL. Under these procedures Clearing Members receive an internal rating depending on their counterparty risk ranging from 1 to 5, with 1 being the best rating and 5 being the worst. The internal rating assigned to a CM will determine if and which additional measures are taken. Internal ratings of Clearing Members are recalculated by ICE on at least a monthly basis. Monitoring of the

creditworthiness of a Clearing Member is performed on a daily basis.

No action will be taken if Clearing Members have an internal rating between 1 and 3 as this indicates that ICE does not have any concerns over the credit quality of the Clearing Member.

Where a Clearing Member scores between 3 and 5, a review of their collateral portfolio will be conducted to assess the level of correlation between the Clearing Member concerned and the collateral it has deposited to assess the existence of WWR. If, in the opinion of the ICNL's CRO, any portion of the Clearing Member collateral is highly correlated to the credit quality of the Clearing Member, the Clearing Member will be required to replace the collateral in question at ICNL's instruction. ICNL may require Members to substitute any Permitted Cover already lodged with it for another form of Permitted Cover.

The internal credit rating methodology is described in the ICNL Counterparty Monitoring Procedures Bank Counterparties and the ICNL Counterparty Monitoring Procedures Client Counterparties.

An FMI should establish prudent valuation practices and develop haircuts that are regularly tested and take into account stressed market conditions.

Valuation practices

ICNL values Collateral mark-to-market on a near to real time basis. ICNL monitors price volatility on a near to real time basis and market liquidity figures are reviewed end-of-day each business day.

ICNL has a discretionary power to value assets if market prices do not represent their true value. This may be the case when trading in certain accepted collateral ceases – e.g. trade interruption.

Haircutting practices

In the Collateral and Haircut Policy the General Haircut Calculations Methodology is described as follows:

The haircut calculation for all assets, acceptable as Permitted Cover, is based on a Value-at-Risk methodology.

Haircuts are based on estimations of two risk measures;

- a) 5-day 99% Expected Shortfall (ES); and
- b) 2-day 99.9% Value-at-Risk (VaR).

Both are derived by analyzing time series covering a period of more than ten years. The methodology aims to take into consideration both recent volatility and historical volatility. The assumed holding period for collateral is two days; however, the methodology also accounts for the tendency for some asset classes (particularly bonds) to show a strong mean reversion and allows for an extended liquidation period.

Bond haircuts are applied according to six different maturity buckets for each bond issuer.

- a) Less than one year;
- b) one to three years;
- c) three to five years;
- d) five to ten years;
- e) ten to twenty years;
- f) twenty to thirty years.

Using the on-the-run contracts for each tenor yields constant maturity time series.

Collateral haircuts are regularly back tested. Details of the process are formally documented, reviewed, validated and approved. The ICNL test procedures in comply as well with the EMIR/ RTS 153/2013 Article 41: Haircuts. Basically, on a high level, in order to assess the reliability of the estimated collateral haircuts, the testing is based on back-testing analysis. The back-testing analysis consists of verifying that the number of times the prices changes of an asset is no greater (in absolute value) than the model projected measure for an acceptable number of exceedances as defined in the Basel Traffic Light System (BTLS). Back testing to verify all haircut percentages is performed on a monthly base. The Collateral and Haircut Policy, Collateral Model Description document are yearly reviewed and validated.

In order to reduce the need for procyclical adjustments, an FMI should establish stable and conservative haircuts that are calibrated to include periods of stressed market conditions, to the extent practicable and prudent.

In order to avoid procyclical variations in haircuts, haircuts are calculated using data covering a period of more than ten years. ICNL applies the haircut methodology as described in Q5.2.3, based on a 5-day 99% Expected Shortfall (ES) and a 2-day 99.9% Value-at-Risk (VaR). Together with the Bid/Ask haircut add-on a minimum haircut of 1.5 percent is in place for Permitted Cover.

The level of the minimum haircut will be reviewed annually.

An FMI should avoid concentrated holdings of certain assets where this would significantly impair the ability to liquidate such assets quickly without significant adverse price effects.

In order to ensure diversification across the collateral lodged by Clearing Members, ICNL applies concentration limits for each collateral type that determine the total value of collateral. These limits mitigate concentration risk in the collateral of a Clearing Member and ensure a large portion of a Clearing Member's collateral is not exposed to idiosyncratic risk from one particular issuer.

ICNL reviews concentration policies and practices as part of the risk framework. Therefore, it will be subject to back testing and stress testing where relevant. ICNL also monitors counterparty risk and collateral daily.

The ICNL Collateral and Haircut Policy and the used collateral model are frequently reviewed and validated at least annually.

An FMI that accepts cross-border collateral should mitigate the risks associated with its use and ensure that the collateral can be used in a timely manner.

The Principles define cross-border collateral as: "collateral that has at least one of the following foreign attributes: (a) the currency of denomination, (b) the jurisdiction in which the assets are located, or (c) the jurisdiction in which the issuer is established."

Although ICNL does accept cross-border collateral, ICNL considers that the risks from accepting cross-border collateral are limited if not close to zero. ICNL only accepts government bonds from a number of Eurozone Member states. These EURO denominated government bonds are high grade and highly liquid.

The accepted government bonds are issued by countries with a high credit rating and therefore highly liquid. This ensures that the deposited bonds can be used whenever necessary. ICNL closely monitors the creditworthiness status of the issuers and timely implements changes if required.

An FMI should use a collateral management system that is well-designed and operationally flexible.

Collateral management system design

ICNL uses various back end clearing systems (like Extensive Clearing System ECS) to administer collateral holdings and movements. Collateral forms also part of the ICNL intraday and end of day risk systems (APEX/IRM) to calculate the market value as component used within the margin calculation process. . The Collateral Haircut Model application computes collateral haircuts on a daily basis. These systems allow ICNL to monitor and manage collateral in near real time.

The reuse of collateral is tracked by risk management as part of the Investment Management Policy. The ICNL Investment Management Policy dictates that ICNL can only invest in authorized investments, i.e. cash, Repurchase Agreements with an approved authorized credit institution (only bonds issued by the governments of Austria, Belgium, Finland, France, Germany, Luxemburg and the Netherlands with a maximum of 10 years to maturity as underlying or cash) and certain fixed-income securities and other instruments with debt-like characteristics on a fixed rate and floating rate basis.

Operational flexibility

ECS and IRM/APEX Intraday allow ICNL ongoing monitoring and management of collateral. The systems can and are updated from time-to-time to accommodate changes.

ICNL is sufficiently staffed to ensure smooth operations of the CCP. This includes times of market stress. The staffing also includes sufficient staffing of the collateral management system.

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

A CCP should have a margin system that establishes margin levels commensurate with the risks and particular attributes of each product, portfolio, and market it serves.

Description of margin methodology

ICNL uses the ICE® Risk Model (“IRM”) to calculate margin requirements. ICNL calculates margin requirements within its End Of Day “EOD” process and also intraday. The EOD margin process is using the closing prices of the business day and in case of a margin call, margin will be collected before the start of the next trading day. Intraday margin requirements will only be collected if the ratio Margin Requirement/Collateral exceeds 110% and => EUR 1 million.

The margin requirement should suffice for theoretical losses on the portfolio under ‘normal stress’ circumstances. In line with the EMIR requirements ICNL uses a two-day liquidation period with a margin requirement that should cover the losses in the portfolio in at least 99% of all cases.

IRM calculates 16 different scenarios to determine the amount of initial margin (potential future exposures) that should be charged. Several possible changes in the price of the underlying value of the options and futures are considered (an upward and a downward shift of the current price of 1/3, 2/3, 1 and 2 times a pre-determined scanning range set for each underlying value). Furthermore, it is verified what happens if the underlying price remains unchanged. In each of these situations (except for the scenarios whereby the underlying price is shifted by 2 times the scanning range) also an upward and a downward volatility shift (set for each underlying value) is applied. This results in a total of 16 scenarios to which different weightings can be assigned. Scanning ranges and volatility shifts are based on a margin period of risk of 2 days. Based on the applicable combination of price and volatility shift, all positions with the same underlying value in the portfolio of a Clearing Member are revalued. The scenario that results in the worst loss constitutes the scanning risk. An inter-commodity spread credit is subtracted from the scanning risk to reflect the fact that some underlying price variations are correlated. The resulting figure is compared with a short option minimum charge. The short option minimum charge is based on the net short position and calculated to cater for the fact that far out-of-the-money positions with a low delta will otherwise not attract sufficient initial margin within IRM. The higher of the two constitutes the final risk from which, if applicable, net option value (current exposure) is subtracted. These calculations are made for each underlying value (combined commodity) in portfolio and summed per Clearing Member account. The total amount of exposure towards each Clearing Member and how it is composed can be obtained directly and near-to-real from the systems. Each day multiple stress scenarios are run, of which the results per Clearing Member account can be viewed via Oracle databases / SQL Developer. The stress test results are also used for liquidity risk management purposes, amongst others for sizing the Guaranty fund.

The margin methodology described above is documented in the F&O IRM Margin model and the F&O IRM Parameters Calibration model.

High level principles of the IRM Model are made available on the ICNL website – <https://www.theice.com/clear-netherlands/risk-management> Detailed descriptions are not made

available online.

Credit exposures

ICNL only clears single stock and index derivatives. The credit risks faced by ICNL are those attached to a possible default of a Clearing Members. This counterparty credit risk may have two dimensions:

- pre-settlement or replacement cost risk, which is the loss from replacing open contracts with the defaulting Clearing Member by buying/selling in the market.
- settlement or principal risk, which is the risk of loss on deliverables or receivables from the defaulting Clearing Member.

The margin requirements charged by ICNL have proven to be commensurate to meet the target confidence levels both in a live environment and under the relevant stress and back testing scenarios.

Operational components

In the case of participant payment failure ICNL may choose to put that participant into default and close out its positions with ICNL. This decision can be made at any time after the decision of the default management team. ICNL will first have to call a meeting of the default management team. With reference to the Clearing Rules the ICNL Executive Board Members take a decision on declaring the Clearing Member in default.

The Clearing Rules facilitates that any proposed declaration of default will be published after consultation with DNB and AFM.

Cash instructions for regular daily calls should be received before same day 09.00 a.m. CET. Settlements of non-cash collateral to cover regular daily calls must take place during normal opening hours of the relevant settlement or depository system.

Following the decision of ICNL to call for additional Collateral, ICNL will inform the Clearing Member, by email and/or telephone of the amount of the required additional Collateral Value. If the call affects a significant number of Clearing Members, the Clearing House may issue a Circular.

Intra-day calls will be executed via a direct debit from the Clearing Member's Nominated Bank Account at an Approved Financial Institution or Nominated Target 2 Bank Account. Payment must be made within one hour. Intra-day calls will only be made in EUR

If a Clearing Member requests for an extension of the one-hour payment deadline, ICNL will decide at its own discretion, after analyzing the (risk) impact on the market conditions, whether it agrees to this request. If agreed, the decision can be immediately withdrawn by ICNL if the risk situation of the Clearing Member or ICNL requires special attention.

UK Participants are in a different time zone but are still required to meet the ICNL timelines. This not considered a risk or impediment because the time difference is only 1 hour.

A CCP should have a reliable source of timely price data for its margin system. A CCP should also have procedures and sound valuation models for addressing circumstances in which pricing data are not readily available or reliable.

Sources of price data

The IRM model uses real time price data of the derivative products and its underlying to calculate margins. The sources of this price data are from ICE Market Data Services and the relevant exchanges.

The prices ICNL obtains come directly from the trading platforms where the products are traded (including economically equivalent contracts).

Estimation of prices

In case prices are not available, ICNL recalculates the Theoretical Value of the derivatives it clears using the prices it has received via IRM / APEX Intraday during the day.

A CCP should adopt initial margin models and parameters that are risk-based and generate margin requirements sufficient to cover its potential future exposure to participants in the interval between the last margin collection and the close out of positions following a participant default. Initial margin should meet an established single-tailed confidence level of at least 99 percent with respect to the estimated distribution of future exposure. For a CCP that calculates margin at the portfolio level, this requirement applies to each portfolio's distribution of future exposure. For a CCP that calculates margin at more-granular levels, such as at the subportfolio level or by product, the requirement must be met for the corresponding distributions of future exposure. The model should (a) use a conservative estimate of the time horizons for the effective hedging or close out of the particular types of products cleared by the CCP (including in stressed market conditions), (b) have an appropriate method for measuring credit exposure that accounts for relevant product risk factors and portfolio effects across products, and (c) to the extent practicable and prudent, limit the need for destabilising, procyclical changes.

Initial margin model

ICNL collects margin at least once a day but also intraday (only when the ratio Margin requirement/Collateral exceeds 110% and EUR 1 million). On a normal trading day, ICNL calls all margin based on the close of the business day and receives all margin before the start of the next trading day.

The margin requirement should suffice for theoretical losses on the portfolio under 'normal stress' circumstances. In line with the EMIR requirements ICNL uses a two-day liquidation period with a margin requirement that should cover the losses in the portfolio in at least 99% of all cases.

IRM calculates 16 different scenarios in order to determine the amount of initial margin (potential future exposures) that should be charged. Several possible changes in the price of the underlying value of the options and futures are considered (an upward and a downward shift of the current price of $\frac{1}{3}$, $\frac{2}{3}$, 1 and 2 times a pre-determined scanning range set for each underlying value). Furthermore, it is verified what happens if the underlying price remains unchanged. In each of these situations (except for the scenarios whereby the underlying price is shifted by 2 times the scanning range) also an upward and a downward volatility shift (set for each underlying value) is applied. This results in a total of 16 scenarios to which different weightings can be assigned. Scanning ranges and volatility shifts are based on a margin period of risk of 2 days. Based on the applicable combination of price and volatility shift, all positions with the same underlying value in the portfolio of a Clearing Member are revalued. The scenario that results in the worst loss constitutes the scanning risk. An inter-commodity spread credit is

subtracted from the scanning risk to reflect the fact that some underlying price variations are correlated. The resulting figure is compared with a short option minimum charge. The short option minimum charge is based on the net short position and calculated to cater for the fact that far out-of-the-money positions with a low delta will otherwise not attract sufficient initial margin within IRM. The higher of the two constitutes the final risk from which, if applicable, net option value (current exposure) is subtracted. These calculations are made for each underlying value (combined commodity) in portfolio and summed per Clearing Member account. The total amount of exposure towards each Clearing Member and how it is composed can be obtained directly and near-to-real from the systems. Each day multiple stress scenarios are run, of which the results per Clearing Member account can be viewed via Oracle databases / SQL Developer. The stress test results are also used for liquidity risk management purposes, amongst others for sizing the Guaranty fund.

The assumptions are that margin requirements can be appropriately calculated based on historical value-at-risk measures with look back periods ranging from 100 to 525 days (not shorter or longer). And that the used fat tail factor of 2.66 for the parametric value-at-risk calculations sufficiently corrects for the fact that returns are not normally distributed. For all calculations, a 99% confidence level is used. Furthermore, as an anti-procyclicality measure, a volatility measure is calculated based on the market volatility that occurred in a stress period (weighted 25%). The chosen period depends on the commodity and the stress period of that commodity. The assumption is that this period gives a good approximation of overall stress volatility.

The margin requirement should suffice for theoretical losses on the portfolio under 'normal stress' circumstances. ICNL has adapted its policies to be in line with EMIR and uses a two-day liquidation period with a margin requirement that should cover the losses in the portfolio in at least 99% of all cases.

Closeout and sample periods

ICNL has adopted a 2-day liquidation period. This is driven by the time needed to activate a default procedure. The memo 2-day liquidation period 20180507 assesses why the two-day liquidation period is appropriate for ICNL.

Within the IRM Model look back periods ranging from 60 to 525 days are used to calculate the volatility measures on which the 99%-VaR calculations are based. Any other time horizon for the calculation of the historical volatility may be used if it leads to margin requirements at least as high as those obtained with the previously mentioned time horizons.

If historical observations are not available or the outcomes of the value-at-risk calculations not deemed appropriate (for example given extraordinary market circumstances) for (the volatility of) the logical commodity in question, ICNL Risk Management can set a policy default rate. Also, the underlying data is verified and, if necessary, return corrections can be made.

Examples of avoiding procyclical effects are:

- apply stress volatility in calculation of Scanning Range
- determination of the minimum and maximum price movements
- minimum collateral haircuts
- default fund framework.

Procyclicality and specific wrong-way risk

In order to comply with EMIR RTS Article 25.1 and Article 28.1 on pro-cyclicality, ICNL has adopted option B, in which a weighting of 25% is assigned to stressed observations in the look back period. The volatility covering a one year period, using data for each asset class stressed period, will be used as 25% weight for the parametric value-at-risk (PVaR) volatility used to calculate front month scanning risk:

The relevant volatility for the 250 days PVaR model will thus be:

$$\text{Vol Forecast} = 0.75 * \sigma_{PVaR} + 0.25 * \sigma_{stressed}$$

When stressed data is not available, stressed volatility from benchmark contracts will be used.

Wrong-way risk is covered within ICNL as described in the F&O Wrong Way Risk Policy. The Model Risk Governance Framework is the means through which ICNL identifies and mitigates the impact of model error or inappropriate use across its models. The Framework provides:

- End-to-end coverage of the model life-cycle (from conception to retirement)
- Senior management and governance bodies with an understanding of potential model error or inappropriate use
- An approach to identify, escalate and remediate identified issues, with:
 - Clear ownership and roles for each stage of the model lifecycle
 - A consistent approach aligned with ICNL's 3 lines of defense framework

A direct reporting line to senior management and the Board.

A CCP should mark participant positions to market and collect variation margin at least daily to limit the build-up of current exposures. A CCP should have the authority and operational capacity to make intraday margin calls and payments, both scheduled and unscheduled, to participants.

Intra-day, ICNL recalculates the margin requirement near-to-real-time, using the most up to date positions and prices. ICNL provides a real time cleared trade feed to its Clearing Members to enable them to also perform intra-day or real time risk management in respect of their clients.

ICNL has the authority and the operational ability to demand additional collateral at any time, wherever there is a significant intraday margin deficit.

In calculating margin requirements, a CCP may allow offsets or reductions in required margin across products that it clears or between products that it and another CCP clear, if the risk of one product is significantly and reliably correlated with the risk of the other product. Where two or more CCPs are authorised to offer cross-margining, they must have appropriate safeguards and harmonised overall risk-management systems.

Portfolio margining

The IRM model groups together financial instruments with the same underlying for analysis. For example, futures on an Equity Index and Option on the Equity Index would be grouped together for analysis.

Within IRM inter-contract spread credits are used to recognize that holding positions with opposite signs in two or more different contracts which are highly correlated is less risky than holding a directional position in only one of the contracts. The inter-contract spread credit is set as a percentage credit against the scanning range from the individual legs of the inter-contract spread position. A time series of spread returns is calculated for various look back periods.

Subsequently, based on the spread returns, several value-at-risk measures are calculated. The largest value-at-risk figure is compared with the risk of a portfolio with the two positions margined separately. This is done in order to determine the correlation effect. Subsequently the credit rate is derived.

The offset through the use of the correlation structures is limited to the range 15%-80% of the difference between the sum of the IRM results calculated individually for each product and the IRM result calculated for the combined portfolio.

ICNL does not apply portfolio margining and cross-margining across multiple instruments.

A CCP should analyse and monitor its model performance and overall margin coverage by conducting rigorous daily backtesting – and at least monthly, and more-frequent where appropriate, sensitivity analysis. A CCP should regularly conduct an assessment of the theoretical and empirical properties of its margin model for all products it clears. In conducting sensitivity analysis of the model’s coverage, a CCP should take into account a wide range of parameters and assumptions that reflect possible market conditions, including the most-volatile periods that have been experienced by the markets it serves and extreme changes in the correlations between prices.

Backtesting and sensitivity analysis

Each morning ICNL determines the amount of collateral that Clearing Members have to post based on the end-of-day figures of the day before. By means of back testing it is verified if the calculated initial margin values are accurate. On a daily basis, it must be verified if a loss on a specific client account did not exceed the initial margin value that was determined for that account. This is done based on a static portfolio. It is verified if the initial margin amount was on each day during the period under consideration sufficiently large to ensure a level of coverage of at least 99%, taking into consideration a two-day holding period (Regulation (EU) 153/2013, articles 24, 25 and 26).

The results of the below described back tests must be reported to the Management Team (MT) on a monthly basis (as part of the Risk Management Report) and should be presented each board and risk committee meeting (on aggregated level). The report shall include at least one year of data, if available. Based on the results of the Basel test immediate reporting to the MT might be required (as defined / described below).

The results obtained from the back tests must be reported to the Dutch Central Bank (DNB) and The Netherlands Authority for the Financial Markets (AFM) on a monthly basis. The results of the tests are also part of the CPMI-IOSCO quantitative disclosures.

Back testing initial margin figures

This test is performed on a daily basis. The data for the test is obtained from IRM. In order to determine the adequacy of the level of initial margin collected, for each customer account the profit or loss on day t+2 is determined by using the positions on day t and the settlement prices of day t+2.

If, on a particular day, the portfolio value has decreased more than with the initial margin value as calculated by IRM, then this is considered an exception. In line with Regulation (EU) No 648/2012 article 41.1 and Regulation (EU) No 153/2013 article 24 collected margins should be sufficient “to cover losses that result from at least 99% of the exposure movements over an appropriate time horizon”. This back test is performed to ensure that ICNL meets that level of coverage. The test is based on the end-of-day figures of each customer account.

The number of exceptions is subsequently counted in order to determine on how many days the IRM-model has underestimated the risk. Each exception should be recorded with date of occurrence. The level with which the initial margin requirement has been exceeded, should be compared with the default fund contribution of the Clearing Member in question in order to determine the significance of the breach.

For the evaluation of the test results the three-zone framework developed by the Basel Committee is used. Based on the number of exceptions, a zone / color has to be assigned to the model outcomes. The green zone indicates that there is little reason for concern. The chance that an inaccurate model will be accepted as accurate is low. If the number of exceptions falls in the yellow category, the outcome is inconclusive and an additional analysis should be made by Risk Management. A red zone outcome is an indication that the model is inaccurate. If this is the case this must immediately be reported to the MT. And Risk Management should conduct a full analysis in order to determine why the model-generated outcomes were an underestimation of the actual loss-figures in too many occasions. It should be assessed if any of the model parameters must be changed.

The Basel Committee has defined the aforementioned zones for a pre-specified confidence level (99%) and number of observations (250 trading days). Given the fact that ICNL uses a different number of observations will apply (variable per account, yet always > 250 trading days), the zones need to be adjusted in order to reflect this. The yellow zone begins at the point where the cumulative probability of obtaining a given number of exceptions equals or exceeds 95% and the red zone begins at the point where the cumulative probability equals or exceeds 99.99%.

Back testing IRM parameters

In order to calculate the initial margin requirement of a Clearing Member several parameters are set in IRM. The following parameters, based on a 2-day holding period, are derived in order to determine the margin requirement:

- Scanning range
- Inter-contract spread credit rates
- Option volatility shift parameters

Based on a 99% VaR estimate of two-day prices moves of the underlying, the scanning range for the IRM-scenarios is set. Three parametric and three historical VaR calculations are made, each based on a different look back period. Of these the largest value is used to calculate the scanning risk. The inter-month spread charges are also based on a 99% VaR analysis, but then of the difference in return between long and short positions in the same underlying with different expiries. The charge is applied to account for the fact that a long position in a contract does not completely offset the risk in a short position in the same contract which expires in a different month. Inter-contract credits are calculated for highly-correlated contracts. The offset is set equal to the ratio of the margin value if no offset was applied minus the calculated VaR value (based on spread returns) to the margin value if no offset was applied. A volatility shift parameter will be applied to a group of expiry months (a Tier) to account for possible changes in volatility. For several time periods, ranging from 60 to 525 days, the two-day percentage changes in volatility is derived. The margin parameter is subsequently set by taking the highest of the historic and parametric value-at-risk measures.

In order to determine the level of accuracy of the margin parameters, additional back tests are run.

These margin parameters are back tested for all possible combinations of underlying and value dates by comparing their value to the most recent 2-day change in value of several “micro” portfolios, for example outright positions to test the scanning ranges, tier parameters and implied volatility.

Back testing of haircuts applied to collateral

- ICNL accepts several types of collateral published through circulars. In case of bond collateral, a haircut will be applied to the market value of the bond to cover for a decline in value in the coming two days.
- For all bonds that are accepted as collateral ICNL will determine haircut percentages. The applicable haircut rates will be published.
- These haircut percentages will be back tested on a daily basis by means of comparing the 1 and 2-day percentage change in price with the used haircut percentage. In case the actual price change over 1 or 2 days exceeds the applied haircut percentage, then this is considered an exception.
- In case an exception occurs, haircut percentage can be changed at the discretion of Risk Management. For assessing the back testing results the same Basel methodology will be applied as for back testing the initial margin figures.

Sensitivity analysis is an essential ingredient for building models and assuring their quality. ICNL uses sensitivity analysis in order to test a number of input variables of the IRM-model. This is done in order to assess the effect of changing these variables on the level of margin coverage of the portfolios of the Clearing Members. Currently ICNL applies sensitivity scenarios using the following parameters: interest rates, dividend scenarios, volatility shift, scanning range and a combination of the volatility shift and scanning range.

Periodically the sensitivity analysis will be reported to the Risk Committee.

Margin model performance

There were no breaches revealed by back or sensitivity testing during the period under consideration.

If the model does not perform as expected the parameters of the model are adjusted to bring the model back in line with the requirements set by the risk framework.

The results of the back testing are disclosed to each Clearing Member daily.

A CCP should regularly review and validate its margin system.

The policies and procedures applied by ICNL to assess the methodologies and models described in the following policies:

- Liquidity Risk Management Framework including Liquidity Plan

The below policies are combined into the F&S Margin Requirements Policy:

- Backtesting Policy
- Stress testing Policy
- Model validation policy

Frequency of analysis depends on the interval set in the policies described above. ICNL will at least review its system on an annual basis.

Revisions and adjustments of the margin methodology, including parameters are set out in de Model Risk Governance Framework.

The governance of model changes, such as the margin methodology, depends on the materiality of the model and the significance of the change. Significance is defined as ‘high’ or ‘low’ based on the nature of the change and its impact on the model’s output. The Model Owner proposes a significance rating for the model change.

Table 1: Model materiality categories

Materiality	Description
A	<p>Models where the output is the primary factor affecting risk management decisions relating to:</p> <ul style="list-style-type: none"> • Liquidity • Margin levels • Guaranty Fund levels • Collateral levels <p>A model may also be considered as a materiality A model if it has a high error potential, as a result of complexity in:</p> <ul style="list-style-type: none"> • Data model & inputs, e.g. complex manipulation of input data • Modelling approach, e.g. reliance on large number of assumptions • Model output, e.g. large number of dependent downstream models • Model users & operations, e.g. large number of independent systems
B	All other models which fall within the scope of this Framework

All model changes for materiality A models, and therefore Margin levels, must be revalidated by the Model Validator. The Model Validator proposes validation scope as per the Validation Guidelines provided in Section 13 and agrees this with the Framework Owner. The depth of the validation scope proposed should be commensurate with model materiality. The output of the validation should be a report to the MOC. The report should include any caveats or concerns rated as high, medium or low priority. The Model Validator receives an update on all other changes.

Figure 5: Governance of changes to models by model materiality and change significance

		Significance of model change	
		High	Low
Model materiality	Rating A	Follow the same process as for new models with materiality A	Approval by MOC Discussed in Risk Committee
	Rating B	Follow the same process as for new models with materiality B	Approval by Framework owner Discussed in MOC and Risk Committee

The method and the results of the review and validation of the margin methodology, including parameters are disclosed to relevant stakeholders such as:

- ICNL shareholders
- Risk Committee
- Regulators

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**An FMI should have a robust framework to manage its liquidity risks from its participants, settlement banks, nostro agents, custodian banks, liquidity providers, and other entities.**

ICNL needs to have access to adequate liquidity to perform its services and activities at all times. ICNL has put in place a comprehensive Liquidity Risk Management Framework. ICNL will ensure with a high level of confidence that it can affect payment and settlement obligations in all relevant currencies as they fall due, including intraday where appropriate.

The Liquidity Risk Management Framework is designed to implement effective and analytical tools to identify, measure and monitor settlement and funding flows on an on-going and timely basis.

Furthermore, the Liquidity Risk Management Framework will include the assessment of its potential future liquidity needs under a wide range of potential stress scenarios (including the default of Clearing Members and extreme but plausible market conditions).

The Liquidity Risk Management Framework also addresses the liquidity needs resulting from ICNL's relationships with any entity towards which ICNL has a liquidity exposure including but not limited to settlement banks, payment systems, security settlement systems, custodian banks and liquidity providers.

Sources of liquidity for ICNL are:

- Cash on account or on deposit.
- Cash from investments maturing that day.
- Collateral held against invested cash that can be liquidated that day.
- Sovereigns with different maturities that can be liquidated that day (either already bought by ICNL or provided as collateral by a defaulting CM).
- Highly reliable uncommitted operating lines.
- Committed repo lines that ICNL has in place.
- Non-cash collateral provided by CMs as OM and GF contributions.
- ICNL's own capital above the minimum required regulatory capital.

Pursuant to the rules Clearing Members have to deposit at least half of their contribution to the Guaranty fund in cash (with a minimum of EUR 10 million). Furthermore, there has been signed an intraday credit facility agreement with the Dutch Central Bank (DNB). By means of this credit facility eligible bonds posted as collateral or Guaranty fund contribution can be converted into cash. The bonds are then placed with DNB as security. In order to facilitate settlement of equity transactions during the day the appointed settlement agent provides additional liquidity in the form of an intraday credit facility.

Next to that ICNL has arranged an FX facility of EUR 10 million with Wells Fargo NA, which is covered by an Intercompany Master Promissory Note between ICNL and INTERCONTINENTAL EXCHANGE INC ("ICE Inc."). With this arrangement EUR 10 million will be available to ICNL same day value.

One can distinguish the following events that require liquidity in the ordinary daily course of business within ICNL and could pose liquidity risks:

Settlement of fees, option premium amounts and payment of variation margin on futures

This occurs when payment of fees, premium amounts or variation margin is delayed or these amounts are not received at all from a Clearing Member. This could occur in case of a disruption of Target2 services, the Clearing Member having technical difficulties or when the Target2 account of the Clearing Member in question is insufficiently funded. For most Clearing Members, the fees, option premium amounts, initial margin amounts and variation margin amounts are collected each morning as a net amount via a direct debit on their Target2 account. Target2 can be considered a stable payment system given the fact that it is operated by the Eurosystem and it processes high volumes of transactions on a daily basis while maintaining high system availability percentages. In order to determine their creditworthiness and operational capacity for handling transactions Clearing Members are fully reviewed at least yearly. Clearing Members can also opt for a direct debit on an account held at a commercial bank which is part of ICNLs "Assured Payment System" ("APS") Network. Such a structure should specifically be approved by ICNL Risk Management and the ICNL Risk Committee on the basis of a full risk review of the Clearing Member and the commercial bank in question.

Settlements in stock as a result of exercises and assignments.

During the day a need for liquidity could arise because cash or securities that have to be paid out to a certain Clearing Members are not simultaneously received from other Clearing Members. Non-cash settlements are closely monitored in consultation with the appointed settlement agent which provides liquidity by means of an intraday facility. The amounts of cash that have to be exchanged because of exercises and assignments are known 2 days (single stock options) and 1 day (index options) ahead (whereby index-based derivatives have fixed exercise and settlement dates each month). The net cash amount that ICNL will receive from each Clearing Member because of exercises and assignments is an input for the first scenario in the daily liquidity risk report. ICNL therefore can take appropriate measures in a timely manner.

Release or non-receipt of cash collateral or Guaranty fund contributions deposited as cash.

Liquidity issues can be caused by the fact that a Clearing Member is not able to post cash collateral or its Guaranty fund contribution with ICNL within the stipulated timelines. Each morning before 9:00 the required margin amounts are called based on end-of-day previous business day IRM risk scenarios and net liquidations values of the portfolios. It could be the case that based on these figures collateral has to be returned to the Clearing Members. However only amounts that were previously called for and received, will be released. So, releasing collateral does not require additional liquid resources. Intraday no collateral will be returned. ICNL will call for additional collateral if during the day the margin requirement increases with more than a pre-specified percentage (as specified in the F&S Margin Requirements Policy). Initial margin figures and changes in the net liquidation values of the portfolios can be monitored on a near-to-real-time basis. Based on this estimation can be made of the expected cash in- and outflow the next morning. Although the contributions to the Guaranty fund are collected on the first day of each month, ICNL Risk Management calculates

on a daily basis what the amount of the contribution would be if it was collected on that specific day. Based on this information it can be closely tracked how the Guaranty fund will develop in size and to what extent the liquid resources of ICNL will still cover the outcomes of the various stress scenarios applied. At least on a monthly basis the scanning ranges, charge rates and credit rates that are set in IRM, the risk management system, are reviewed. A query can be run in IRM with which an assessment can be made of the impact of any new parameters on the initial margin amounts required from Clearing Members. Based on this it can be determined if an outflow of cash will occur.

Swap of cash collateral into non-cash collateral

Information with regard to amounts and types of collateral posted by Clearing Members is stored in a database. By means of this information and daily monitoring changing trends in collateral composition can be detected immediately. Given the types of collateral that are currently accepted by ICNL cash can only be swapped to bonds of 6 euro countries. These bonds can be considered as liquid and are eligible as DNB collateral. It is therefore not expected that the fact that Clearing Members are converting cash into bonds would have a severe adverse effect on ICNL's liquidity position.

Operational expenses like for example invoices or salary payments.

These kinds of payments can be determined via budgeting and planning and are therefore more predictable.

The associated sources of liquidity are as described above. The Investment Policy of ICNL does not allow for investments other than in cash and via relatively short term repurchase agreements which are based on the same bonds as those that are accepted as collateral by ICNL and by DNB under the credit facility. So investments made by ICNL will not have a material impact on its liquidity position.

All cash flows and account balances are monitored and reported on a daily basis to the Management Team by means of the Daily Liquidity Risk Report. In this report, also various cover 2 stress scenarios are outlined.

As part of the daily procedure it is monitored by ICNL Operations if all fee, collateral and premium amounts have been received. This will be confirmed by them to ICNL Risk Management. Almost all cash is on receipt swept to the Target2 account of ICNL held at the Dutch central bank. In order to cover operational expenses some cash is held at commercial banks ("Approved Financial Institution" or "AFI"). The maximum amount that can be placed with a commercial bank is set during an annual risk review whereby also the likelihood of ICNL not being able to make payments due to operational issues at that bank is taken into consideration. All Clearing Members, investment counterparties, settlement banks and liquidity providers are reviewed at least yearly in accordance with article 33.4 of Regulation (EU) 153/2013. As part of the yearly default test it is verified if amounts can be drawn under the provided credit facilities (article 33.5 of Regulation (EU) 153/2013). On a regular basis, financial institutions will be asked to provide quotes for the bonds held as collateral or Guaranty Fund contribution, under normal and stressed market conditions. This forms part of the default management procedure of ICNL.

One commercial bank is currently acting both as settlement agent and as financial institution where direct debits for collateral and guarantee fund contributions are processed. This is an interdependency as referred to in article 32.5 of Regulation (EU) 153/2013. It is also the entity from which quotes will be asked in order to sell off bonds. However, given the fact that collateral

balances are, after collection, immediately transferred to the Target2 account of ICNL and given the creditworthiness and trade processing capabilities of Citibank (reviewed on a yearly basis), it is not likely that this will cause additional liquidity problems. This is currently the only interdependency. The amounts collected also concern only a relatively small portion of the total amount of collateral and Guaranty fund contributions. It is verified if there are any interdependencies during the quarterly review of the Liquidity Plan.

An FMI should have effective operational and analytical tools to identify, measure, and monitor its settlement and funding flows on an ongoing and timely basis, including its use of intraday liquidity.

ICNL Risk Management daily monitors the cash flows, account balances and applicable (concentration) limits and sends the corresponding reports to the Management Team.

It is reported immediately by ICNL Risk Management to the Management Team if one of the stress tests reveals that the liquid financial resources are insufficiently large. A Clearing Member can then be asked to post additional collateral or Guaranty fund contributions. On a daily basis, a liquidity risk overview report which contains all the stress scenario outcomes, settlement flows and funding flows must be sent out to the Management Team-members. The results of the liquidity risk stress tests must be reported on a monthly basis (as part of the Risk Management Report) to the ICNL Board and also to ICNL Risk Committee. The report should include the date on which a breach occurred and the size of the breach. It should also be mentioned which remedial actions were taken. If no remedial actions were taken, it should be specified why this was the case. In case a collateral concentration limit is breached, the Clearing Member in question will immediately be asked to substitute for equivalent collateral.

A CCP should maintain sufficient liquid resources in all relevant currencies to settle securities-related payments, make required variation margin payments, and meet other payment obligations on time 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 payment obligation to the CCP in extreme but plausible market conditions. In addition, a CCP that is involved in activities with a more-complex risk profile or that is systemically important in multiple jurisdictions should consider maintaining additional liquidity resources sufficient to cover a wider range of potential stress scenarios that should include, but not be limited to, the default of the two participants and their affiliates that would generate the largest aggregate payment obligation to the CCP in extreme but plausible market conditions.

Sufficient liquid resources

ICNL has defined different liquidity scenarios to assess its liquidity need under normal and adverse circumstances.

The total amount of qualifying liquid resources should at all times/in all scenarios exceed the potentially required amounts of liquidity as calculated via the scenarios.

For the purpose of meeting its minimum liquid resource requirement, an FMI's qualifying liquid resources in each currency include cash at the central bank of issue and at creditworthy commercial banks, committed lines of credit, committed foreign exchange swaps, and committed repos, as well as highly marketable collateral held in custody and investments that are readily available and convertible into cash with prearranged and highly reliable funding arrangements, even in extreme but plausible market conditions. If an FMI has access to routine credit at the central bank of issue, the FMI may count such

access as part of the minimum requirement to the extent it has collateral that is eligible for pledging to (or for conducting other appropriate forms of transactions with) the relevant central bank. All such resources should be available when needed.

Size and composition of qualifying liquid resources

As of June 2020, the ICNL liquidity need and composition of liquid resources is as depicted in the figure above (under Q 7.4.1). This figure is a picture of the Intraday/Daily liquidity risk report. This report is generated on a daily basis.

The qualifying liquid resources listed are mainly held as cash in Target2 accounts with the DNB which can be accessed immediately. Furthermore, bonds eligible as DNB collateral are held at Euroclear Bank in an account in the name of ICNL and are immediately available to ICNL.

Availability and coverage of qualifying liquid resources

There are currently no prearranged funding agreements in place.

ICNL has the possibility to intraday swap eligible bonds for cash with the Dutch Central Bank.

An FMI should obtain a high degree of confidence, through rigorous due diligence, that each provider of its minimum required qualifying liquid resources, whether a participant of the FMI or an external party, has sufficient information to understand and to manage its associated liquidity risks, and that it has the capacity to perform as required under its commitment. Where relevant to assessing a liquidity provider's performance reliability with respect to a particular currency, a liquidity provider's potential access to credit from the central bank of issue may be taken into account. An FMI should regularly test its procedures for accessing its liquid resources at a liquidity provider.

Use of liquidity providers

Liquidity providers must be AFIs and must have signed the relevant contracts which include the technical and operational requirements that the firms must adhere to.

The due diligence performed on each of the liquidity providers that ICNL may utilise in the event of a liquidity shortfall is described in the Counterparty Monitoring Procedures Bank Counterparties.

ICNL uses Citibank N.A. as a settlement agent. ICNL has set out a policy for the selection of settlement agents. ICNL sets the following requirements:

Legal:

- Settlement Agent must be aware of ICNL's Clearing Rules and procedures
- Settlement Agent must declare that it is equipped to provide the requested services.
- The Settlement Agent undertakes to ensure that personnel engaged, including when not directly employed, observe all due confidentiality with regards to data, facts, and other information.
- Liability clause, termination clause and account structure must be clear and suitable for ICNL.
- Recent market characteristics must be reflected in documents.
- Fee schedule must be in line with current market environment.
- Settlement Agent must fall within the jurisdiction of 'EER' (European Economic Area).

Operational:

- Settlement Agent must be able to process all obligations in euros.

- Settlement Agent services are limited to shares.
- Settlement Agent must be able to process 'STP'.

Compliance:

- Up-to-date signature list.
- Settlement Agents rating status (AA is considered to be the minimum)
- Percentage non-settlements must be below 5%

Also, ICNL has a prearranged agreement to liquidate non-cash collateral and investments with Citibank N.A. Next to that ICNL has arranged an FX facility of EUR 10 million with Wells Fargo NA, which is covered by an Intercompany Master Promissory Note between ICNL and ICE Inc. With this arrangement EUR 10 million will be available to ICNL same day value.

Furthermore, ICNL has an intraday liquidity line with the Dutch Central Bank, where ICNL receives liquidity in exchange for bonds.

Reliability of liquidity providers

Before entering into an agreement with the liquidity provider a due diligence is performed. The due diligence performed on each of the liquidity providers that ICNL may utilise in the event of a liquidity shortfall is described in the Counterparty Monitoring Procedures Bank Counterparties. Next to that, within ICE a so-called Vendor Management Policy is in place which also assesses among others liquidity providers.

It is in the interest of ICNL to ensure Settlement Banks (SBs) and Financial Services Providers (FSPs) are in good standing throughout their relationship with the Clearing House. SBs and FSPs are monitored as a part of prudent risk management practices. The financial condition of each SB and FSP is monitored on an on-going basis and reported to the CRO. Monitoring is conducted by the Risk Department on a daily, weekly and monthly basis.

As described above the settlement agent also must meet at least the following operational requirements:

- Settlement Agent must be able to process all obligations in euros.
- Settlement Agent services are limited to shares.
- Settlement Agent must be able to process 'STP'.

An FMI with access to central bank accounts, payment services, or securities services should use these services, where practical, to enhance its management of liquidity risk.

ICNL has an account at the central bank (DNB) and uses central bank money to settle its transactions. If applicable Clearing Members may use ICNLs APS network to settle transactions, but balances at these APS banks are always swept to zero against ICNLs account at the central bank.

As described above ICNL uses Citibank N.A. as settlement agent. From the perspective of ICNL this is a DvP settlement since it only exchanges cash and securities with the settlement agent simultaneously.

ICNL currently does not consider that the central bank would be in the position to replace the services provided by the settlement agent.

An FMI should determine the amount and regularly test the sufficiency of its liquid resources through rigorous stress testing. An FMI should have clear procedures to report the results of its stress tests to appropriate decision makers at the FMI and to use these results to evaluate the adequacy of and adjust its liquidity risk-management framework. In conducting stress testing, an FMI should consider a wide range of relevant scenarios. Scenarios should include relevant peak historic price volatilities, shifts in other market factors such as price determinants and yield curves, multiple defaults over various time horizons, simultaneous pressures in funding and asset markets, and a spectrum of forward-looking stress scenarios in a variety of extreme but plausible market conditions. Scenarios should also take into account the design and operation of the FMI, include all entities that might pose material liquidity risks to the FMI (such as settlement banks, nostro agents, custodian banks, liquidity providers, and linked FMIs), and where appropriate, cover a multiday period. In all cases, an FMI should document its supporting rationale for, and should have appropriate governance arrangements relating to, the amount and form of total liquid resources it maintains.

Stress test programme

On a daily basis ICNL runs the stress test scenarios described above in order to determine if the qualifying liquid resources are still sufficiently large. The results of the stress tests are compared with the qualifying liquid resources available on that specific day. On at least a yearly basis the policies and procedures concerning liquidity risk are reviewed. The Liquidity Plan, which forms part of the Liquidity Risk Management Framework, is reviewed each quarter. It is then determined if policies or procedures should be amended given the nature and frequency of breaches in the period under consideration.

ICNL Risk Management daily manages and monitors the liquidity needs of ICNL. ICNL produces reports daily that establish the net (including initial margin, variation margin and settlement of premium) pay or collect per Clearing Participant. Hence this shows the total daily cash / collateral flow. This report is archived hence any trends and developments that could result in a higher liquidity needs can be easily detected. It also shows insight in the (liquidity) consequences if one Clearing Participant fails on its obligation to pay.

ICNL also assesses and produces reports on a quarterly basis if the identified sources of liquidity risk are still applicable and if there are any new sources of liquidity risk, if the determined timescales are still appropriate, if the potential liquidity needs arising from Clearing Members swapping cash to non-cash collateral can be sufficiently covered by using the current procedure, what to do in case of liquidity shortfalls and how to replenish liquid financial resources in case a stress event has occurred. This in order to determine if all potential liquidity risks are covered and that all liquidity risk controls are implemented in such a way that it is ensured that ICNL is able to effect payment and settlement obligations in all relevant currencies as they fall due, including where appropriate intraday.

Stress test scenarios

ICNL uses the scenarios as described previously which are based on shifts in the price of the underlying value and shifts in volatility. The stress test results are based on a default of the two largest clearing participants.

The scenarios and stress tests are taken into account in the scenarios described. Settlement amounts (cash) to be received from the clearing participants who are assumed to default under the scenarios are added to the overall liquidity stress exposure.

The scenarios and stress tests take into account the nature and size of the liquidity needs, and the associated sources of liquidity risks, that arise in the FMI to settle its payment obligations on time, including the potential that individual entities and their affiliates may play multiple roles with respect to the FMI are fully taken into account in the scenarios described.

As ICNL clears only euro denominated products and only accepts euro denominated collateral, no distinction in currencies needs to be made when determining liquid resources and comparing these with liquidity requirements. Based on the EMIR and CPMI-IOSCO criteria it is determined if an asset can be classified as a qualifying liquid resource. The used scenarios are based on a two-day margining period of risk. Two days is an appropriate period for liquidating collateral (currently only cash and government bonds of 6 euro countries). If there are entities and affiliates that play multiple roles with respect to ICNL is verified during the quarterly review of the Liquidity Plan.

Review and validation

The ICNL Liquidity Risk Management Framework and Liquidity Plan will be reviewed at least annually. Parts of the Liquidity Plan are reviewed on a quarterly basis.

Proposed changes are assessed by ICNL Risk Management to determine the potential impact on ICNL's Liquidity Risk. Not all service changes will have an impact on Liquidity Risk. But each impact will be assessed under the ICNL Change Risk Assessment.

ICNL's processes are designed to operate within the current services provided by the various market infrastructure components, such as payments, settlement, et cetera. From time to time, components of the infrastructure might change. ICNL closely monitors the landscape where it conducts its business. Furthermore, ICNL aims to provide solutions that are suitable to itself and its Clearing Participants, in terms of the key objectives of asset protection and liquidity provision.

ICNL is required to comply with the various regulatory requirements and undertake regular reporting to its regulators. Proposed regulatory changes will be monitored and impact assessed, prior to implementation ICNL Change Risk Assessment method.

ICNL also implemented the Stress Testing Framework, which is a process and template for the selection of stress scenarios to be used for a number of purposes. The purpose of the Stress Testing Framework is to establish appropriate standards and principles for the selection or creation of stress tests to enable effective collateralisation of extreme but plausible market risk, and in addition to lay out the control framework for addition, modification and deletion of stress tests. The Stress Testing Framework has been developed to ensure full risk coverage across the material risk factors facing the clearing house.

The fundamental principles are identification of risk factors and selection of appropriate historical scenarios or creation of theoretical scenarios using appropriate statistical methods. It is important to include scenarios which represent the breakdown of commonly observed market patterns such as mean reversion between underlying values; as such patterns may break down in stress situations. It is also important to determine where risk is concentrated within specific portfolios and to check that such risk positions are sufficiently stressed. Review of the suite of stress scenarios should be performed annually or whenever large market events occur or appear likely to materialise.

As described in other Principles as well the risk management model of ICNL is at least validated annually in accordance with the applicable policies. Furthermore, certain policies require validation on a more frequent basis. The model validation policy describes the minimum

requirements for a validation.

ICNL's supporting rationale for, and its governance arrangements relating to, the amount and form of its total liquid resources are documented in the ICNL Liquidity Risk Management Framework and Liquidity Plan.

An FMI should establish explicit rules and procedures that enable the FMI to effect same-day and, where appropriate, intraday and multiday settlement of payment obligations on time following any individual or combined default among its participants. These rules and procedures should address unforeseen and potentially uncovered liquidity shortfalls and should aim to avoid unwinding, revoking, or delaying the same-day settlement of payment obligations. These rules and procedures should also indicate the FMI's process to replenish any liquidity resources it may employ during a stress event, so that it can continue to operate in a safe and sound manner.

Same day settlement

The ICNL Clearing Rules details the rules and procedures regarding a possible buy in to address liquidity shortfalls. If a Clearing Member does not provide the funds necessary for settlement, then a fail management fee will apply. This is further published through Circulars. In case securities are not delivered in time, ICNL can decide to start a buy-in procedure. Both measures should enhance settlement discipline and forestall liquidity pressures.

In a default situation, liquidity is ultimately generated through the default management waterfall. ICNL would liquidate assets in the default waterfall until the liquidity shortfall is covered. In practice, ICNL may choose to cover its payment obligations using the existing pool of cash before resorting to the default waterfall, since the existing pool of cash may have more liquidity readily available in the currencies of the payment obligations. If the default waterfall is not sufficient to cover a liquidity shortfall then ICNL is likely to enact its Recovery Plan which includes options for raising additional capital and liquidity.

If a liquidity shortfall is caused by a delay of payment or delivery due to a technical or operational issue at a CM or service provider ICNL can use its uncommitted and committed lines to generate additional liquidity, or it can liquidate, repo or collateralize the non-cash collateral that it holds as needed.

Replenishment of liquidity resources

A liquidity shortfall can arise in case of a default of a Clearing Member. The executive directors of ICNL decide in consultation with ICNL Risk Management if the default management procedure will be started and a declaration of default will be issued. Liquid resources will then be used in the sequence as given by the default waterfall. This is outlined in the default management procedure and in Part 9 of the ICNL Clearing Rules.

If at a certain stage in the waterfall collateral or Guaranty fund contributions posted as bonds have to be used, then the intra-day liquidity facility will be used or quotes will be asked for selling these bonds in the market. Quotes can be obtained via Citibank (which procedure is tested quarterly) and other financial institutions. If the liquid resources are not sufficient to cover all liabilities of the defaulting clearing participants, non-defaulting clearing participants can be asked to top-up their Guaranty fund contribution in accordance with Rule 909 of the Clearing Rules. Rule 909 describes the Powers of Assessment which can be exercised by the Clearing House in case the Guaranty fund is not large enough to cover the exposure from a default.

In paragraph 6.2 of the Liquidity Risk Management Framework and paragraph 4 of the Liquidity Plan, there are several actions listed which can be taken in case of a liquidity shortfall. In paragraph 4 of the Liquidity Plan several events (with a default as category 1 event) that will trigger liquidity risks are categorized. For each of these events mitigating actions are defined. Occurrence of several of these events will originate from investments made by the Clearing House and several of the listed actions refer to investment agents. For the services that are going to be provided by ICNL, investment agents will, in first instance, not be used by ICNL. However, the bullet points “Exercise or draw on additional facilities”, “Exercise the ability under Clearing Rules 502(g) and 110(b) are described in item 1.2 of the LRMF, to retain permitted cover amounts that might otherwise be returned to Members” and “Exercise reduce gain distribution / variation margin haircutting as mentioned in part 9 of ICNL default rules” do apply. Tests, which are concluded to ensure that sources of liquidity are highly reliable, are described in paragraph 6 of the ICNL Liquidity Plan. Standard operating procedures on “how to access cash deposits or overnight investments of cash deposits, how to execute same- day market transactions, or how to draw on prearranged liquidity lines” will be drawn up once facilities are instated.

In case of a delay in receiving fees, premium amounts, securities or cash which is considered to be only temporary the provisions outlined in the ICNL Clearing Rules and Circular Publication Fee Schedule Non-Trade Related will apply. The Management Team can for example decide to start a buy-in procedure. In case additional liquidity is required, first cash collateral provided by the “failing” Clearing Member not delivering cash or securities will be used. If the Clearing Member deposited non-cash collateral, the bonds will be deposited as collateral for an equivalent cash credit line.

Principle 8 - Settlement finality

An FMI should provide clear and certain final settlement, at a minimum by the end of the value date. Where necessary or preferable, an FMI should provide final settlement intraday or in real time.

Summary narrative

An FMI's rules and procedures should clearly define the point at which settlement is final.

The point of settlement finality is described in the ICNL Clearing Rules – Part 12 of the ICNL Clearing Rules.

Rule 1203 defines the point at which transfer orders become irrevocable in the sense of article 212b of the Dutch Bankruptcy Law (Faillissementswet):

(a) A Credit/Debit Payment Transfer Order shall become irrevocable at the time when the Approved Financial Institution sends a SWIFT confirmation message, other electronic message, fax, telephone or other message confirming that the relevant payment will be or has been made. An ISOC Credit/Debit Payment Transfer Order shall become irrevocable at the time when the Clearing House updates its records to reflect the transfer.

(b) A CH Account Payment Transfer Order shall become irrevocable at the time when the System Bank of the account from which payment is to be made sends a SWIFT confirmation message, other electronic message, fax, telephone or other message confirming that the relevant payment will be or has been made.

(c) Without prejudice to Rule 1205(h) and Rule 1205(i), a New Contract Payment Transfer Order shall become irrevocable upon an Approved Financial Institution sending a SWIFT confirmation message, other electronic message, fax, telephone or other message confirming that amount to which the New Contract Payment Transfer Order relates (as specified in Rule 1202(e)(i)) will be or has been made.

(d) A Position Transfer Order shall become irrevocable at the time when the definitive record of the Open Contract Position of the Clearing Member (that is the assignee, transferee or person that assumes rights, liabilities and obligations pursuant to a novation) is updated as a result of a successful position transfer clearing run in the ICE Systems to reflect the transfer, assignment or novation of Contracts which are given effect pursuant to the Position Transfer Order.

(e) A Collateral Transfer Order shall become irrevocable at the earlier of the time when: (i) the Clearing House receives the Non-Cash Collateral; or (ii) any related securities transfer order (which relates to the same subject matter as the Collateral Transfer Order but which is a securities transfer order in a designated system for purposes of Directive 98/26/EC which is not the Designated System) becomes irrevocable.

(f) A Block Clearing Order shall become irrevocable at the time that the Clearing House becomes party to resulting Contracts with the Clearing Members in question, pursuant to Rule 401(a)(iii).

(i) A Security Derivative Delivery Order shall become irrevocable at the earlier of the time when: (i) the Clearing House (or a Clearing Member that is due to receive delivery directly from another Clearing Member under Part 7) receives the SFD Security into its account; or (ii) any related securities transfer order (which relates to the same subject matter as the Security Derivative Delivery Order but which is a securities transfer order in a designated system for purposes of Directive 98/26/EC which is not the Designated System) becomes irrevocable within that other designated system.

(l) As from the time when a Transfer Order becomes irrevocable, it shall not be revoked or purported to be revoked by any Participant or the Clearing House and shall be binding upon all Participants.

(m) Transfer Orders shall be legally enforceable, irrevocable and binding on third parties in accordance with this Part 12 including on the occurrence of an Event of Default.

The ICNL Clearing Rules bind the Members pursuant to the Clearing Membership Agreement between ICNL and a Clearing Member. The ICNL Clearing Rules are also made public on the website and are therefore available to any interested party.

The ICNL Clearing Rules sets out the rights and obligations regarding the discharge of a payment, transfer instruction or other obligation between ICNL and its Members, or between Members These rules are specified in Part 3, 7, and 12 of the ICNL Clearing Rules:

- Part 3 Financial Requirement and Payments (rule 301 (f)) on discharge of payment
- Part 7 Settlement and Delivery of Futures

- Part 12 on settlement finality

ICNL is designated as a final system by the Dutch Ministry of Finance in the sense of article 212b of the Dutch Bankruptcy Law (Faillissementswet). Such designation is also recognised under the Settlement Finality Directive and ensures that the finality is achieved outside the Netherlands as well.

Finality in the case of links

Any settlement instruction made by ICNL's settlement agent are final as the CSD (like Euroclear) is also designated as a final system.

An FMI should complete final settlement no later than the end of the value date, and preferably intraday or in real time, to reduce settlement risk. An LVPS or SSS should consider adopting RTGS or multiple-batch processing during the settlement day.

Final settlement on the value date

The Settlement Date is the date on which settlement of the premium of Option Contracts takes place, which is the next Clearing Day following the day of the Match. Cash settlement as result of exercise/assignment of cash settled derivative contracts (like index options) will take place on the first Clearing day after expiration of such Option Contract.

Settlement will take place via a debit or payment on the Target2 account of the Clearing Member or via the direct debit authorization on the Clearing Member' commercial bank account. The debit or payment is initiated by ICNL and will take place around 08:00h CET.

Partial settlement is also possible at ICNL. Partial settlement for the Securities can only occur on request of ICNL. ICNL will review pending settlements around 14.00 CET on Trading Date +2. If the settlement instructions cannot be settled completely, ICNL will consider whether the settlement instructions can be settled partially. ICNL will instruct the Clearing Member, or its settlement agent, to cancel the original settlement instruction in the Central Securities Depository "CSD" and to reinstruct two new settlement instructions to the CSD, one for the quantity of Securities that can be settled and one for the remaining quantity of Securities. All new settlement instructions at the CSD need to be in place before 15.30 CET.

ICNL has an account at the Dutch Central Bank (DNB) and uses central bank money to settle its transactions with most of its Clearing Members. ICNL also has an arrangement in place for the settlement of premium, cash settled products and fees via a direct debit authorization with a commercial bank.

An FMI should clearly define the point after which unsettled payments, transfer instructions, or other obligations may not be revoked by a participant.

The definition of an irrevocable transfer order is provided above.

ICNL states its obligations with respect to delivery of financial instruments, obligations on delivery or receipt and indemnifies participants for losses occurred in the delivery process. These arrangements are laid down in the ICNL Clearing Rules – Part 7 in relation to the settlement and delivery of futures and rule 111 in relation to liabilities.

Regarding the obligations of ICNL and the indemnification of participants for losses occurred in the delivery process the Part 15 of the ICNL Delivery Procedures state the following:

15.1 The requirements relating to liability set out in the Rules apply equally in relation to deliveries. Without prejudice

to the generality of, and subject to, the provisions of the Rules relating to liability:

(a) it is the responsibility of Clearing Members to ensure that all forms are in place at the relevant time, and any failure or omission to ensure that they are in place that causes or contributes to the failure of any delivery may itself constitute a failure to deliver by the Clearing Member; and

(b) upon any such failure or omission, the Clearing Member will be liable to the Clearing House for any cost, loss or expense of the Clearing House arising as a result of such failure or omission, which may include any delivery failure costs.

15.2 The Clearing House may at any time make an additional Margin call as a result of any event or circumstance occurring in relation to a delivery.

15.3 Notwithstanding the availability of any possible alternative or late delivery procedure, failure to comply with any requirement of these Delivery Procedures may constitute an Event of Default.

15.4 Nothing in these Delivery Procedures shall preclude the Clearing House, in its discretion, from bringing disciplinary proceedings or levying a fine against a Clearing Member, including (without limitation) in respect of late or failed delivery.

15.5 Clearing Members are further referred to the relevant Market Rules, whose provisions are binding under Rule 102(e) and include certain provisions relating to deliveries.

Treatment of failures to deliver are further described in part 3 of the Annex to the ICNL Delivery Procedures:

3.1 Under the relevant Contract Terms, failure to comply with the Clearing House's instructions will constitute a delivery default by the Clearing Member. If the Seller has not made delivery to the Clearing House by close of equity settlement on the intended settlement day the Clearing House shall take whatever action is appropriate in keeping with its obligation to deliver the securities to the Buyer in accordance with the relevant Contract Terms.

Timelines ICNL buy-in procedure

	TIME	ACTION
Failure to make delivery/payment	Intended Settlement Day + 1 or as soon as reasonably practical	
	Post the close of DVP Equity Settlement in the relevant settlement system.	As soon as reasonably practical, the Clearing House will contact Clearing Members who have failed to deliver to ascertain the reason for non-delivery. The Clearing House will request for Clearing Members to make the share transfer immediately within the settlement timetable as dictated by the relevant settlement system. If this is not achieved, the Clearing House may take steps to acquire shares to fulfil its obligation to make delivery to the Buying Clearing Member by instigating Buying In.
Satisfaction of delivery obligations	Settlement Day plus 2	
	By the close of DVP Equity Settlement in the relevant settlement	Clearing Members inform the Clearing House that a delivery obligation has been met. Failure to do so may result in the purchase of unwanted shares. The Clearing House will inform Clearing Members of any

	TIME	ACTION
	system	Buying In instructions issued.
“Buying In”	Settlement Day plus 4	
	At any time prior to settlement or on Settlement Day plus 4 if the Clearing House considers that a settlement failure has or is likely to occur.	<p>In its discretion, the Clearing House may instigate buy-in procedures. In such circumstances, Clearing Members must delete the original bargain and match the deletion with the Clearing House in the relevant settlement system.</p> <p>In the event that the Clearing House ‘buys in’, the Clearing House will deal for the earliest possible settlement. Clearing Members will be advised of the Buying In details. Associated costs will be for the account of the defaulting Clearing Member and will be debited via the relevant Clearing Member’s account.</p> <p>Where the Clearing House is unable to ‘buy in’ by this day, an amount shall be paid to the Buying Clearing Member based on the value of the shares to be delivered on the intended settlement date plus an amount for losses incurred by the Buying Clearing Member as a result of a settlement failure. The amount will be determined by the Clearing House at its discretion. Associated costs will be for the account of the defaulting Clearing Member and will be debited via the relevant Clearing Member’s account.</p> <p>For the purposes of Euroclear and where settlement occurs in markets using a local relevant settlement system, the close of Equity Settlement will be the close of Daylight settlement on the Settlement Day.</p>
Settlement	Settlement Day plus 6¹	
	By the close of DVP Equity Settlement in the relevant settlement system	Settlement effected.

ICNL and its Clearing Members are subject to the rules of the CSD when it comes to revoking settlement instructions. As described above in the case of partial settlements ICNL will instruct the Clearing Member, or its settlement agent, to cancel the original settlement instruction in the CSD and to provide two new settlement instructions to the CSD, one for the quantity of Securities that can be settled and one for the remaining quantity of Securities. All new settlement instructions at the CSD need to be in place before 15.30 CET.

ICNL and its Clearing Members are subject to the rules of the CSD when it comes to revoking settlement instructions.

ICNL defines this relevant information in the ICNL Clearing Rules and applicable procedures. The information is disclosed via the ICNL website.

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.

Summary narrative**An FMI should conduct its money settlements in central bank money, where practical and available, to avoid credit and liquidity risks.**

All payments to and from Clearing Members pursuant to these Delivery Procedures shall take place to and from relevant Target2 Accounts and/or Nominated Accounts (“APS”) as described in the Finance Procedures. ICNL has an account at the central bank (DNB) and uses central bank money to settle its premium, cash settled transactions and fees via direct debit authorization. Where Target 2 cannot be used, strict limitations are applied to the use of Authorized Financial Institutions (“AFI”). ICNL has an arrangement in place to settle via a direct debit authorization with a commercial bank, being Citibank London, which has been approved as AFI by the Dutch Central Bank. This arrangement is currently only use for one Clearing Member. Balances on AFI’s are automatically swept to the ICNL T2 account immediately. The Delivery and Finance procedures do not directly reference to this subject. Rule 301 (f)(ii) however stipulates: “...if the Approved Financial Institution used by the Clearing Member is not a Concentration Bank, such Approved Financial Institution has fully performed its concentration function in respect of the payment in question, by completing the transfer of funds from the Clearing House’s account at such Approved Financial Institution to the Clearing House’s concentration account at a Concentration Bank (which is not subject to an Insolvency) or a Clearing House Target2 Account, in which account the Clearing House has received unencumbered, fully cleared and fully available funds...”

The Settlement Date is the date on which settlement of the premium of Option Contracts takes place, which is the next Clearing Day following the day of the Match. Cash settlement as result of exercise/assignment of index or currency options will take place on the first Clearing day after expiration of such Option Contract.

Settlement will take place via a direct debit or payment on the Target2 account of the Clearing Member or via the direct debit authorization on the Clearing Members’ commercial bank account. The debit or payment is initiated by ICNL and will take place around 08:00h CET (deadline 09:00 CET).

All settlement obligations are settled in Euros.

If central bank money is not used, an FMI should conduct its money settlements using a settlement asset with little or no credit or liquidity risk.

Daily, the total liquidity risk calculations of ICNL include the inflow and outflow of premium, margin, and other financial settlement amounts. For the worst-case scenario analysis ICNL considers that the outstanding settlement amount is not received. It makes no difference in the analyses if the amount in question is not received or potentially reversed during the settlement hours of the day.

Regarding the rejection or refusal of a direct debit instruction because of insufficient funds at the Clearing Members’ account, there is no difference between the commercial bank arrangement of a direct debit facility and any Target2 central bank account. If the funds are not in the account

of the Clearing Member at the moment of collection/instruction, the direct debit instruction will also be refused in a Target2 environment.

ICNL has created a standing instruction to sweep any balance at the commercial bank account to or from the Target2 account of ICNL in line with the ICNL Investment Policy. Exposure EUR 0.00.

Thus balances on AFI's are automatically swept to the ICNL T2 account immediately. The Delivery and Finance procedures do not directly reference to this subject. Rule 301 (f)(ii) however stipulates:

"...if the Approved Financial Institution used by the Clearing Member is not a Concentration Bank, such Approved Financial Institution has fully performed its concentration function in respect of the payment in question, by completing the transfer of funds from the Clearing House's account at such Approved Financial Institution to the Clearing House's concentration account at a Concentration Bank (which is not subject to an Insolvency) or a Clearing House Target2 Account, in which account the Clearing House has received unencumbered, fully cleared and fully available funds..."

For every new agent, a new risk assessment is prepared (and repeated annually) and new approval by the Risk Committee is requested.

In order to operate in the APS, thus becoming designated as an AFI, a bank must:

- be a signatory and adhere to the terms of the Payment Services Agreement;
- act upon any Instructions received from the Clearing House (including without limitation any
- Instructions received using the SWIFT BIC Codes and/or the applicable security procedures);
- have a Standard & Poor Short-Term A-1 and Long-Term ratings of 'A' or better (or the equivalent from other approved agencies, as confirmed by the Clearing House);
- be able to support the designated SWIFT messages for communication with the Clearing House and Clearing Members;
- provide confirmations of debit (SWIFT MT900) and credit (SWIFT MT910) immediate after transfer of funds from or into the accounts of the Clearing House. No reversal of funds is permitted after confirmation unless authorised by the Clearing House;
- provide daily statements of Clearing House accounts via MT950 SWIFT messages (with the option of fax or electronic reports in addition to, or as a contingency for, the SWIFT statements);
- put in place formal contingency arrangements in the event of SWIFT communication problem through the transmission and acknowledgement of instructions by alternative secure electronic methods or by duly authorised fax; and
- accept payment instructions for payment until the times defined in the Payment Services Agreement, which may be changed by the Clearing House from time to time.

If an FMI settles in commercial bank money, it should monitor, manage, and limit its credit and liquidity risks arising from the commercial settlement banks. In particular, an FMI should establish and monitor adherence to strict criteria for its settlement banks that take account of, among other things, their regulation and supervision, creditworthiness, capitalisation, access to liquidity, and operational reliability. An FMI should also monitor and manage the concentration of credit and liquidity exposures to its commercial settlement banks.

The risk review is to monitor the bank's policies and procedures related to the capitalization, creditworthiness, access to liquidity, operational reliability, and regulation or supervision of such bank(s).

It is in the interest of ICNL to ensure CPs, SBs and FSPs are in good standing throughout their relationship with the Clearing House. Settlement banks are monitored as a part of prudent risk management practices. Specific to settlement banks, the Clearing House also pays particular attention to measures of liquidity and cash management. The financial condition of each settlement bank is monitored on an on-going basis and reported to the CRO. Monitoring is conducted by the Risk Department on a monthly and quarterly basis. The ICNL Risk Committee will receive (as part of the Risk Management Report) an anonymized overview of (average) ratings and corresponding exposure.

Monitoring relies on a variety of information sources, including, but not limited to:

- Financial statements and regulatory filings;
- ICE Data Services for public ratings and credit spread information;
- Automated Bloomberg news alerts; and
- Press releases, news reports and research articles.

A quarterly report will be prepared, summarizing the credit scores and outlining the underlying financials and developments. Depending on specific developments relating to the settlement bank in question and the availability of financials and related regulatory filings, also monthly updates will be prepared. A qualitative assessment may include information from earnings releases, earnings calls, risk profile and ICNL internal information or meetings with settlement bank management. The credit reports on the financial condition of the settlement banks are prepared by the ICNL Risk Department and reviewed by the CRO, the MT, the Board and ICNL Risk Committee.

The Counterparty Monitoring Update is broken up into the following sections.

ICNL has created a standing instruction to sweep any balance at the commercial bank account to or from the Target2 account of ICNL in line with the ICNL Investment Policy. Exposure EUR 0.00.

Thus balances on AFI's are automatically swept to the ICNL T2 account immediately. The Delivery and Finance procedures do not directly reference to this subject. Rule 301 (f)(ii) however stipulates:

"...if the Approved Financial Institution used by the Clearing Member is not a Concentration Bank, such Approved Financial Institution has fully performed its concentration function in respect of the payment in question, by completing the transfer of funds from the Clearing House's account at such Approved Financial Institution to the Clearing House's concentration account at a Concentration Bank (which is not subject to an Insolvency) or a Clearing House Target2 Account, in which account the Clearing House has received unencumbered, fully cleared and fully available funds..."

An FMI's legal agreements with any settlement banks should state clearly when transfers on the books of individual settlement banks are expected to occur, that transfers are to be final when effected, and that funds received should be transferable as soon as possible, at a minimum by the end of the day and ideally intraday, in order to enable the FMI and its participants to manage credit and liquidity risks.

ICNL has an account at the central bank (DNB) and uses central bank money to settle its premium, cash settled transactions and fees via direct debit authorization ICNL also has an

arrangement in place to settle these via a direct debit authorization with a commercial bank. This arrangement is currently only use for one Clearing Member.

The direct debit authorization agreement also contains wording around irrevocable payments:

All MT910 confirmations shall be irrevocable and once a MT910 has been given by the Payment Bank, the Payment Bank shall not be able to reverse the payment from the Clearing House Account without receipt of authorization from the Clearing House evidenced in writing by either facsimile or SWIFT debit authority.

Norton Rose has provided a legal opinion that considers that all accounts in the name of ICNL should be considered final even if those are with commercial banks.

All funds received are transferable intraday and by the end of the day at the latest, taking into account transfer closing windows of the Target2 bank account with DNB and bank accounts with commercial banks.

Principle 10 - Physical deliveries

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.

Summary narrative

Not Applicable. ICNL does not clear products that have physical delivery.

Principle 11 - Central securities depositories

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.

Summary narrative

Not Applicable.

Principle 12 - Exchange-of-value settlement systems

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.

Summary narrative

An FMI that is an exchange-of-value settlement system should eliminate principal risk by ensuring that the final settlement of one obligation occurs if and only if the final settlement of the linked obligation also occurs, regardless of whether the FMI settles on a gross or net basis and when finality occurs.

This principle is only applicable for ICNL for the security settlement of equities resulting from an exercise and/or assignment of a derivative contract (physical delivery). ICNL does currently not offer CCP services for other products - asset types (like foreign currency contracts etc.) requiring the settlement of two linked obligations.

If an equity option position is exercised or assigned it results in a physical delivery of securities, ICNL will settle the physical deliveries via Delivery vs Payment (“DvP”) and Receive vs Payment (“RvP”) instructions, final settlement takes place within the Central Security Depository (“CSD”) (Euroclear Netherlands) acting as the security settlement facility.

If a securities settlement facility (the CSD) settles transactions that comprise the settlement of two linked obligations it eliminates principal risk by conditioning the final settlement of one obligation upon the final settlement of the other. In the securities market, for example, a DvP settlement mechanism is a mechanism that links a securities transfer and a funds transfer in such a way as to ensure that delivery occurs if and only if the corresponding payment occurs.

DvP, RvP instructions are settled within the CSD on a trade-by-trade (or line-by-line) basis in real time.

Due to the aforementioned, principle risk for the two linked obligations is de facto eliminated by the CSD process.

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

An FMI should have default rules and procedures that enable the FMI to continue to meet its obligations in the event of a participant default and that address the replenishment of resources following a default.

Participant default rules and procedures

The main rules and procedures regarding an event of default are clearly defined in the ICNL Clearing Rules and the ICNL Default Management Policy. Rule 901 of the ICNL Clearing Rules provides the definition of an Event of Default. The ICNL Default Management Policy goes into more detail about the default process.

The Clearing Rules define the Event of Default through Rule 901. The definition also includes several events that could lead to an Event of Default.

The ICNL Default Management Policy provides guidelines on all actions related to the default handling of a Clearing Member. A master default runbook is in place outlining all actions to be triggered in case of a default event.

Rule 901 of the Clearing Rules (Events of Default) provides details of situations that constitute an event of default. The Rules set out the circumstances where ICNL may declare a Clearing Member to be subject to an event of default. This is designed to ensure ICNL has sufficient freedom of action in order to protect itself, and the market, from potential systemic risk.

In the event of a (potential) default situation, ICNL's Default Management Committee (DMC) will be responsible for the appropriate handling of the event. ICNL will liaise closely with a number of stakeholders (the ICNL Board, the relevant regulatory bodies, the serviced Exchange(s), the (Client(s) of the defaulting Clearing Member(s), the non-defaulting Clearing Members and, where appropriate, with other exchanges and clearing organisations.

ICNL will actively work with the senior management of the Clearing Member experiencing difficulties. In so doing, it will proactively seek solutions to problems that avoid the necessity of action under the default rules.

In general, the senior management will include those responsible for trading, President & CEO, the Chief Financial Officer, senior risk management personnel and the Chief Compliance Officer. In the event of the difficulty being with a Clearing Member that provides third-party clearing services, the person responsible for credit management will also be included.

The Board of ICNL has delegated authority to declare an Event of Default to the ICNL President & COO or the ICNL Chief Risk Officer.

As soon as practical after ICNL has declared that a Clearing Member is subject to an Event of Default, ICNL must issue a Default Notice in respect of the Clearing Member and supply a copy of the Default Notice to the Defaulter.

The need for timely communication to the remaining Clearing Members and the wider market is

recognized, therefore immediately following the issuance of the notice to the Defaulter, ICNL will (in consultation with the Regulatory Authorities):

- Issue a Circular to both the non-defaulting Clearing Members of ICNL and the Exchanges informing them of the default, and that all clearing activities regarding the Defaulter have been suspended; and
- Post the Circular on its website for awareness of the default event within the public domain.

To protect ICNL from the potential of any further losses flowing from the Defaulter, it will carry out the following actions immediately following the issuance of the Default Notice.

- a. Formation of a Default Management Committee
Following the declaration of a Clearing Member default, the President/COO of ICNL will convene a meeting of the internal Default Management Committee. This forum will be responsible for coordination, decision making and monitoring tasks during the default handling process.
- b. Suspension of the (Client(s) of the) defaulting Clearing Member its trading access
- c. Prevention of payments from ICNL to the Defaulting Clearing Member

ICNL Risk Management establishes the Defaulter's position in each cleared contract, by expiry, for both house and client accounts. ICNL Risk Management calculates the delta of all positions, both futures and options, on a net basis at individual expiry level for each separate contract for both house and net client accounts on a daily basis. The same is performed on a gross basis for gross client account.

Where appropriate ICNL will seek, through its broker(s), to delta hedge the positions it inherits, at a contract level, within each sub-account as soon as practical following the declaration of a default. By doing this ICNL will control the directional price risk, leaving inter-month and/or inter-commodity spread positions. The hedging process is used to reduce the immediate risk associated with the Defaulting Clearing Member's positions.

ICNL Risk Management periodically re-evaluates its risk exposure to the Defaulting Clearing Member as hedges are put on, positions are unwound, and auctions take place.

The Exchange(s) cleared by ICNL list a number of physically deliverable contracts. Should a position in one or more of these contracts be inherited that is close to expiry (within the next five business days), ICNL may execute close-out trades prior to them maturing into delivery positions. This will reduce the operational burden for ICNL of having to administer a physical delivery.

Where a position is already in delivery at the time of default, ICNL will remain counterparty to it up until the point that good delivery has been made, or the delivery obligation has been traded out of, or transferred to another party. The Operations & Treasury department of ICNL will be consulted on any decisions relating to deliverable positions.

Once the immediate risks have been minimised bonds will be deposited as collateral for an equivalent cash line. Several options are open to ICNL, in order to liquidate the remaining positions. These are detailed below, in order of preference.

- a. Hold to Maturity
- b. Immediate Close-out
- c. Bi-lateral sale or Auction

Where necessary, the hedged portfolio will be split into marketable pieces to be auctioned. ICNL generally considers auctions after other liquidation steps. The auction will take place in accordance with chapter 8 of the Default Management Policy and conform the Auction Terms for F&O Default Auctions procedure as published on the ICNL's website.

ICNL Risk Management ensures to consider to separately address the Client and House structure of the account where applicable, during the process of off-loading the position of the defaulting Clearing Member.

Where the Defaulting Clearing Member provides clearing services to customers, the Clearing House will seek to minimise any damage to the reputation of the market, or markets, on which the Clearing Member operated, as well as any potential cost to the Clearing House. Therefore, dependent on the prevailing situation, the Clearing House will, where possible, try to facilitate the transfer ("porting") of customers or client positions in omnibus accounts to another solvent Clearing Member.

Use of financial resources

The DMC assesses if the collateral furnished by the defaulting Clearing Member is sufficient to cover for all losses suffered from closing out all open positions and settlement obligations. If the losses suffered are higher than the collateral furnished by the defaulting Clearing Member, ICNL may impose further requirements with regards to Collateral to be furnished to secure the Clearing Member's compliance with its obligations as stated in rule 905 of the ICNL Clearing Rules.

To generate liquidity in the case of a Clearing Member default ICNL will typically use the cash that it has available from other Clearing Members' initial margin in order to meet payment obligations in the relevant currencies. This allows ICNL to meet its payment obligations in a timely manner while it manages the default of the Clearing Member. This cash will be replenished from liquidating assets in the default waterfall and converting them into the relevant currencies.

If there is not sufficient available cash in the relevant currencies from the non-defaulting Clearing Members' initial margin for ICNL to use to cover its payment obligations, then it will cover its obligations directly from liquidations through the default waterfall and converting the proceeds into the relevant currencies. ICNL has uncommitted facilities to enable it to cover any intra-day credit exposure resulting from the order of settlement processing.

Please also refer to the next paragraph for an overview of the assets to be used.

Upon a Declaration of Default, ICNL shall use the following assets in the order as set out below:

- a) any Collateral provided by the defaulting Clearing Member;
- b) any Guaranty Fund Contribution provided by the defaulting Clearing Member;
- c) the skin in the game of ICNL;
- d) the Guaranty Fund Contributions made by all other Clearing Members on a pro rata basis in proportion to the amount of their Contributions on the date that such payment is made.

In the case of a default of one or more Clearing Members the default waterfall is expected to

cover the losses. Provided the losses are covered by the default waterfall, if part of the Guaranty Fund contributions of the other Clearing Members or ICE's Guaranty Fund contribution were used, then after contributions requirements have been reassessed following the default, these will be replenished as set out in ICNL's Rules.

Rule 1102 of the ICNL Clearing Rules describes the rules around the replenishment of resources following a default.

An FMI should be well prepared to implement its default rules and procedures, including any appropriate discretionary procedures provided for in its rules.

ICE Clear Netherlands delineates the roles and responsibilities for addressing a default as described under above.

In the ICNL Default Management Policy, the communication procedures/steps are described. Also, an Emergency Procedure and Incident Reporting Procedure is in place outlining details on the various communication protocols in place. The person(s) responsible for Legal and Compliance have the task to communicate with the Competent Authority, while the Relationship Manager is responsible for in and outgoing communication. Additionally, the Executive Board is also responsible for certain communicational tasks (e.g. to inform the to-be defaulted Clearing Member about the default).

At least annually, ICNL will review the procedure and perform a simulation exercise to ensure that this procedure is both practical and effective. ICNL Risk Management is responsible for testing default procedures.

In accordance with the ICNL Default Management Policy ICNL conducts a compulsory Clearing Member Default test annually, by assembling the Risk Department and appropriate ICNL management, to include an assessment of the following:

- ICE Clear Netherlands Risk, Treasury and Operations team responsibilities,
- Trading facilities, including equipment and systems,
- Its approved brokers are aware of their responsibilities in the event of ICNL implementing its default procedures, including confirming that broker accounts are open and available for trading,
- Relevance and content of the ICNL Default Management Policy and of other procedures and runbook(s),
- That all Clearing Members understand the Default Procedures and have appropriate arrangements in place to respond to a default event. During the simulation exercises, ICNL will verify that all Clearing Members, their clients (where applicable), and other relevant parties including, but not limited to, interoperable CCPs and any related service providers, are duly informed and know the procedures involved in a default scenario.

An FMI should publicly disclose key aspects of its default rules and procedures.

The main rules and procedures regarding an event of default are clearly described in the ICNL Clearing Rules and in the Auction Terms for Default Auctions Procedure, both documents are published on the ICNL website. The circumstances in which action may be taken are described in the ICNL Clearing Rules as well as the scope of the actions. The possible actions are also mentioned in the ICNL Clearing Rules.

An FMI should involve its participants and other stakeholders in the testing and review of the FMI's default procedures, including any close-out procedures. Such testing and review should be conducted at least annually or following material changes to the rules and procedures to ensure that they are practical and effective.

ICNL performs default procedure tests pursuant to Regulation (EU) 648/2012 (EMIR) article 48. EMIR requires that a CCP should test its default procedure at least annually. This requirement has been reflected in the ICNL Default Management Policy. By simulating a default of a Clearing Member and running through the default procedure ICNL's staff will be able to familiarize itself with the process and further streamline it. By concluding this test, evaluating the results and reporting the results to staff, the risk committee and regulators, ICNL will comply with this requirement. ICNL also involves Member(s) to perform testing of all auction procedures in place.

Test results are discussed in the Risk Committee and the Risk Committee is updated periodically on the Default Management Policy. Reports with default test findings are also sent to the ICNL Board and regulators.

Each default test covers the default of one Clearing Member. ICNL clears one type of product (equity derivatives) whereby all transactions are covered by one default waterfall and Guaranty Fund. ICNL is therefore of the opinion that simulating the default of only one Member will give sufficient insight in how effective the default procedure is.

All steps in the procedure, like porting of positions, are outlined in the ICNL Clearing Rules. By signing the Clearing Member Agreement, Clearing Members become bound by these Rules. The enforceability of the Rules in The Netherlands and the jurisdictions where the Clearing Members are located – UK and France – have been verified by means of legal opinions. In case ICNL starts clearing other products with different risk characteristics on other markets, it will be verified if new scenarios and more defaults should be added to the test.

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

A CCP should, at a minimum, have segregation and portability arrangements that effectively protect a participant's customers' positions and related collateral from the default or insolvency of that participant. If the CCP additionally offers protection of such customer positions and collateral against the concurrent default of the participant and a fellow customer, the CCP should take steps to ensure that such protection is effective.

A CCP should employ an account structure that enables it readily to identify positions of a participant's customers and to segregate related collateral. A CCP should maintain customer positions and collateral in individual customer accounts or in omnibus customer accounts.

A CCP should structure its portability arrangements in a way that makes it highly likely that the positions and collateral of a defaulting participant's customers will be transferred to one or more other participants.

Customer protection from participant default

The ICNL systems allow ICNL to record and identify assets and positions held for the account of a given Clearing Member from the assets of the CCP and from assets and positions held for the account of other Clearing Members.

The ICNL systems also ensure that all assets and positions of which ICNL has been informed that they are for the account(s) of clients of a given Clearing Member, are held segregated from the assets and positions of the proprietary account(s) of the Clearing Member in question.

The details of the available account structure are described in the ICNL Clearing Rules and Customer Protection Framework document.

ICE has developed a range of Customer Protection Models. These customer segregation models will be made available for all asset classes, the models available are as follows:

- Customer Omnibus Accounts (Net Margin);
- Customer Omnibus Accounts (Gross Margin);
- Individually Segregated Margin-flow Co-mingled Account (hereafter known as "ISOC)
- Indirect Client;

Clearing Members can also request ICNL to open trader accounts within the proprietary or client account. These trader accounts are sub-accounts of the proprietary or customer account. The Margin Requirement calculated for the trader accounts is only provided for information purposes. The trader accounts can be netted in case of default.

The proprietary and omnibus client account can either be a gross or a net account. Trader accounts can also be a gross or a net account. It is up to the Clearing Member to indicate its preference to ICNL. For Individual Segregated Accounts, it is the client that instructs the Clearing Member whether the account should be on a gross or net basis. For omnibus client accounts, it is the choice of the Clearing Member.

The house account is the account in ICNL's records in which ICNL registers the Derivative

Contracts which the Clearing Member has indicated as being for that account. The house account allows ICNL to register Derivatives Contracts in the house account if this is indicated in the entry. Each Clearing Member has at least one house account. Positions recorded in any of the Member's house account will not be netted with positions in any other account. A surplus of the proceeds of the (enforcement of) the house account may be used for shortfalls in the omnibus and the individually segregated account.

The omnibus client account is the account in ICNL's records in which ICNL registers the Derivative Contracts which the Clearing Member has indicated as being for that account. Each Clearing Member can request ICNL to open one (1) or more omnibus client accounts.

Positions recorded in an omnibus client account will not be netted with positions in any other account. The Collateral administered for the omnibus client account will not be exposed to losses connected to positions in any other account.

The setup of the omnibus client account and the corresponding collateral account ensure that ICNL can segregate assets and positions to be held on behalf of the clients in that account on a segregated basis from the assets and positions and assets held for the house account of the Clearing Member in question and for the account(s) of other clients of the Clearing Member in question.

The omnibus client account and the corresponding collateral account cannot be netted with positions or assets in another account but the positions and collateral of the clients within the comingled omnibus client accounts.

In case of a default situation the ICNL account structure ensures that positions and assets held in each account cannot be exposed to losses arising from another account. Under the ICNL rules ICNL may only use the Collateral held in a house account, an omnibus client account, and an individually segregated account for a shortfall in the corresponding account. ICNL currently does not offer any additional forms of segregated client accounts.

As mentioned, Clearing Members can also request ICNL to open trader accounts within the client account. These cannot be considered as additional forms of segregated client accounts, as the trader accounts are sub-accounts of the house and client account and are used for informational purposes only.

Portability arrangements

ICNL has described its arrangements for portability in the Clearing Rules and Customer Protection Framework

ICNL has contractually committed itself through the ICNL Clearing Rules to trigger the procedures for the transfer of assets and positions held by a defaulting Clearing Member in its omnibus client accounts on the request of the clients to another Clearing Member designated by those clients.

In line with EMIR requirements ICNL has contractually committed itself through the ICNL Clearing Rules to trigger the procedures for the transfer of assets and positions held by a defaulting Clearing Member in its individually segregated accounts on the request of the individually segregated client to another Clearing Member designated by that individually segregated client.

The procedures for portability can only be triggered at the request of the client(s). The portability procedures are limited to the position accounts and cash collateral accounts in the books of ICNL and collateral transferred to ICNL as collateral designated as covering client positions. Portability of collateral held with third parties cannot be done by ICNL and must be arranged by the Clearing Member and / or the relevant clients separately. This stems from the fact that ICNL can only effectuate a pledge if the pledgor is in default.

The conditions for porting of positions and collateral held under individual or omnibus client segregation in case of the default of a Clearing Member are:

- Receipt of a request to port by the client of the Clearing Member (in case of an individually segregated account) or a request to port by all clients or the trustee on behalf of all clients (in case of an omnibus client account)
- Acceptance by a back-up Clearing Member of all derivatives contracts in the relevant account – provided that the back-up Clearing Member is (and remains) able to meet the margin requirements.
- Satisfactory certainty that all pending settlements with the defaulting Clearing Member will be cancelled, and that new equivalent instructions will be sent by the back-up Clearing Member.

ICNL applies a time window of four (4) hours for ascertaining whether these conditions are met. This time window commences from the moment of sending of the Notice of Default. ICNL can proceed with the applicable measures in case of a declaration of a default foreseen in the ICNL Clearing Rules without further delay if they deem the conditions for porting have not been met within this time frame.

If collateral for individually segregated accounts is held by ICNL, any balance owed by ICNL to the defaulting Clearing Member after completion of the procedure shall be readily returned to the client if known by ICNL.

ICNL will require a pledge agreement to be in place between the Clearing Member as pledgor and the client as pledgee to protect the interest of the Client(s) involved and ICNL. Any payments by ICNL will be made in accordance with the pledge agreement. It is the obligation of the Clearing Member to ensure that it has entered into the pledge agreement with its clients.

In the absence of such pledge agreement, payment of residual collateral to the client will only be made with the express consent of the insolvency practitioner of the defaulting Clearing Member. In the absence of such consent, payment will be made by ICNL to the defaulting Clearing Member for account of the client.

In the case of Collateral held for omnibus client accounts, ICNL cannot distinguish individual claims on Collateral pooled in such accounts and therefore cannot return Collateral to the Clients. ICNL therefore requires pre-arranged procedures with a trustee acting on behalf of all Clients, a pledge agreement with the Clearing Member as pledgor and the trustee acting on behalf of all Clients as pledgee as well as a clean legal opinion on the pledge agreement in order to protect the Clients and ICNL.

In the absence of such arrangement, payment of residual Collateral cannot be made to the Clients directly and will be made to the defaulting Clearing Member for account of the Clients.

Legal basis

ICNL has obtained legal advice from reputable law firms that confirms that there is a sound legal basis to support the arrangements to protect and transfer the positions and collateral of a Member's customers.

The legal advice includes the Netherlands, the United Kingdom and France and confirms that the arrangements are also enforceable under Dutch, English and French law.

A CCP should disclose its rules, policies, and procedures relating to the segregation and portability of a participant's customers' positions and related collateral. In particular, the CCP should disclose whether customer collateral is protected on an individual or omnibus basis. In addition, a CCP should disclose any constraints, such as legal or operational constraints, that may impair its ability to segregate or port a participant's customers' positions and related collateral.

See answers to previous questions.

Rationale for this choice is the minimum required setup under EMIR which effectively has become the market standard. ICNL does not see any commercial interest in additional forms of segregation amongst its client base.

The collateral held in Client segregated accounts (Individual or Omnibus client account) is used to cover the clients' margin requirement – both initial and variation.

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

An FMI should have robust management and control systems to identify, monitor, and manage general business risks, including losses from poor execution of business strategy, negative cash flows, or unexpected and excessively large operating expenses.

A changing business environment could have an adverse impact on the financial condition of ICNL. This potential adverse impact is known as business risk. In case losses occur because of business risk, ICNL must use its capital as a cushion. ICNL's capital should be sufficiently large to withstand any losses that could arise.

Per the calculation prescribed by the EMIR capital requirements ICNL should hold a minimum of 25% of the gross operational expenses for business risk. Based on the above and the audited annual figures over 2017 the maximum business risk is set at 25% of annual gross expenses – i.e. € 928,500. ICNL maintains a voluntary maximum business risk set at € 1,321,750.

The memo business risk is aimed at providing a further explanation on ICNL's own internal estimate of business risk. This is done by considering several (reasonably) foreseeable scenarios which would impact the profit & loss figures. Based on the outcome of these scenarios an internal estimate is proposed.

As a starting point for the analysis the budgeted revenue streams for 2016, 2017, and HY1 2018 were used. The budgeted figures were compared with the actual cost figures and subsequently an appropriate average was determined to which the 25%-criterion was applied.

The memo referred to reflects the result of this process. This process is two-fold. On the one hand, as part of the ERM policy, ICNL in close consultation with the Risk Oversight Department (ROD) prepares and reviews regularly its risk register. ICNL determines, in consultation with ROD, what controls are in place and to what extent these controls mitigate the identified risks. The causes of the risks are identified, as well as inherent and residual impact and likelihoods estimations. Also, the MT discusses regularly the business risks as part of the periodic PFMI assessment and the update of the memo on business risk. The MT uses professional judgement to identify these risks.

Additionally, ICNL monitors business risk on a regular basis. ICNL business risks are analyzed on a monthly basis and sensitivity tests are conducted at least on a yearly basis. As part of the product approval procedure it is verified if and to what extent a new product or service would lead to additional business risks and capital requirements.

An FMI should hold liquid net assets funded by equity (such as common stock, disclosed reserves, or other retained earnings) so that it can continue operations and services as a going concern if it incurs general business losses. The amount of liquid net assets funded by equity an FMI should hold should be determined by its general business risk profile and the length of time required to achieve a recovery or orderly wind-down, as

appropriate, of its critical operations and services if such action is taken.

Based on the EMIR regulation ICNL is obligated to hold at least 25% of their gross annual expenses. Based on the above outcomes it is decided to set the maximum business risk at € 1,321,750.

As a starting point for the analysis the budgeted revenue streams for 2016, 2017, and HY1 2018 were used. The budgeted figures were compared with the actual cost figures and subsequently an appropriate average was determined to which the 25%-criterion was applied.

The minimum amount to be held under EMIR is of 25% of its annual gross operational expenses. The length of time and associated operating costs of achieving a recovery are set by EMIR on a minimum of 6 months.

ICNL provides the regulators a monthly report which highlights the amount being held to cover general business risks. This report gives insight in the potential adverse effects on ICNL's profitability and capital should the business risks materialize.

An FMI should maintain a viable recovery or orderly wind-down plan and should hold sufficient liquid net assets funded by equity to implement this plan. At a minimum, an FMI should hold liquid net assets funded by equity equal to at least six months of current operating expenses. These assets are in addition to resources held to cover participant defaults or other risks covered under the financial resources principles. However, equity held under international risk-based capital standards can be included where relevant and appropriate to avoid duplicate capital requirements.

Recovery or orderly wind-down plan

ICNL has developed a Recovery plan as well as a Wind-down plan (hereafter referred to as Recovery Plan).

ICNL's Recovery Plan is based upon circumstances which may result in: significant losses and liquidity shortfalls, suspension or failure of ICNL Critical Services, business functions and technology (systems and infrastructure); damage to other market infrastructure and cause consequentially uncertainty in the markets for which it clears.

In accordance with relevant regulations and guidelines ICNL has already established management and control systems to identify early warnings, risk events and situations (i.e. key drivers) which may lead to market-wide (systemic) and firm-specific (idiosyncratic) stress scenarios.

In the context of recovery planning, ICNL management has identified two categories of stress scenarios that are relevant to ICNL. These scenarios build on the existing default waterfalls and business risk scenarios. Reverse stress testing of these scenarios is built into the risk-based approach.

- **Default loss** - means losses, liabilities, damages, costs, claims, shortfalls or expenses incurred or suffered by ICNL, caused by a Clearing Member(s) default. The Plan assesses the impact of a default loss and identifies the actions required depending on the scale of the loss. Liquidity risks and the risk of contagion are anticipated.
- **Non-default loss** - means losses, liabilities, damages, costs, claims, shortfalls or expenses incurred or suffered by ICNL typically from identified general business and operational risk events and from investment losses.

Macro-economic events such as the world-wide financial crisis or collapse of the euro are included in ICNL modelling. Included within non-default loss is the possibility of ICNL default because of, for example prolonged market dislocation or system outage. Should a Clearing Member default arise in such circumstances, the Clearing Member default would follow the Default loss arrangements referred to above. Liquidity risks and the risk of contagion are anticipated.

These stress scenarios will be reviewed and refreshed on a periodic basis, as well as after a Recovery Plan test (ad-hoc and/or annual).

Resources

ICNL calculates annually (after the annual accounts are audited and approved) the winding down charge to be reserved.

The capital requirements under EMIR can be considered to provide the necessary capital to ensure recovery or orderly wind-down of ICNL. The wind down charge under EMIR is equal to the time IRM for winding down with a minimum of 6 months.

ICNL has provided an estimate of the appropriate time IRM for winding down or restructuring its activities as part of the capital requirements under EMIR. ICNL has concluded that all scenarios can be executed within 6 months.

Per the calculation prescribed by the EMIR capital requirements ICNL should hold a minimum of 25% of the gross operational expenses for business risk. ICNL calculates and sets annually (after the annual accounts are audited and approved) the maximum business risk.

The financial resources designated to cover Member default (i.e. skin in the game) is a segregated line item on the balance sheet of ICNL.

ICNL uses the Basel capital calculation methods.

Assets held to cover general business risk should be of high quality and sufficiently liquid in order to allow the FMI to meet it's current and projected operating expenses under a range of scenarios, including in adverse market conditions.

ICNL's liquid net assets are held in cash.

The capital held by ICNL is invested per the Investment Management Policy. Please note that ICNL invests its own financial resources, the contributions to the Guaranty fund and the Collateral that is deposited with ICNL for meeting Margin requirements in the same manner. Please note that ICNL currently holds all assets in cash at the Dutch National Bank.

The basic principles of the investments are:

- Capital preservation - the main principle of this policy is to ensure that the assets invested is preserved and as far as possible protected from losses through investment activity.
- Risk minimization - the assets that are invested must be placed with instruments with minimal credit, market and liquidity risk so that ICNL knows the amount of resources at its disposal and can realize that value promptly.
- As liquid as possible - the assets have to be held in such a manner that their timely

availability is assured if a customer needs to draw on them or if ICNL needs them for other purposes. The investments may need to be realized quickly so they should be of a type that would enable ICNL to liquidate them with very little if any adverse price effect.

- Financial Instruments posted shall, where available, be deposited with operators of securities settlement systems that ensure full protection of those instruments. Alternatively, other highly secure arrangements with authorized financial institutions may be used.
- Where ICNL posts assets with a third party, it shall ensure that the assets belonging to the Clearing Members are identifiable separately from the assets belonging to ICNL and from assets belonging to that third party by means of differently titled account or other equivalent measures that achieve the same level of protection.
- ICNL does not invest its own financial resources, Guaranty fund contributions or collateral in its own securities or those of its parent undertaking or its subsidiary.
- ICNL shall take into account its overall credit risk exposures to individual obligors in making its investment decisions.
- ICNL shall only invest in Euro denominated Financial Instruments and shall only maintain Euro denominated arrangements to deposit cash.
- Investments should be secured by collateral (repo) and/or should be claims on high quality obligors to mitigate the credit risk.

Please refer to the website for the list of Permitted Covers. The List of Permitted Cover outlines the concentration limits and haircuts for non-cash collateral that have been set. These limits and haircuts ensure that the posted collateral can be liquidated quickly against a value that adequately covers the liabilities of the clearing Member in question. ICNL will apply a minimum haircut add-on based on the credit quality of the issuer as indicated by the CDS spread. And in the Collateral & Haircut Policy several general principles for accepting permitted cover are defined. Minimum rating requirements have been set. And ICNL can at its discretion remove securities from the list of permitted cover at any time in case of deteriorating credit quality. CDS spreads will be monitored on a daily basis and haircuts are back tested on a daily basis.

An FMI should maintain a viable plan for raising additional equity should its equity fall close to or below the amount needed. This plan should be approved by the board of directors and updated regularly.

ICNL has the obligation under EMIR to inform its regulators if the available capital falls below 110% of the required capital. ICNL is also required to propose a plan how ICNL will rectify this situation. One option would be to request the shareholder for a capital injection. ICNL has an on-going commitment from its (sole) shareholder that capital will be injected in the case that ICNL threatens to fall below the required minimum. Risk management monitors the adequacy of its capital on a monthly basis through the solvency report, the Management Team (MT) monitors this on a monthly basis through the financial statements received from Finance and the Board reviews quarterly based on the report of the MT.

Furthermore, the ICNL recovery plan details the recovery options available.

The ICNL recovery plan is reviewed on a yearly basis.

The ICNL Board is involved in reviewing the ICNL recovery plan as described in Principle 3. As stated before, ICNL has an on-going commitment from its (sole) shareholder that capital will be injected in the case that ICNL threatens to fall below the required minimum. Risk management monitors the adequacy of its capital on a monthly basis through the solvency report, the

Management Team (MT) monitors this on a monthly basis through the financial statements received from Finance and the Board reviews quarterly based on the report of the MT.

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

An FMI should hold its own and its participants' assets at supervised and regulated entities that have robust accounting practices, safekeeping procedures, and internal controls that fully protect these assets.

ICNL selects its counterparties - including custodians - based on the requirements described in the ICNL investment policy.

The ICNL investment management policy states that ICNL should deposit financial instruments received with:

- the operator of a securities settlement system that ensures full protection of those instruments
- the Dutch Central Bank or any other Eurozone Central Bank
- an authorized credit institution with an investment grade rating in a remote bankruptcy setting.

Cash shall be maintained through highly secured arrangements with:

- the Dutch Central Bank or any other Eurozone Central Bank
- an authorized credit institution with an investment grade rating that is not also a Clearing Member .

ICNL monitors adherence to these criteria on an ongoing basis based on a financial and non-financial risk assessment.

The financial risk assessment includes the analysis of the direct counterparty and ownership, credit ratings of the counterparty and related parties, CDS and stock price developments, other relevant financial information, and ICNL defined benchmark triggers.

The non-financial risk assessment includes the analysis of whether the counterparty is likely to receive a government bailout and other signals.

The selection criteria ICNL uses to select its counterparties are designed to only select a counterparty that has robust accounting practices, safekeeping procedures, and internal controls.

Operators of a securities settlement system and central banks are deemed to have these attributes because of their very nature. When an authorized credit institution is used, ICNL will opt for a bankruptcy remote option. ICNL also monitors the risks posed by these institutions as part of the counterparty monitoring procedures.

Based on ICNL's due diligence, service providers are understood to have robust accounting practices, safekeeping procedures, and internal controls that ensure- the full segregation and protection of financial instruments and enable ICNL prompt access to those instruments when required.

Investment Agents

Permitted cash cover is managed by formally appointed Investment Agents (also known as External Asset Managers). Their responsibilities include:

- Full investment of available funds within the boundaries of the investment guidelines and constraints set within the Policy. Should this not be possible, the matter is escalated to the Head of Treasury prior to alternate action, if time permits
- Supplying sufficient liquidity to enable ICNL to meet its financial responsibilities
- Reporting on the individual investments, counterparties and the performance
- Advising on investment opportunities to enhance security of the portfolio and/or the yield.

Custodian

The primary role of custodians is to safeguard the holdings of ICNL and/or the Clearing Members. Custodians are formally appointed by ICNL based on their ability to perform the services as required. Their specific duties and responsibilities include:

- Maintain separate accounts by legal registration.
- Collect all income owed to ICNL and/or the Clearing Members.
- Settle all transactions (buy-sell orders).
- Provide monthly reports that detail transactions, cash flows, and securities held.
- The Custodian Bank must have and maintain a Standard & Poor's short term rating of A1 or better (or the equivalent from other approved agencies, as confirmed by ICNL which indicates a strong ability to repay its short term debt obligations).
- In the event that the Custodian's rating falls below A1 this will trigger an internal review and ultimate Board Approval would need to be sought. The Custodian would have to satisfy stringent credit criteria that it is still able to satisfy and fulfil short term obligations to the satisfaction of the ICNL.

An FMI should have prompt access to its assets and the assets provided by participants, when required.

Assets held in custody by ICNL are transferred based on title transfer. Both forms of ownership rights have a sound legal basis.

It is defined in the Clearing Member Agreement and the Rules that a Clearing Member transfers full ownership of cash or securities deposited as collateral by means of transfer of title to ICNL in order to secure all obligations and liabilities of the Clearing Member. Prompt access is ensured by the fact that cash is deposited at the Dutch Central Bank and securities are deposited at Euroclear Bank. Specific arrangements in the ICNL Clearing Rules have been made to ensure that a transfer involving authorized credit institutions is only considered final if the cash is in the account of the Dutch Central Bank.

An FMI should evaluate and understand its exposures to its custodian banks, taking into account the full scope of its relationships with each.

ICNL performs counterparty and collateral monitoring to evaluate the credit and market risk exposure for each type of financial instrument posed by its counterparty. The methodology used includes credit ratings for credit risk & CDS spreads for market risk with a built-in trigger at a CDS level of 150 Bps. ICNL also conducts a non-financial risk assessment which includes whether there is government support for its counterparties and any other factors ICNL expert judgment deems relevant.

ICNL has chosen to apply the following limits to its investments:

- Only the use of approved counterparties.
- Where cash is not deposited with a Eurozone central bank and maintained overnight then no less than 95 % of such cash, calculated over an average period of one calendar month, shall be deposited through arrangements that ensure the collateralization of the cash with highly liquid financial instruments.
- For unsecured Cash a credit limit as determined during a credit review (authorized credit institution with an Investment Grade rating and the exposure in no circumstances can exceed 25% of total available resources) applies. Unsecured cash accounts at a central bank are exempt from this limit.
- Repurchase agreements are allowed with an approved authorized credit institution as defined under Directive 2006/48/EC or a third country financial institution which is considered by the regulator to be supervised just as stringent (as outlined in Directive 2006/48/EC and only bonds by the central government of Austria, Belgium, Finland, France, Germany and the Netherlands with a maximum of 10 years to maturity as underlying). Furthermore, all repo transactions should be conducted under Repurchase Securities Agreement (RSA) or Global Master Repurchase Agreement (GMRA).

Percent concentration constraints for repurchase agreements are calculated using the market value of all portfolios in aggregate.

- i. No more than 20% may be invested with a single counterparty rated short-term A-1/P-1 or equivalent from at least one of the following agencies; S&P, Moody's or Fitch
- ii. No more than 10% may be invested with a single counterparty rated short-term A-2/P-2 or equivalent from at least one of the following agencies; S&P, Moody's or Fitch
- iii. No less than 50% must be invested in repurchase agreements in total. However, in periods when market supply is insufficient the investment in repurchase agreements in total may be less than 50% until such supply returns. ICNL must be notified in such an event, but confirmation before trade execution is not required.
- iv. Cross currency reverse repo is only permitted for excess funds over 125% of the largest stress loss, calculated by the liquidity stress test, from the previous 6 months.

For repurchase agreements a maximum tenor will be specified per counterparty in the review, but the following guidelines will apply:

- Time to final maturity must not exceed 3 calendar months.
- Counterparties, defined as the entity with which the repurchase agreement is placed, must have a minimum short-term rating as specified previously and a minimum long-term rating of A-/A3 from any one of the following: S&P, Moody's or Fitch.

Where two counterparties belong to the same group, the individual limits are applied per counterparty according to their individual rating, but the exposure to the group as a whole is restricted to the One Obligor Exposure limit.

An FMI's investment strategy should be consistent with its overall risk-management strategy and fully disclosed to its participants, and investments should be secured by, or be claims on, high-quality obligors. These investments should allow for quick liquidation

with little, if any, adverse price effect.Investment strategy

The ICNL Investment Policy sets out the aims of its investment policy, which include:

- Risk minimization - the assets that are invested must be placed with instruments with minimal credit, market and liquidity risk so that ICNL knows the amount of resources at its disposal and can realize that value promptly.
- As liquid, as possible - the assets should be held in such a manner that their timely availability is assured if a customer needs to draw on them or if ICNL needs them for other purposes. The investments may need to be realized quickly so they should be of a type that would enable ICNL to liquidate them with very little if any adverse price effect.

When investing margins or its own assets ICNL:

- Takes into account its overall credit risk exposures to individual obligors in making its investment decisions.
- Only invests in Euro denominated Financial Instruments and only maintains Euro denominated arrangements for depositing cash.
- Investments should be secured by collateral (repo) and/or should be claims on high quality obligors to mitigate the credit risk to which ICNL and its customers are exposed.
- Sets suitable haircuts depending on the type of collateral received.
- Minimizes liquidity risk so that ICNL can meet its daily liquidity demands, in particular in the event of a default.

The ICNL Investment Management Policy dictates that ICNL can only invest in authorized investments, i.e. cash, Repurchase Agreements with an approved authorized credit institution (only bonds issued by the governments of Austria, Belgium, Finland, France, Germany, Luxemburg and the Netherlands with a maximum of 10 years to maturity as underlying or cash) and certain fixed-income securities and other instruments with debt-like characteristics on a fixed rate and floating rate basis.

Currently all of ICNL's investments are cash.

Risk characteristics of investments

ICNL has chosen to apply the following limits apply to its investments:

- Only the use of approved counterparties.
- Where cash is not deposited with a Eurozone central bank and maintained overnight then no less than 95 % of such cash, calculated over an average period of one calendar month, shall be deposited through arrangements that ensure the collateralization of the cash with highly liquid financial instruments.
- For unsecured Cash a credit limit as determined during a credit review (authorized credit institution with an Investment Grade rating and the exposure in no circumstances can exceed 25% of total available resources) applies. Unsecured cash accounts at a central bank are exempt from this limit.
- Repurchase Agreements are allowed with an approved authorized credit institution as defined under Directive 2006/48/EC or a third country financial institution which is considered by the regulator to be supervised just as stringent (as outlined in Directive 2006/48/EC and only bonds by the central government of Austria, Belgium, Finland, France, Germany, Luxemburg and the Netherlands with a maximum of 10 years to maturity as

underlying). Furthermore, all repo transactions should be conducted under Repurchase Securities Agreement (RSA) or Global Master Repurchase Agreement (GMRA).

Percent concentration constraints for repurchase agreements are calculated using the market value of all portfolios in aggregate.

- i. No more than 20% may be invested with a single counterparty rated short-term A-1/P-1 or equivalent from at least one of the following agencies; S&P, Moody's or Fitch
- ii. No more than 10% may be invested with a single counterparty rated short-term A-2/P-2 or equivalent from at least one of the following agencies; S&P, Moody's or Fitch
- iii. No less than 50% must be invested in repurchase agreements in total. However, in periods when market supply is insufficient the investment in repurchase agreements in total may be less than 50% until such supply returns. ICNL must be notified in such an event, but confirmation before trade execution is not required.
- iv. Cross currency reverse repo is only permitted for excess funds over 125% of the largest stress loss, calculated by the liquidity stress test, from the previous 6 months.

For repurchase agreements a maximum tenor will be specified per counterparty in the review, but the following guidelines will apply:

- Time to final maturity must not exceed 3 calendar months.
- Counterparties, defined as the entity with which the repurchase agreement is placed, must have a minimum short-term rating as specified previously and a minimum long-term rating of A-/A3 from any one of the following: S&P, Moody's or Fitch.

Principle 17 - Operational risk

An FMI should identify the plausible sources of operational risk, both internal and external, and mitigate their impact through the use of appropriate systems, policies, procedures, and controls. Systems should be designed to ensure a high degree of security and operational reliability and should have adequate, scalable capacity. Business continuity management should aim for timely recovery of operations and fulfilment of the FMI’s obligations, including in the event of a wide-scale or major disruption.

Summary narrative

An FMI should establish a robust operational risk-management framework with appropriate systems, policies, procedures, and controls to identify, monitor, and manage operational risks.

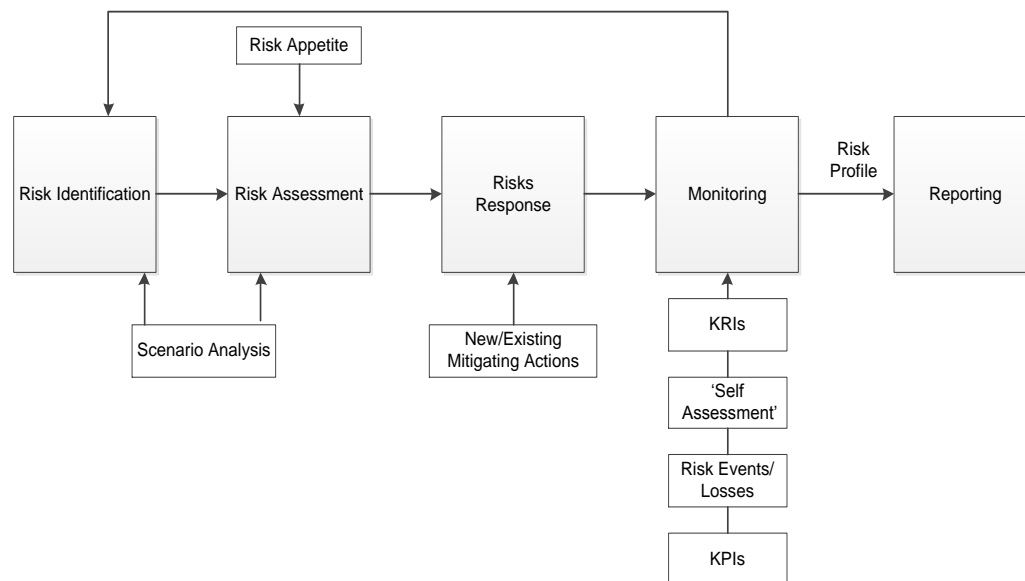
Identification of operational risk

In addition to the Enterprise Risk Management policy, ICNL prepares and updates regularly a Risk register, Enterprise Technology Risk Assessments (ETRA’s) as well as Risk Metrics.

This full set of documents basically lay down the principles governing the management of operational risks facing ICNL. It outlines the approach that is to be adopted together with definitions of operational, ICNL risk tolerance and relevant governance arrangements.

Furthermore, this set of documents should be read in conjunction with the Incident Policy and the Business Continuity Plan. The figure below depicts the methodology applied by ICNL.

The figure below depicts the methodology applied by ICNL.



The methodology adopted by ICNL is intended to be as meaningful as possible without adopting quantitative measures. Statistical Value-at-Risk measures based on internal and external loss data are not required. Capital requirement calculations are performed without using quantitative operational risk measures.

ICNL has identified the following operational risks:

- 1) Unavailability of Key staff
- 2) Unexpected disruption during the workday that makes the office unusable
- 3) Event that makes the office unavailable with 8 to 12 hours' notice
- 4) ICE Clearing systems disruption
- 5) EOD Failure/Delay
- 6) Failure of a Financial Institution
- 7) Fraudulent Activity
- 8) Market Manipulative Activity

ICNL has not identified any single points of failure. An analysis backing this has been done by the Service Provider, ICE Inc. The current architecture consists for example out of an Information Security and Disaster Recovery planning that make use of multiple data centers and back-up arrangements.

Content and follow up of incidents/near misses are reported in the monthly Risk Management reports.

Risk Identification, Assessment and Responses

All risks are to be recorded on the Operational Risk Assessment Matrix with the corresponding mitigating actions, where applicable.

Operational risk monitoring is undertaken on an on-going basis and involves:

- Update of Risk Identification, Assessment and Responses,
- Managing and reporting operational incidents and losses,
- Scenario analysis

At least on an annual basis, and whenever there is a material change, risk identification, risk assessment and risk response planning are to be re-performed.

Where relevant, the review will include any transferred (i.e. insurance policy) risks and accepted risks. The Operational Risk Assessment Matrix is to be updated accordingly.

Control processes form part of each departments' internal procedures. Procedures are identified on the Operational Risk Assessment Matrix against the risks they are designed to mitigate.

Management is responsible for ensuring that procedures remain up-to-date and relevant and are formally reviewed at least once per year. On an ongoing basis 2nd line monitoring is performed by the ICE Risk Oversight function.

Incidents and losses

Incidents are to be recorded in an Incident Report, including near misses and events that result in a loss.

Recording such events permits Risk Owners to identify and appreciate the causes and actual or possible consequences. In addition, the data can be collated and used in the future to support less subjective risk identification and assessments. For the purposes of this Policy, the aim is to track and record internal operational risk events and consequences for trend analysis purposes.

The recording of incidents in an Incident Report is the responsibility of all staff within the

Clearing House, including risk events relating to an outsourced service. Staff is to inform their line manager. New staff is to be made aware of these responsibilities by line management who will also maintain awareness of the operational risk policy at their departmental meetings. On-going training is to be provided where appropriate.

ICNL maintains a Severity Level with ratings 1-5 for each operational risk category. Appendix B gives the Severity ratings for Business Interruption and System Failures. Associated with each Severity level is a description of the degree of loss/adverse impact, escalation path and required mitigating action. Each severity level has a time by which the incident or error should be resolved.

Incidents are escalated immediately and reported in accordance with the following table:

Severity	Escalated to:	Reporting level
1 or 2	Management Team	MT, RC, Board
3	Head of Department	MT and possibly RC
4 or 5	Department staff	MT

All incidents are reported to the Regulators in ICNL's monthly risk report. Severity 1 and 2 incidents are reported promptly including detailed summary of the incident.

The Risk Owners are responsible for ensuring that the cause of a risk event is understood, and appropriate measures are taken.

Scenario Analysis

Scenarios are practical exercises that consider combinations of events which could adversely affect objectives. To date this technique has been used to facilitate business continuity planning.

The rationale to support any changes to the scenarios is submitted to ISOC on agreement by the Management Team.

Policies, processes and controls

Operational Risk Control processes form part of each departments' internal procedures. Procedures are identified on the Operational Risk Assessment Matrix against the risks they are designed to mitigate.

ICNL's Enterprise Risk Management Framework and Operational Risk Framework takes into account relevant international, national and industry level standards such as the Basel Committee Sound Practices for the Management and Supervision of Operational Risk.

Important to note is that the HR function is outsourced to ICEU. To address operational risks relating to ICNL's staff, ICEU has documented HR policies that address hiring, training, retention and development of staff. Resourcing requirements to support ICNL's and ICEU's business strategy and operational requirements are discussed and agreed with Senior Management on an ongoing basis. Potential employees are subjected to rigorous assessments (e.g. interviews and competency-based questionnaires) and pre-screening to ensure qualified and talented staff are hired.

A documented operational risk management framework is in place at ICNL. Besides that, there is sufficient evidence available that ICNL monitors operational risks and acts where necessary.

ICNL’s key strategy components identified to mitigate the threat of fraudulent behaviour are listed below:

- **Control mechanisms**
A number of restrictive and detective controls are in place to prevent this risk from materialising and to allow for early detection to minimise consequential damage
- **(Potential) losses that could be absorbed**
If fraud materialises and the (potential) losses could be absorbed by the company, operations should continue operations.
- **(Potential) losses that could not be absorbed**
If fraud materialises and the (potential) losses could be not absorbed by the company, most likely the company has to suspend operations, since the fraud will have caused an uncovered gap between the risk exposure and collateral held.
- **Communication and resolution**
No need to communicate to external parties if operations are continued.
If operations are discontinued, Relationship Management will email Clearing Members. Relationship Management keeps a list of email addresses of Clearing Member’s personnel.

To prevent inadvertently effects of (major) changes / projects ICE implemented Change Management Policy. The purpose of the Policy is to detail the Change Management process and procedures for the various types of application / system changes that are made as part of projects, regular maintenance, and hot fixes. Documenting the process allows for easily communicating the standardized methods and procedures for affecting changes to production in a timely and efficient manner while allowing for the checks and balances that help mitigate risk.

An FMI’s board of directors should clearly define the roles and responsibilities for addressing operational risk and should endorse the FMI’s operational risk-management framework. Systems, operational policies, procedures, and controls should be reviewed, audited, and tested periodically and after significant changes.

Roles, responsibilities and framework

In addition to the 3 lines of defense model and the responsibilities that follow from this model as described above, the table below summarises the responsibilities of different parties in relation to the Operational Risk Management Framework.

<p>Risk Owner</p>	<p>A member of line management. Responsibility under this policy includes:</p> <ul style="list-style-type: none"> • attending the Management Team meeting and providing updates on the risks they own • complying in full with this policy; • presenting rationale for any risk acceptance and ensuring the Risk Acceptance register is updated accordingly. • following up on any breaches • taking action to mitigate the impact of any Incident and reporting progress and lessons learned • performing self-assessments as planned and ensuring remedial actions are taken, when necessary. • ensuring that this Policy is applied to any new products or operational changes (including resources, systems, tasks and processes).
<p>Risk department</p>	<p>The Risk department’s responsibilities include the following:</p> <ul style="list-style-type: none"> • perform a ‘second line of defence’ oversight function for Operational Risk and

report findings to the Management Team and if appropriate the Risk Management Committee.

- maintain this policy and ensure it is reviewed as per its governance arrangements.

In addition, line management is responsible for ensuring that their staff members have an awareness of operational risk and the policies and procedures to implement its requirements. They also ensure that staff members are trained in specific responsibilities set out in procedures, for example the procedure for recording incidents.

This Operational Risk Management Framework is subject to discussion by the Risk Committee and subsequent approval by the Board at least on an annual basis or in the event of a material change.

The Risk Committee must be notified of any material change prior to application.

Review, audit and testing

The policies related to risk management require at least board approval and but depending on the specific policy, MT, Supervisory Board, Risk Committee and or DNB/AFM prior approval is required. All policies and procedures related to risk management are reviewed and updated at least annually or more frequently if each individual situation requires this.

The various risk management policies and procedures of ICNL are part of the external audit requirements under EMIR. These policies and procedures include the Operational Risk Framework.

An FMI should have clearly defined operational reliability objectives and should have policies in place that are designed to achieve those objectives.

Q.17.3.1: What are the FMI's operational reliability objectives, both qualitative and quantitative? Where and how are they documented?

ICNL has a documented Master Outsourcing Agreement with ICE, which reports monthly on the achievements of the defined KPI's to ICNL.

ICNL has defined the main strategic goals as well as operational goals. The strategic goals are:

- Delivery of trustworthy, reliable and robust services:
The first and most important priority for ICNL is to deliver reliable and robust CCP services, including the appropriate risk measures and margin calculations.
- Delivery of a highly efficient product:
The ICNL product must be highly efficient for its clearing Members. High availability of normalised data delivery is key. Systems and reports delivered to users must be easy to read and intuitive to understand.
- Delivery of a competitive solution:
The ICNL solutions must be competitive in the marketplace, with transparent and simple pricing models which makes the cost of clearing for the Members highly predictable over a longer period.
- Delivery of innovative, smart and durable alternatives for new and existing product ranges:
ICNL will deliver solutions with the aim to bring reliable, efficient and competitive alternatives to the financial market. ICNL must provide agility and short time to market.

Additionally, ICNL has defined KPI's on its main processes. The processes for which KPI are defined are:

- Daily Cash Settlement
- Margining
- Closing prices
- Exercise Assignment
- Reporting to CM EOD
- Position Reconciliation
- Start of Day Procedure
- Record Keeping and TR
- Corporate Actions

ICNL measure whether it meets its operational reliability objectives through pre-defined KPIs. ICNL measures those KPIs on a monthly basis. There are formal quarterly meetings between the Contract Managers for Intercontinental Exchange Holdings, Inc. (ICE) and ICNL.

An FMI should ensure that it has scalable capacity adequate to handle increasing stress volumes and to achieve its service-level objectives.

This is done through measurement of KPIs. The daily tests regarding the KPI's shows adequacy of its capacity to handle volumes.

The capacity planning and scalability of systems including performance tests are part of the SLA with the IT provider.

Operational capacity is continuously monitored and increased when needed. Systems of ICNL are not nearing their capacity yet, so the question is more hypothetical than reality.

An FMI should have comprehensive physical and information security policies that address all potential vulnerabilities and threats.

Physical security

For the workplace and premises, ICNL has defined and implemented physical security measures in line with business requirements to ensure that access to information systems is appropriately restricted. Both the building and the ICNL office have restricted physical access controls in place as well as an active reception area.

ICNL has outsourced parts of its operations to ICE. Due to the size, ICE uses its own standards which are adaptations of prevailing international standards.

Information security

Security baselines for IT infrastructure are in place to limit the risk of unauthorized access to IT aspects. Security baselines are formally defined, periodically updated and reviewed and approved by senior management.

The Corporate Information Security Policy is designed so that strategies and goals relating to Information Security throughout ICE are met. It includes methodologies to ensure compliance with regulatory and legal requirements and requires all staff to report suspected or confirmed breaches of information security or threats in a timely manner.

The ICE Information Security and Operational Oversight Committee (OOC) and the Information

Security Risk Assessment Committee (ISRAC) meet quarterly to review the state of ICE's information security and BCP programs. ICNL has one representative on the OOC.

ICNL has outsourced parts of its operations to ICE. Due to the size of this supplier uses its own standards which are adaptations of prevailing international standards. The ICE Information Security policies, processes, controls are based on NIST Cybersecurity Framework.

An FMI should have a business continuity plan that addresses events posing a significant risk of disrupting operations, including events that could cause a wide-scale or major disruption. The plan should incorporate the use of a secondary site and should be designed to ensure that critical information technology (IT) systems can resume operations within two hours following disruptive events. The plan should be designed to enable the FMI to complete settlement by the end of the day of the disruption, even in case of extreme circumstances. The FMI should regularly test these arrangements.

Objectives of business continuity plan

The ICNL business continuity plan is based on:

- Business Impact Analyses (BIA)
- Critical business processes / activities (and minimum resources required) to assure continuity.
- Risk Assessment and Strategy
- ICE Inc BCP Policy
- DR Policy
- ICE Pandemic Plan
- The departmental / units' vulnerability to threats (risk profile) is assessed.
- The choices made by the organization with regard to Business Continuity requirements and measures.

The following scenarios need to be covered:

- Brief or prolonged unavailability of primary employee offices (including restrictions on access, site damage, utility supply interruption and staff travel difficulties)
- Brief or prolonged unavailability of primary computer systems (including communications interruption, software errors, hardware failure and data center incapacity)

Unavailability of key staff (including pandemic, injury, death and judicial proceedings)

In the case of a lesser incident, the procedures should be tailored accordingly

Design of business continuity plan

The Business Continuity Plan lists the Critical processes and their respective RTO and RPO, as well as the number of key people needed. The RPO indicates the acceptance level of data loss for the various resources. The list with RTO mentions that critical functions like margining, cash settlement and receiving of collateral are to be resumed within 2 hours. This complies with the EMIR requirement. For eight potential crisis scenarios action(s), action owner(s) and details are defined up-front; this should facilitate the ICNL Incident response Team (IRT) in actual crisis situations.

Copies of the documentation, including "forms crisis organization" should be stored so that they are accessible in case of an incident. The Business Continuity Policy, Business Continuity Plan and other BCP related documentation are made available to all employees via the company

intranet (ICESpace).

Hard copies should also be kept off-site by BCP representatives, either at home or in other offices. A copy of the plan and appendices must also be available at the departmental or units Business Recovery Location(s). Given the sensitive nature of the contents, all copies must be held securely and old versions destroyed in accordance with confidential data requirements. Additional distribution of BCP materials is encouraged within the business unit and storage of business continuity materials are allowed subject to limits imposed by the Information Security Policy.

IT for ICNL is outsourced to ICE. Therefore, the IT Disaster Recovery is officially part of the Business Continuity Plan of ICE. All rules, provisions and arrangements in that BCP are also applicable to ICNL. ICE has a redundant datacenter setup in Chicago and Atlanta. All aspects of hardware, software, firewall and network equipment is replicated between both centers. These datacenters (ORD and AT) are physically separated (geographical distance between the ORD and AT datacenters is roughly 1150km) to avoid simultaneous disaster situations.

A fully equipped disaster recovery office site is available in The Hague 24/7 for situations where network access from the ICNL office is not possible due to a disaster situation related to the building.

ICNL crisis management procedures include guidelines on communications internally and with key external stakeholders and authorities. These guidelines detail when certain stakeholders need to be informed/contacted during a crisis.

Secondary site

ICNL has outsourced the operational IT systems to ICE. Therefore, the IT Disaster Recovery is officially part of the Business Continuity Plan of ICE. All rules, provisions and arrangements in that BCP are also applicable to ICNL.

ICE has a redundant datacenter setup for its clearing systems/applications in Chicago and Atlanta in which the two datacenters are identical and can be vice versa used as failover site. These datacenters (ORD and AT) are physically separated to avoid simultaneous disaster situations. A fully equipped disaster recovery office site is available in The Hague 24/7 for situations where network access from the ICNL office is not possible due to a disaster situation related to the building.

In case of extreme circumstances ICNL can rely on manual or paper-based procedures to continue operational processes that are time-critical.

Review and testing

The ICNL plans are subject to at least annual or bi-annual review and testing. This encompasses:

- Business Recovery Tests
- IT Disaster Recovery tests
- Evacuation and Headcount tests
- SMS Emergency tests.

Staff awareness sessions and training of the Business Crisis Team are organized regularly.

As part of the disaster recovery tests ICNL regularly runs production systems on the disaster recovery sites of the IT provider (i.e. ICE). As this is happening in production, implicitly the whole chain is involved.

An FMI should identify, monitor, and manage the risks that key participants, other FMIs, and service and utility providers might pose to its operations. In addition, an FMI should identify, monitor, and manage the risks its operations might pose to other FMIs.

Risks to the FMI's own operations

ICNL has operational dependency on ICE to provide clearing and other systems as well as utilities and facilities. Risks to ICNL's operations posed by Clearing Members, other FMIs and service/utility providers include:

- failure of SWIFT and/or disruption within third party settlement provider to recover sufficiently quickly to ensure that settlements and cash movements can be passed without market disruption;
- failure of other FMIs to restore its systems to ensure accurate recording of transactions and positions; and
- ability of appointed third party service providers to manage ICNL's treasury activities in accordance with the Investment Management Policy and to support the management of ICNL's liquidity risk.
- ability of appointed third party service provider (Settlement Agent Citibank) to manage ICNL's equity settlement activities.

ICNL ensures that third party service providers (ICE to which it has outsourced activities) meet the ICNL reliability and contingency requirements via the relevant outsourcing policy and subsequent agreement. Furthermore, EMIR requires stringent controls over any outsourced activities which ensure that third-party service providers are held to a similar standard.

All outsourced services are required to be governed by formal outsourcing or contractual arrangements. ICNL undertakes necessary measures to ensure that service providers meet adequate reliability and contingency requirements, including review of service providers' BCP and DR arrangements.

ICNL includes minimum reliability and contingency requirements within its contracts and service agreements with its custodian and investment agents and monitors adherence to these requirements on an on-going basis.

Since all ICE systems ICNL uses, are used by all the Clearing Houses in the ICE group all systems are maintained and monitored continuously.

Risks posed to other FMIs

ICNL manages the risks it may pose to other FMIs via the various risk policies and procedures.

ICNL is a member of the Financial Core Infrastructure Committee chaired by DNB. In this forum, Dutch FMI's coordinate their business continuity arrangements.

Principle 18 - Access and participation requirements

An FMI should have objective, risk-based, and publicly disclosed criteria for participation, which permit fair and open access.

Summary narrative

An FMI should allow for fair and open access to its services, including by direct and, where relevant, indirect participants and other FMIs, based on reasonable risk-related participation requirements.

Participation criteria and requirements

Rule 201 of the ICNL Clearing Rules and the Membership Procedures set out the membership on-boarding criteria that applicant firms are required to meet in order to become Clearing Members of the CCP. The Clearing Member application process ensures that applicants evidence compliance with the defined operational, financial, legal and regulatory requirements and the on-going annual Member return process ensures that relevant detail is regularly updated. The risk-related membership criteria (also listed under Rule 201 of the ICNL Clearing Rules) are applied consistently to all applicants and existing Clearing Members.

ICNL provides clearing Membership for firms providing Clearing Member services for their own account and/or for their own customers (direct Clearing Member) and additionally for providing clearing Member services for eligible persons i.e. Trading Member firms of an Exchange (general Clearing Member). ICNL also facilitates CCP services for indirect clients. .

Each Clearing Member is obliged to sign a Clearing Membership Agreement “CMA” with ICNL which will include provisions pursuant to which the clearing house's rules become contractually binding to both the Clearing Member and clearing house.

The ICNL’s Risk Committee reviews new applications and advises the ICNL Board on on boarding a new Clearing Member.

The criteria and requirements allow for fair and open access to ICNL’s services because each Member that meets the requirements for direct or general Clearing Member will be allowed access. These requirements are set based on the principle that ICNL does not incur undue risk from its Members.

The same is true for the criteria and requirements for access for trading venues. Moreover, the participation requirements and trading venue acceptance policy have been deemed to be EMIR compliant by DNB, AFM, and the EMIR College of Regulators.

The access to ICNL is further supported by the ICNL Clearing Membership Policy which sets out the process for accepting applicants. The Policy includes annexes and references to various Member onboarding documentation that assist the assessment of compliance with the access requirements.

An FMI’s participation requirements should be justified in terms of the safety and efficiency of the FMI and the markets it serves, be tailored to and commensurate with the FMI’s specific risks, and be publicly disclosed. Subject to maintaining acceptable risk control standards, an FMI should endeavour to set requirements that have the least-restrictive impact on access that circumstances permit.

Justification and rationale of participation criteria

The membership criteria listed in Rule 201 of the Clearing Rules, and the relevant Procedures, refer to risk-based requirements including the operational competence, the experience, the financial soundness (like compliance with the pre-defined capital requirements), the conduct track records and the level of credit risk. These are applied equally across applicants and existing Clearing Members and are all designed to ensure a safe and efficient clearing process for the markets in which its Clearing Members and their customers/clients participate.

Such criteria arrangements undergo appropriate regular internal reviews and have been established and updated following consultations with the Clearing Members on amendments to the relevant rules. These rules have ultimately the aim of allowing access to the Clearing House's services on a fair, reasonable and consistent basis, having the least-restrictive impact on access that circumstances permit. The access criteria are in line with criteria established in other peer organisations.

The access criteria in Rule 201 are applied equally across Clearing Members and applicants in relation to the different ICNL cleared product sets

Relevant criteria are monitored on an on-going basis, as ICNL reviews its Clearing Member composition to ensure that it is comprised of entities of appropriate size, market coverage and business profile. The ICNL Clearing Rules, inclusive of the information on the access criteria, are publicly available on the website.

In addition to the risk-based criteria, the Clearing Rules also refer to a number of criteria that are not necessarily risk based, but that are required by the applicable laws or regulations. These include:

- having in place all necessary regulatory authorisations, licences, permissions and approvals in the Clearing Member's country of origin and any other jurisdiction in which it conducts business;
- having officers, directors and Controllers each meeting the requirements for an 'approved person' (for individuals) or 'controller' (for partnerships, companies and other bodies corporate) under applicable regulatory Rules;
- either being a Person in respect of whom 'simplified due diligence' may be applied under the latest EU Money Laundering & Terrorist financing legislation or having been subject to customer due diligence measures under this legislation to ICNL's satisfaction; and
- not being subject to Sanctions.
- As required by EMIR, Clearing Members are required to segregate house and client (customer) positions held with ICNL.

ICNL defined the same access criteria for its Clearing Members (direct or general). . For Clearing Members providing services to eligible persons (general Clearing Member) a higher contribution to the Guarantee Fund of ICNL is applicable.

Least restrictive access

Least restrictive access is covered by the fact that the participation requirements are set in line with ICNL's risk management framework. Furthermore, the participation requirements are subject to regulatory review by DNB, AFM, and the EMIR College of Regulators. Finally, ICNL is operating in a competitive environment which provides a driver for providing the least restrictive access.

Disclosure of criteria

The participation criteria are publicly disclosed on the ICNL website.

An FMI should monitor compliance with its participation requirements on an ongoing basis and have clearly defined and publicly disclosed procedures for facilitating the suspension and orderly exit of a participant that breaches, or no longer meets, the participation requirements.

Monitoring compliance

ICNL use a variety of tools to monitor compliance with its access criteria:

- Counterparty Credit Risk Management - daily monitoring of breaches/exceptions in Clearing Member performance measures, including:
 - Number of special margin calls;
 - Guaranty fund, collateral and initial margin levels;
 - Missed margin payments/EOD cash calls;
 - Counterparty credit rating; and
 - Capital to margin limits.
- Monitoring of compliance with Clearing and Delivery Procedures by ICNL Operations Department;
- Watch List monitoring;
- Monitoring of the Counterparty Rating System (“CRS”), which aggregates key risk factors covering credit, market price and liquidity risk;
- Review of monthly credit reports (at a minimum) with latest financial data submitted by Clearing Members;
- Annual credit reports provided to the ICNL Risk Committee which summarize Clearing Member’s audited annual financial statements; and
- Correspondence with relevant Clearing Member’s management, legal counsel and regulators, as appropriate;
- Frequent full Member review as defined within the ICNL Counterparty Client monitoring-review procedures.

The participation requirements generally do not limit access on grounds other than compliance and risk. The requirements are based upon non-discriminatory objective criteria described above.

ICNL has a Member monitoring plan in place to ensure that it monitors the Member in accordance with its risk profile. The relevant monitoring plan is detailed in the Counterparty risk and Collateral Monitoring Procedure.

Suspension and orderly exit

ICNL has objective and transparent procedures for the suspension and orderly exit of Clearing Members that no longer meet the criteria referred to in paragraph 1 in Rules 208 and 209. ICNL may only deny access to Clearing Members meeting the objective criteria referred to above where duly justified in writing. Any applicants may appeal any such decision to the Board. Relevant procedures are detailed in the ICNL Clearing Rules and Procedures (please see Rules 208 and 209) which are publicly available.

If a Clearing Member no longer satisfies the aforementioned criteria, ICNL may:

- suspend its relationship with the Clearing Member;
- terminate its relationship with the Clearing Member as stated in the Clearing Membership Agreement;
- refuse to register Derivative Contracts; or
- make registration of Derivative Contracts to specific conditions, or impose additional conditions which ICNL deems appropriate in the circumstances and notifies in writing to the Clearing Member.

Before exercising any such power, ICNL may, but is not obliged to, consult with the Clearing Member, which may result in ICNL specifying a deadline (the latest date and time limit) on which the Clearing Member must have remedied the situation.

In any event and at any time, ICNL can decide to suspend the Clearing Member's activities or terminate its relationship with the Clearing Member under the conditions set out in its Rules and in the Clearing Membership Agreement. The Clearing Member shall inform its clients accordingly. Decisions on suspension or termination made by ICNL will be confirmed in writing to the Clearing Member. A termination is subject to the period of notice set out in the Clearing Membership Agreement.

In case of a Clearing Member suspension or termination event, ICNL will notify the relevant Exchange(s) on necessary suspension / termination measures to take within their operations.

The ICNL Clearing Rules is available on the ICNL website.

Furthermore, suspension or revocation of the recognition of the Clearing Member as such shall be promptly notified to the other Clearing Members by publication in an ICNL Circular. ICNL will also promptly notify the Competent Authorities and the relevant Exchange(s).

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

ICNL operates a principal-to-principal model of clearing participation. Each contract is between ICNL and the Clearing Member, with the Clearing Member having a corresponding (equal but opposite) contract with the Client.

ICNL does not maintain a legal relationship with an (in-) direct Client of a Clearing Member. As a result of this model, ICNL has no direct exposure to the default a Clearing Member's Client.

Obligations to ICNL arising from the activities of indirect Members are in all cases obligations of the relevant Clearing Member, and the risk management processes referred to under Principles 3-10 apply to risk arising from positions recorded in Clearing Members' house and client accounts.

Before offering client clearing, a Clearing Member must obtain authorisation from the ICNL Management Team as well as the Risk Committee. As part of the due diligence, ICNL undertakes a review of the applicant's client risk management approach. Furthermore Clearing Members that also provide clearing services to clients are required to deposit a higher minimum F&O Guaranty Fund Contribution (EUR 3 million) compared to Clearing Members which do not offer client clearing services (EUR 1.5 million).

ICNL requires Clearing Members who offer client clearing services to hold segregated house and client accounts for positions and margins (collateral). Therefore, ICNL offers a choice of client segregated account structures. The clients account segregation offering does support the clearing of direct clients (client of the Clearing Member) as well as indirect clients (client of a direct client of the Clearing Member) - together referred to in this self-assessment of compliance with the PFMI Principles as "indirect participants". An indirect participant has a bilateral agreement with a direct participant. Clearing Members are required to ensure that documentation put in place with indirect participants is in line with ICNL's Rules and Standard Terms. For more details on segregation and portability, see principal 14 and 18.

ICNL's Rules permit it to collect information from Clearing Members related to indirect participants. ICNL collects varying degrees of information about clients of Clearing Members, depending on the segregation model selected, through client account opening procedures. This information is provided and kept updated by Clearing Members, as ICNL has no contractual arrangements with Clearing Members' clients. ICNL continuously reminds its Clearing Members to keep client information up to date and to provide updates at the very least annually.

The data collected is most detailed in the case of clients selecting an Individually Segregated Margin-flow Co-mingled Account (known as "ISOC"). When introducing an ISOC (or indirect client) account, ICNL will request the Clearing Member to provide a Default Portability Preference Notice form, addressing porting information to use in case of a default event of the Clearing Member. Clearing Members may also be mandated to provide client information for those clients which use the Customer Omnibus Account (depending on the margin methodology "gross or net"). Indirect client ("client-of-client") accounts are visible to ICNL in the same way as direct client accounts and hence are subject to the same level of scrutiny and monitoring as direct client accounts. Therefore indirect client clearing risks are identified in each account similarly to direct client clearing risks.

The material risk arising at ICNL from tiered participation is the default of a client, which disrupts or materially adversely affects a Clearing Member. In the event of a Clearing Member default,

ICNL could face risks should positions and collateral held for clients of a defaulting Clearing Member not be able to be ported. ICNL may therefore, in these circumstances, liquidate client positions and apply margin (collateral) in the same way as for house accounts. Following the completion of default-management processes (the closing or transfer of positions and the realisation of margin-collateral) ICNL may apply surpluses in a Clearing Member's house account(s) to offset losses in the Clearing Member's client account(s), but not vice versa.

ICNL mitigates these risks through setting appropriate membership criteria for its Clearing Members, by monitoring client portfolios and accounts, and by setting rules which allow the efficient and timely porting of client's portfolios in default scenarios.

An FMI should identify material dependencies between direct and indirect participants that might affect the FMI.

ICNL identifies material dependencies through monitoring of Clearing Members and the activity in each of its client accounts, be they in omnibus or segregated accounts. ICNL is able to show the proportion of house to client activity for its Clearing Members, and where clients are known, ICNL is also able to establish an account of the exposure to named clients in total, by clearing service and by Clearing Members.

ICNL monitors all Client Accounts on a real-time basis as part of its overall review of its Clearing Members. ICNL can apply margin multipliers where a Clearing Member's aggregate client portfolio is overly concentrated. The ICNL margin methodology (in terms of initial, liquidity and concentration margin) increases margin requirements progressively with large positions in both proprietary and client accounts.

ICNL looks through to indirect participant in terms of position or market risk and collateralises the risk to the same confidence level as if it is brought by its direct participant. This approach is consistent with its credit risk management. Whilst the default probability is based on the direct participant, the market risk component takes full consideration of both direct and indirect participant positions. In summary, ICNL takes a very conservative approach to the risk and treats higher-order risks as if primary risk to the FMI.

An FMI should identify indirect participants responsible for a significant proportion of transactions processed by the FMI and indirect participants whose transaction volumes or values are large relative to the capacity of the direct participants through which they access the FMI in order to manage the risks arising from these transactions.

ICNL identifies indirect participants responsible for significant proportions of transactions by monitoring the activity of its Clearing Members and the activity in each of its client accounts. It is able to show the proportion of house to client activity for its Clearing Members, and where clients and indirect clients are known by ICNL is able to build a picture of the exposure to named clients in total, by clearing service and by Clearing Member.

ICNL's risk in the event of default by a Clearing Member is the net position of the Clearing Member and its clients. Accordingly ICNL's primary focus is on monitoring positions rather than volumes or values of transactions.

ICNL monitors daily reports of client positions and associated cash flows. ICNL applies margin multipliers, where a participant's client portfolio is overly concentrated. Both ICNL and the exchanges to which it provides clearing services monitor trading activity and positions of indirect clients through, inter alia, Large Trader Reports and monitoring of positions ahead of physical delivery.

Where appropriate, ICNL will require additional margin to be posted in the form of:

- concentration charges
- stress loss charges

ICNL assumes the position risk posed by indirect participant as if it is the first order risk to the Clearing House (or risk posed by direct participant). Credit risk component of the rating model is based solely on the direct participant - See Principle 4 for more information.

An FMI should regularly review risks arising from tiered participation arrangements and should take mitigating action when appropriate.

ICNL reviews the risks arising from tiered participation arrangements through the production of daily client positions and associated cash flow reports. ICNL applies margin multipliers, where a participant's client portfolio is overly concentrated.

ICNL monitors all Client Accounts as on a real-time basis as part of its overall review of its Clearing Members. This includes, inter alia, intra-day margin exposures, inclusion in its Counterparty Rating System and application of concentration charges (as appropriate) on the customer account.

ICNL has taken legal opinion on the enforceability of its Clearing Rules in all jurisdictions where Clearing Members are based. ICNL has also set out guidance to Clearing Members on Customer Documentation requirements.

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

Before entering into a link arrangement and on an ongoing basis once the link is established, an FMI should identify, monitor, and manage all potential sources of risk arising from the link arrangement. Link arrangements should be designed such that each FMI is able to observe the other principles in this report.

For each new link being proposed, either triggered by the business or regulatory enforced, ICNL will undertake an internal assessment with the following aspects being considered: the rationale and need behind the request, market options for the FMIs and a due diligence. As part of the due diligence - onboarding process a customized risk analysis will be performed. ICNL defined the following risk components; credit, Liquidity, operational, technical resilience, custody, concentration, legal, regulatory, contingency and information security aspects. Depending on the nature of the new proposed link an assessment will be performed based on the applicable risk components.

To support the aforementioned process, the potential new FMI needs to provide all relevant information as requested by ICNL, either electronically (via internet application) or via completed RFI forms.

A new link can only be effective if the internal governance process is followed and the approvals required are in place.

ICNL has in place FMI links with: the Payment System (Target2) for the collection of Member cash on ICNL's Central Bank Account with DNB, Euroclear Bank to facilitate the non-cash collateral process and Trade Repository (GTR DTCC) to comply with the EMIR trade reporting requirements.

All the FMI links forms part of the day to day clearing process of ICNL. Daily reconciliation controls are in place to monitor the performance of the FMI links.

Ongoing due diligence of all FMI links will be performed as defined within internal policies or procedures.

In case of an operational issue with an FMI link, an incident procedure and process is in place to report and monitor the incident. (OIR Process)

The FMI Euroclear Bank link gives rise to custody risk (safekeeping of non-cash collateral) and to technical resilience risk aspects (dependency on SWIFT). Contingency procedures are in place (ICSD electronic application) to mitigate the impact of a SWIFT outage

The FMI T2 link gives rise to payment risk and also to technical resilience risk aspects (also dependency on SWIFT). Contingency procedures with DNB are in place to mitigate a SWIFT outage event.

The FMI Trade Repository link gives rise to regulatory and reputational risks. Technical resilience risk are low due to a variety of data communication tools facilitated by the TR. If the TR does not perform, procedures are in place to timely report data to the NCA.

ICNL has well defined general procedures in place with regards to the use of (electronic) communication and operation of the links to the defined FMIs. These procedures are designed to control and mitigate any risk ICNL may pose to the other FMI.

The FMI links are part of the general risk management framework and vendor management procedures of ICNL therefore ensuring observance with the other principles. ICNL is deemed to be compliant with EMIR which also includes observing these principles.

ICNL will at least annually review its risk management framework and links with FMI's as part of the defined annual review cycle. The annual review cycles are strictly controlled within the ICNL Compliance Programme.

A link should have a well-founded legal basis, in all relevant jurisdictions, that supports its design and provides adequate protection to the FMIs involved in the link.

The link between ICNL and Euroclear Bank is covered under Belgium law. Terms and conditions are covered in a contract between ICNL and Euroclear Bank.

The link between ICNL and GTR DTCC is covered under Irish law. Terms and conditions are covered in a contract between ICNL and GTR DTCC Ireland.

The link between ICNL and TARGET2 is covered under Dutch law. Terms and conditions are covered in a contract between ICNL and DNB and can be found under TARGET2-ECB (ECB/2007/7)

All three links are established within the EU, fall under EU and local legislation and due to their function, design and applicable oversight they provide adequate protection to the FMIs involved in the link.

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

An FMI should be designed to meet the needs of its participants and the markets it serves, in particular, with regard to choice of a clearing and settlement arrangement; operating structure; scope of products cleared, settled, or recorded; and use of technology and procedures.

In the operational clearing process, there are several needs of participants which are taking into account. This is translated in different choices participants can make. For example:

- Clearing Members may clear options trades which are either American-style or European-style. American-style options can be exercised by the clearing Member before the expiration date; this is referred to as an early exercise.
- Clearing Members can instruct ICNL to exercise out-of-the-money or at-the-money series

ICNL offers clearing Members a range of reports and data files, distributed via MFT. The reporting files contain all required information both in printable statements as well as in data files for further processing.

ICNL offers a service to transfer derivatives positions within the account structure of the clearing Member (internal transfers) or between clearing Members (external transfers).

Within its general business ICNL always tries to take the clients' needs into account. The different committees as well as the reviews serve as mechanisms to optimize the clients' needs and the markets it serves. Additionally, the governance structure is set up in a way it optimizes this as well.

An FMI should have clearly defined goals and objectives that are measurable and achievable, such as in the areas of minimum service levels, risk-management expectations, and business priorities.

ICNL has defined the following main strategic goals:

- Delivery of trustworthy, reliable and robust services
- The first and most important priority for ICNL is to deliver reliable and robust CCP services, including the appropriate risk measures and margin calculations.
- Delivery of a highly efficient product
- The ICNL product must be highly efficient for its clearing Members. High availability of normalised data delivery is key. Systems and reports delivered to users must be easy to read and intuitive to understand.
- Delivery of a competitive solution
- The ICNL solutions must be competitive in the marketplace, with transparent and simple pricing models which makes the cost of clearing for the Members highly predictable over a longer period of time.
- Delivery of innovative, smart and durable alternatives for new and existing product ranges
- ICNL will deliver solutions with the aim to bring reliable, efficient and competitive alternatives to the financial market. ICNL must provide agility and short time to market.

ICNL use KPIs to monitor whether it is actually meeting its goals and objectives. These objectives are shared with the regulators on a monthly basis via the monthly performance report and KPI report.

ICNL has achieved its objectives in past few years. Evidence of this fact is shared with the Board and the regulators via the KPI report, the incident management report, and the operation objectives report.

ICNL also publishes to what extent goals and objectives have been achieved in the annual directors' report, as part of the annual report.

An FMI should have established mechanisms for the regular review of its efficiency and effectiveness.

As mentioned above ICNL monitors its goals and objectives based on pre-defined KPIs. Furthermore, ICNL monitors the efficiency and effectiveness of its risk management framework via back testing and stress testing.

Also, ICNL reports monthly to DNB and AFM which allows the regulators to track efficiency and effectiveness as well.

Compliance has a Programme in place that assesses compliance with all financial laws and regulations applicable to ICNL. Findings are reported to the Management Team as well as to the Audit Committee. Executing this Programme is a continuous effort with the goal of assessing a certain Compliance Obligation every month.

ICNL monitors its efficiency and effectiveness at least on an annual basis. However, various measurement is done more frequently – e.g. the KPIs are monitored monthly.

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

An FMI should use, or at a minimum accommodate, internationally accepted communication procedures and standards.

Communication procedures

ICNL uses various internationally accepted communication procedures such as ISO standards and US standards.

Interfaces with third parties are proprietary on the functional level. On lower levels in the protocol, industry standards, such as ftp and ip are used.

Communication standards

ICNL uses various internationally accepted communication procedures such as ISO standards and US standards.

ICNL uses various internationally accepted communication procedures such as ISO standards and US standards.

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

An FMI should adopt clear and comprehensive rules and procedures that are fully disclosed to participants. Relevant rules and key procedures should also be publicly disclosed.

Rules and procedures

ICNL has made publicly available (via de website) several documents/procedure guidelines. The main document available is the Clearing Rules (including the Rules of Procedure). The Clearing Rules sets out the principles and general conditions governing the organization and operation of the clearing activities of ICNL.

Additionally, documents related to following subjects are made available on the ICNL website:

- Governance
- Risk Management
- Membership
- Circulars
- Operations
- Regulation
- Technology
- Treasury

In addition to the internal process of setting and developing rules and procedures, the external legal counsel periodically reviews the Clearing Rules and Rules of Procedure. ICNL has a process in place to annually review and approve Controlled Documents. In this process the departments, the Management Team and/or, depending on the document, the EMIR Committees and the Board are involved as well. Through the annual article 21 review of the NCA's, certain documents are reviewed by them as well and processed in the annual risk assessment that is disclosed to the EMIR College.

Disclosure

The Clearing Rules describes the rules in case of a Default of a participant (Part 9). Additionally, the Default framework is available and describes the procedure for the measures as set out in Part 9 of the Clearing Rules.

A couple of other, non-routine though foreseeable events are described in the Clearing Rules (rules and procedures):

- An ICNL Default Event,
- ICNL Insolvency Event,
- ICNL Withdrawal of Authorization Event

Other events to be considered are extreme market events such as the Brexit. We consider that such events are already covered in the Clearing Rules by the discretionary powers in the Clearing Rules.

Rule 109 of the ICNL Clearing Rules describes the process for changing its rules and procedures:

The Clearing House shall provide details (which, where appropriate, will include a reasoned account) of any Rule Change in a Circular. A Rule Change shall take effect and be binding on the Clearing House, Clearing Members, Sponsored Principals and other Persons who have agreed to be bound by the Rules on the relevant date specified by the Clearing House in a Circular. Where the reason for any Rule Change is not manifest in the amended text of the Rules, the Clearing House will seek to provide an appropriate reasoned account of the Rule Change..

All Circulars are disclosed on the ICNL website and therefore publicly available. In the situation that the Clearing Rules and the Rules of Procedures are reviewed and changed by the external counsel, the Management Team is closely involved and eventually approves the changes which are also disclosed and approved by the Board.

The Clearing Rules, are publicly accessible via the ICNL website.

An FMI should disclose clear descriptions of the system's design and operations, as well as the FMI's and participants' rights and obligations, so that participants can assess the risks they would incur by participating in the FMI.

ICNL's Clearing Rules describes the principles and general conditions governing the organization and operation of the clearing activities. However, other documents also compromise information regarding the system's design and operations.

ICNL's Clearing Rules includes several rules which indicate a degree of discretion it can exercise over key decision that affect the operation of the system, e.g.:

- ICNL may refuse recognition if, based on a comprehensive risk analysis, it considers that such recognition may adversely affect the operation of the Clearing System or if the Applicant does not comply with its obligations to another clearing house or central securities depository
- ICNL may (i) suspend its relationship with the Clearing Member; (ii) terminate its relationship with the Clearing Member as stated in the Clearing Membership Agreement; (iii) refuse to register Derivative Contracts; or (iv) make registration of Derivative Contracts to specific conditions, or impose additional conditions which ICNL deems appropriate in the circumstances and notifies in writing to the Clearing Member.

The rights, obligations and risks are all described in the Clearing Rules and in the document called Risk Associated With The services Provided.

An FMI should publicly disclose its fees at the level of individual services it offers as well as its policies on any available discounts. The FMI should provide clear descriptions of priced services for comparability purposes.

These are disclosed via relevant Circulars: one about the trade related fees and one about the non-trade related fees. This information is publicly available via the website.

The ICNL Clearing Rules is supplemented by Circulars and published in accordance with the ICNL Clearing Rules. In the event of any conflict between the provisions in the Clearing Rules and the provisions in the Circulars, the provisions in the Clearing Rules will prevail.

The ICNL Clearing Rules may be modified from time to time by ICNL. The Clearing Member will be informed with reasonable prior notice of each change in writing or by such other means as may be specified by ICNL. During the consultation period, the Clearing Members do have the

possibility to question the envisaged changes.

The Circulars related to trade and non-trade related fees clearly describe the costs per contract/lot and additional fees. Therefore, it allows for a comparison across similar FMIs.

ICNL does not publicly disclose information on its technology and communication procedures. This information can be obtained on request.

An FMI should complete regularly and disclose publicly responses to the CPMI-IOSCO disclosure framework for financial market infrastructures. An FMI also should, at a minimum, disclose basic data on transaction volumes and values.

The latest FMI disclosure document is disclosed on the website and is from 2019. ICNL strives to update the framework annually, but certainly every 2 years. In practice, the CPSS-IOSCO framework is a document that is continuously being maintained. The ICNL Management Team decided when an updated version of the FMI disclosure is published.

Turnover statistics are published. On a quarterly basis ICNL publishes a quantitative disclosure file that contains the data elements included in the CPMI-IOSCO public quantitative disclosure standards for central counterparties.

Any information that ICNL discloses can be found on the ICNL website.

Any information that ICNL discloses can be found on the ICNL website. All information is provided in English.

Principle 24 - Disclosure of market data by trade repositories

A TR should provide timely and accurate data to relevant authorities and the public in line with their respective needs.

Summary narrative

Not applicable.