



ICE Clear Netherlands

Compliance with Principles for Financial Market Infrastructure - as of May 2017 -

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Table of Contents

1. INTRODUCTION	4
2. EXECUTIVE SUMMARY	4
3. SUMMARY OF MAJOR CHANGES SINCE THE LAST UPDATE OF THE DISCLOSURE.....	5
4. GENERAL BACKGROUND ON THE FMI	5
4.1 GENERAL DESCRIPTION OF THE FMI AND THE MARKETS IT SERVES	5
4.2 GENERAL ORGANISATION OF THE FMI.....	5
4.3 LEGAL AND REGULATORY FRAMEWORK	5
4.4 SYSTEM DESIGN AND OPERATIONS	6
5. PRINCIPLE-BY-PRINCIPLE SUMMARY NARRATIVE DISCLOSURE	6

Compliance with Principles for Financial Market Infrastructure

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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
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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.

ICNL provides two types of clearing membership based on the level of client clearing required:

- General Clearing Participant; authorized to clear trades for their own account or trades which have been undertaken on behalf of its clients or other trading participants (GCM).
- Direct Clearing Participant; authorized to clear trades for its own account or trades which have been undertaken on behalf of its clients (DCM).

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 participant.

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

This FMI disclosure template contains the self-assessment of ICNL against the CPSS-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. As reference date, ICNL set 31 May 2017.

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

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

The last assessment took place in 2015 and publication was done in December of that year. Since the last disclosure the following major changes with ICNL occurred:

- On 18 November 2016, ICNL received formal approval from the Dutch regulators for clearing systems migration as well as a change in margin model from Correlation Haircut to the ICE Risk Model.
- Material policies and procedures were prepared and implemented. These concerned the Operational risk framework and the Recovery and Wind Down procedure. Formal approvals from the Dutch regulators were received on changes in the legal and regulatory framework, as well as in the governance structure.

After the reference date of this assessment, but worth mentioning, is that as per 15 June 2017, the minority share of 25% held by ABN AMRO Clearing Investments B.V. was sold to IntercontinentalExchange Holdings. Subsequently ICE Clear Netherlands became a 100% subsidiary of IntercontinentalExchange Holdings.

On 31 March 2017, TOM B.V. (TOM MTF) has decided to cease its operations. ICNL has therefore stopped clearing business for TOM MTF as per 29 June 2017. ICNL will remain active and licensed as a Central Counterparty under the European Market Infrastructure Regulation (EMIR).

Currently, ICNL is preparing to extent its EMIR authorisation in order to be able to clear a wider range of asset classes as well as Regulated Markets.

Please note that the 2015 PFMI/IOSCO disclosure is not available on the website anymore. A copy of this disclosure document can be obtained by any stakeholder through contacting the person mentioned under 1.

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. The ICE Risk Model is a sophisticated risk management system, validated by amongst others the Dutch financial markets regulators for calculating Basel II capital requirements for credit and market risk. Stress haircut, margin and concentration risks of portfolios are calculated on an ongoing basis and values are stored in a central database.

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.**

ICE Clear Netherlands (ICNL) operates as a central counterparty (CCP) for equity and index derivatives traded on TOM MTF. These equity derivatives include single stock options and futures, and index options and futures.

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.

With respect to ICNL's current service offering the relevant jurisdictions are the Netherlands (Dutch law) and the United Kingdom (UK law). Both ICNL and TOM MTF are established under Dutch law. General Clearing participant Interactive Brokers (U.K.) Ltd is established under UK law.

ICNL operates on the basis of Open Offer. The ICNL Clearing rules states that ICNL makes an offer to the Clearing Participant to enter into a Derivative contract with that Clearing Participant.

A Derivative contract comes into existence when the following three requirements are met:

1. no measure has been taken under article 3.7 of the Clearing Rules;
2. the Entry of a Match occurs on the day of conclusion of such Match;
3. there is no ground of rejection under Regulation Match Rejection and the requirements of the Regulation Match Rejection have otherwise been satisfied.

In the interests of the proper functioning of the Clearing System, ICNL may take any measure it reasonably deems necessary in relation to the organisation and the operation of the Clearing System taking all relevant circumstances into account, whether or not these measures are set out in the Clearing Rules.

ICNL has ensured the legal basis for open offer by means of legal opinion on 1 August 2014.

ICNL automatically nets all Option Contracts and automatically net all Futures Contracts.

All Option Contracts where the Clearing Participant is a Holder or a Writer that:

- (i) are in the same series; and
- (ii) are credited to a Net Account, shall be netted automatically with all Option Contracts where

that Clearing Participant is the Writer or the Holder, as applicable, at such times as determined by ICNL. The right to exercise and the latent obligation upon assignment of that Clearing Participant shall reduce or terminate in accordance with these netting principles.

All Option Contracts where the Clearing Participant is a Holder or a Writer that:

- (i) are in the same series;
- (ii) are credited to a Gross Account; and
- (iii) where in the Entry is indicated that it is a close transaction, shall be netted automatically and the right to exercise and the latent obligation upon assignment of that Clearing Participant shall reduce or terminate accordingly.

All Future Contracts with a Clearing Participant that:

- (i) are with identical relevant terms and conditions; and
- (ii) are credited to a Net Account, shall be netted automatically with all Future Contracts with that Clearing Participant, at such times as determined by ICNL.

All Future Contracts with a Clearing Participant that:

- (i) are with identical relevant terms and conditions;
- (ii) are credited to a Gross Account; and
- (iii) where in the Entry is indicated that it is a close transaction, shall be netted automatically with all Future Contracts with that Clearing Participant, at such times as determined by ICNL.

The ICNL Clearing Rules together with the Clearing Participants Agreements for the clearing of Matches between ICNL and the Clearing Participants have been designated by the Dutch Ministry of Finance as a system pursuant to the EU Settlement Finality Directive. Any Entry into the ICNL system qualifies as an entry into a settlement finality system and is irrevocable in the sense of the Dutch Bankruptcy Law (*Faillissementswet*, article 212b).

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.

The ICNL rules, procedures, and contracts are considered controlled documents. For all these documents ICNL keeps a log who has reviewed these policies and who has provided final approval.

Almost all rules, regulations, and contracts have been reviewed by an external legal counsel. Furthermore, as part of the EMIR license process almost all rules, procedures, and contracts have been reviewed and where applicable approved by the DNB, AFM and the EMIR College. Furthermore, the in- and external auditor do review ICNL's policies as well Compliance.

Apart from the approvals as part of the internal governance process all rules, procedures, and contracts have to 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 - www.theice.com/clear-netherlands - provides the necessary information on the legal basis to the relevant authorities, participants, participants' 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 with regard to the material aspects of its activities and whether its rules, procedures, and contracts are enforceable under Dutch and UK law. The legal advice concludes that these are enforceable under Dutch and UK law.

ICNL has obtained legal advice that its rules, procedures, and contracts are enforceable under Dutch and UK 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.

As mentioned above the primary place of business of ICNL is in the Netherlands. ICNL does have clients that have their statutory seat in the United Kingdom and are therefore governed by UK law.

ICNL has obtained legal advice that its rules, procedures, and contracts are enforceable under Dutch and UK 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. At a functional level, the function heads will share the full set of objectives, responsibilities, and goals with their teams. At an individual level, individual job goals are defined that contribute to the corporate and functional goals and objectives.

ICNL objectives are consistent with the requirements laid down in EMIR. Therefore the objectives place a high priority on safety and efficiency.

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 five non-executive board members (of whom 2 members are independent). In addition to the Board, the Management Team will be 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 and its affiliated entities taken into consideration the interests of all of ICNL's stakeholders and society at large. The Board members are accountable for the performance of its duties to the General Meeting of Shareholders.

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 three (non-executive) representatives in the Board.

The governance arrangements are fully disclosed to ICNL's owners and its relevant authorities. ICNL's participants and the public can find a high level overview of the governance arrangement on the ICNL website -

[https://www.theice.com/publicdocs/images/Clear Netherlands Governance Chart.png](https://www.theice.com/publicdocs/images/Clear_Netherlands_Governance_Chart.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.

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, Head of Operations, and Head of Banking & Treasury.

Furthermore, ICNL has also established the following committees:

- Risk Committee;
- Audit Committee;
- Remuneration Committee;
- Nomination Committee (as part of the Board).

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

Review of performance of the Board as a whole is done on a yearly basis and is part of the Terms of Reference of the ICNL Board and the HR policies of ICNL. The HR policies also include the review of the performance of individual board members. Remuneration based on this perform is in the remit of the remuneration committee.

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).

Staff engaged in risk management (to include the Risk Department, and Independent Risk Director); compliance; and internal audit are compensated in a manner that is:

- Independent of the business performance of the CCP; and
- Adequate in terms of responsibility as well as in comparison to the level of remuneration in the business areas.

The remuneration committee will be responsible for determining the appropriate level of remuneration by balancing short term performance vs. long term achievement of the objectives.

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

The ICNL 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 ICNL 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.

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 CRO will have primary responsibility to make sure that ICNL responds to all risks it face in accordance with the risk tolerance set.

The risk management framework will be reviewed at least on a yearly basis.

The CRO is responsible for the establishing and maintaining an independent risk management function in order 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 handling of the day to day risk management is mainly the task of the ICNL Risk Management Department. The ICNL Risk Management Department is headed by the CRO. The CRO has a direct reporting line to the President/COO and a functional reporting line to the Independent Board member responsible for Risk.

ICNL risk management models are reviewed on a yearly basis by an independent company. 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, clearing 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 of regulators.

The Risk Committee has the right to advise the ICNL Board on any Obligatory Matters. The advice given by the Committee must be 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 Participant of ICNL or part of the group to which a Clearing Participant belongs that is required;
- and such number of representatives of Clients of Clearing Participants 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 will be disclosed via the ICNL website as they are incorporated in the relevant documents on the website.

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 TOM MTF. As such ICNL faces risks that arise from:

- Clearing Participants,
- possibly the clients of Clearing Participants,
- securities settlement and payment systems,
- settlement banks,
- liquidity providers,
- central securities depositories,
- trading venues served by ICNL,
- and other critical service providers.

In particular, ICNL bears the following risks:

- counterparty risk;
- credit risk;
- market risk;
- liquidity risk;
- operational risk.

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.

To manage any possible credit risk ICNL has established the Regulation Collateral and has set concentration limits. ICNL has also established the Investment 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, which is used under license issued by the CME group.

ICNL has put into place the Margin Testing policy (containing of the Back Testing Policy, the Stress Testing Policy, the Sensitivity Testing Policy and the Reverse Stress Testing Policy) in order to ensure that Collateral, Clearing 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 has established the Default Management Procedure.

To manage its liquidity risk, ICNL has established the Liquidity Risk Management Framework

and the Liquidity Plan, 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 policy which includes business continuity and recovery plans, amongst others.

As mentioned above ICNL uses The ICE Risk Model 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.
- ICE Risk Model Parameter Manager via which risk parameters in the Model can be changed and the impact of these changes on margin requirements can be assessed.
- Super Derivatives and Bloomberg 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.

The Risk Management of ICNL is the responsibility of the ICNL Risk Management Department 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.

The handling of the day to day risk management is the task of the ICNL Risk Management Department.

Based on the risk methodologies and policies approved by the Board of ICNL, ICNL Risk Management Department's objectives are to monitor, manage and control the risk exposures of ICNL within acceptable parameters as stipulated by the Board of ICNL, which has overall responsibility for the Risk Management function within ICNL.

The ICNL Risk Management Department is headed by the Chief Risk Officer (CRO). The CRO reports to the COO who is responsible for Audit, Risk Management, and Compliance and to an independent member of the ICNL Board through the chair of the ICNL Risk Committee. The authority and the responsibilities of the CRO are further described in the Risk Manual. The tasks of the CRO and the ICNL Risk Management Department are further described in the ICNL Risk Manual.

ICNL assesses the effectiveness of its risk management policies, procedures, and systems by

analysis of testing results described in the Margin Testing policy and the Liquidity Risk Management Framework.

ICNL will review its Risk Framework at least once a year. Furthermore, as mentioned above ICNL on a monthly basis review whether the stress testing scenarios, models and liquidity risk management framework, underlying parameters and assumptions are correct.

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 report to each clearing member which enable 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 liquidation value of the portfolio,
- the haircut,
- the margin requirements,
- the collateral available,
- any excess collateral,
- any deficits.

Furthermore ICNL provides its participants with a General User Interface (GUI) that allows them to monitor their activity during the day.

The ICE Risk Model 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 provide by the availability of a GUI and detailed daily margin reports.

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

Furthermore, ICNL participants have influence on 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 described above, ICNL bears the following risks:

- counterparty risk;
- credit risk;
- market risk;
- liquidity risk;
- operational risk.

At the same time the above also holds for the risks that ICNL poses to other entities as a result of interdependencies. The Risk Framework has been designed in such a way that the risks ICNL may pose to other entities as a result of interdependencies are limited.

In fact, identifying the risks that ICNL bears allows ICNL to mitigate the risks that ICNL poses.

The Business Impact Analysis (BIA) gives an overview of the interrelation and dependencies that ICNL faces to and from other parties, both internally and externally. The possible business risk that might follow from these interdependencies is considered by ICNL.

A disruption of ICNL would mean that- in the worst case- TOM would have to redirect its business towards another platform, e.g. Euronext. This would not cause severe problems for the market.

A disruption at the side of TOM would merely mean that ICNL would not receive any new transactions. Although this is not ideal from a commercial perspective, this poses no threat to the market.

The BIA charts the criticality of ICNL's functions and processes to the other involved parties (TOM, MTF, Clearing Participants, settlement agent etc.). A scenario based risk analysis is used in order to identify how various scenarios affect the risks to the ICNL's critical business functions.

ICNL reviews its Risk Framework including BIA at least on a yearly basis. Furthermore risks are monitored on a daily basis and the various tests are performed on during the year.

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 BIA 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 RTO and RPO ratings. ICNL has identified as critical processes :

- Deal capture
- Cash settlement
- Margining
- Collateral management receiving
- Collateral management delivery

- Corporate actions

All of these, except Collateral management delivery (4 hours), have an RTO of maximum 2 hours.

ICNL has also established a Crisis Management Plan. As part of the Crisis Management Plan, ICNL has identified its critical processes and the scenarios that could lead to a crisis.

The crisis scenario's identified are:

- lack of staff;
- building - evacuation;
- building - no access;
- Data or Voice communications unavailable;
- Pandemic;
- IT issues.

The scenarios that ICNL takes into account also cover independent and related risks.

The current activities of ICNL are to provide CCP services for derivatives traded on TOM MTF.

The capital requirements under EMIR can be considered to provide the necessary capital to ensure recovery or orderly wind-down of ICNL.

ICNL has provided an estimate of the appropriate time span for winding down or restructuring its activities as part of the capital requirements under EMIR.

ICNL drafted a detailed Recovery Plan. The Recovery 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 FMIs, and recovery plan review and governance.

ICNL has described the key recovery or orderly wind down strategies as part of its Recovery Plan. ICNL's Recovery Options have been grouped into Recovery Tool Sets that reflect their generic purposes.

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 as a consequence of Clearing Participant 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 Committees, ICE Inc., Clearing Participants, regulators and other stakeholders.

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

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 which is described in the document Risk 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 Participant's failure to comply with a financial or contractual obligation. As guarantor ICNL will have to fulfil a defaulting Clearing Participant's obligations towards the other Clearing Participants as far as ICNL is concerned.

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 Participant by buying/selling in the market, and settlement or principal risk, which is the risk of loss on deliverables or receivables from the defaulting Clearing Participant.

ICNL has mitigated these risks through prudent and careful monitoring of the credit exposures it faces in relation to each Clearing Participant (as these exposures are closely linked to market risk).

ICNL accepts both cash and non-cash collateral whereby haircuts are imposed on collateral. Eligible collateral and the respective minimum haircuts have been laid down in the Regulation Collateral. Both cash and non-cash collateral are being held at a commercial bank account in the name of the client, whereas ICNL has a pledge over the collateral at the bank. In addition, a guarantee by DNB is also accepted as collateral.

The credit risk of ICNL towards its Clearing Participants can also be further mitigated by position and trading limits 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 Participants.

The Risk Framework is reviewed at least once a year and earlier if deemed necessary.

New products (i.e. e.g. starting the clearing of trades on new exchanges, of new products on already cleared exchanges) first need the approval of the ICNL Board. 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 through the use of the ICNL risk management framework. ICNL identified concentration risk and investment risk as sources of credit risk.

On a daily basis ICNL Risk Management produces a daily risk report. This report includes per Clearing Participant account:

- Collateral, Margin,
- Collateral/Margin,
- Long settlement obligation,
- Short settlement obligation,
- Stress haircut (25%) up to 75% in steps of +/- 10%,
- Concentration risk per product and their changes to the previous day.

Violations on limits and actions taken are stated. The violation page also shows the number of days that a Clearing Participant has been in a violation.

Periodically, ICNL Risk Management produces a risk analysis for each Clearing Participant. The ICE Risk Model stress tests and other reports are the basis for these analyses. The aspects below should be part of the risk analyses:

- Risk management issues with the Clearing Participant;
- Net liq / Margin or Collateral / Haircut graph(s) with explanation;
- Statistics net liq /Margin or Collateral / Haircut;
- Review of the “Greek Position”,
- analyses of premium investment per maturity,
- analyses of the worst case scenarios for this Clearing Participant,
- and an assessment of the possibilities to mark the position.

The collateral monitoring policy is set out within the Counterparty Risk and Collateral Monitoring policy. ICNL applies a strict collateral policy, only allowing cash, a limited amount of government bonds or a guarantee provided by the Dutch Central Bank.

For government bonds ICNL monitors the creditworthiness in which the external ratings play an important role. However ICNL also takes into account other sources of information such as CDS spreads. The use of the Counterparty Monitoring Report is an example of how ICNL is monitoring the ratings and CDS developments of the eligible issuers.

In 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 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.
- 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 to cash deposits.
- Investments are secured by collateral (repo) have claims on high quality obligors to mitigate the credit risk to which ICNL and its customers are exposed.
- Sets suitable haircuts dependent 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.

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

- Only the use of approved counterparties.
- Where cash is 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, the higher of 25% of the total available resources and maximum of EUR 20m per approved counterparty (authorized credit institution with an Investment Grade rating) applies. Unsecured cash accounts at a central bank are exempt from this limit.
- For secured Cash transactions (repo), the general OBSI (Off Balance Sheet Instruments) framework is applicable: a maximum of 10% of the net worth of an approved counterparty is available to cover the applicable 'add on' (2% for EU government securities as named in 3).
- For financial instruments that are pledged as collateral and posted at one of the eligible counterparties (central bank, operator of Securities Settlement System or approved authorized credit institution with an Investment Grade rating and in a bankruptcy remote setting), no maximum limit is applicable.
- Mix Cash-Repo; Up to 80% of the total assets are allowed to be invested in repos as long as the funds are invested within the applicable limits per counterparty.

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.

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.

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.

As mentioned above the Investment Policy dictates that ICNL can only invest in cash and Repurchase Agreements with an approved authorized credit institution; only bonds by the central government and debt securities issued by central banks of Austria, Belgium, Finland, France, Germany, Luxemburg and the Netherlands with a maximum of 10 years to maturity as underlying or cash.

As far as ensuring that the average time to maturity of the portfolio remains under 2 years is concerned ICNL has incorporated a 2 year limit in its analysis.

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.

All policies and limits are reviewed at least annually.

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.

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

1. Membership requirements

Only qualified firms will be accepted as a Clearing Participant of ICNL.

2. Collateral

ICNL requires Clearing Participants to deposit Collateral at ICNL in order to meet the margin requirements on the open positions.

3. Clearing Fund

In the unlikely event that a Clearing Participant goes into default and the collateral of the Clearing Participant is not enough to cover the liquidation cost of the portfolio of the Clearing Participant the Clearing Fund provides an additional significant buffer.

The Clearing Fund contributions of non-defaulting Clearing Participants will only be used after the following are exhausted (in that sequence, see also ICNL Rulebook):

- the Collateral of a defaulting Clearing Participant;

- the Clearing Fund contribution of the defaulting Clearing Participant;
- ICNL pre-funded dedicated own resources.

These financial resources shall enable ICNL to withstand the default of at least the two Clearing Participants 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 Clearing Fund framework and governance is described below.

4. ICNL's own capital: When the resources of the default fund are exhausted, ICNL's capital and ICNL's parents' guarantee will be called upon.

Layer 1 provides assurance that all Clearing Participants are qualified to be accepted as Clearing Participants, whereas layer 2 provides assurance that the portfolio of the Clearing Participant can be liquidated in case of a default under normal or mildly extreme circumstances without additional costs to the other Clearing Participants. Layer 3 provides assurance that in case the circumstances turn extreme, there will still be enough funds to cover for a potential default. Finally, layer 4 provides protection in case the other layers of protection fail, however the scheme is designed not to have to call upon layer 4.

To cover current and potential exposures ICNL uses the ICE Risk Model to calculate the necessary financial resources.

The ICE Risk Model 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 the ICE Risk Model analysis is to simulate potential market moves and calculate the profit or loss on individual contracts given the market moves using ICE Risk Model risk arrays.

ICE Risk Model 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, the Stress Testing Policy, the Sensitivity Testing Policy and the Reverse Stress Testing Policy in order to ensure that Collateral, Clearing 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.

As required by EMIR, the default waterfall is sized to cover the default of the two largest

participants. 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, and business risk.

ICNL calculates the additional resources on the basis of the EMIR requirements. The levels are reviewed frequently because these are dependent on a percentage of a certain base number - i.e. credit/counterparty/market risk is calculated as 8% of its 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, regulations and procedures regarding the management of risk including. This includes for instance the amount of dedicated own resources made available on the ICNL website.

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 CRO. The CRO 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.

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.

The policy for stress testing is laid down in the Margin Testing Policy, the Liquidity Risk Framework and the Liquidity Policy.

Stress testing is applied to assess the outcome under stressed circumstances. The stress tests focus on testing whether the combination of margin, default fund contributions, dedicated own resources and other financial resources are sufficient to withstand the specified stress tests.

The stress tests for the total financial resources are performed on a daily basis. ICNL Risk Management reports the stress test results and their analysis to the Clearing Participants on a daily basis. ICNL Risk Management reports the stress tests results on their analysis on a weekly basis to the ICNL Board of Directors who periodically reports these results and their analysis to the ICNL Risk Committee. In case the requirement resulting from the stress test is higher than the Collateral plus the Clearing Fund contribution of the Clearing Participant, ICNL can take action by contacting the Clearing Participant 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 on a daily basis by the ICNL Treasury Department. Every month the results are reported to the ICNL Board of Directors and to the CRO. Treasury daily monitors the applicable liquidity risk exposure concentration limits and sent the corresponding reports to the President/COO. 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 liquidity from Clearing Members

The escalation process in case of a liquidity shortfall is that Risk management informs the management team and they, in turn, the ICNL Board. They decide whether ICNL needs to take any additional action to obtain additional liquid means. Within the documents of ICNL a contingent liquidity facility is mentioned as a source of liquidity, however this contingent facility is not in place.

ICNL Risk Management reports the stress test results and their analysis to the Clearing Participants on a daily basis. ICNL Risk Management reports the stress tests results on their analysis on a weekly basis to the ICNL Board who periodically reports these results and their analysis to the ICNL Risk Committee. In case the requirement resulting from the stress test is higher than the Collateral plus the Clearing Fund contribution of the Clearing Participant, ICNL can take action by contacting the Clearing Participant 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 liquid means. Within the documents of ICNL a contingent liquidity facility is mentioned as a source of liquidity, however this contingent facility is not in place.

Once a month, ICNL conducts reverse stress tests for each of the business days of the previous months. ICNL has developed a stress testing and back testing framework. The Reverse Stress Testing Policy forms part of that. While stress testing uses extreme but plausible market conditions, reverse stress testing will use extreme market conditions that go beyond what are considered plausible market conditions. The Reverse Stress Testing Policy describes such extreme market scenarios beyond extreme but plausible.

Models and methodologies adopted to calculate its Margin, Collateral haircut, Clearing Fund and other financial resources methodologies and framework for calculating liquid financial resources used by ICNL are in scope.

The Model Validation Process 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, Clearing Fund 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 uses the ICE Risk Model. Validation of this model is

carried out on a yearly basis by the independent model validation team of ICE EU.

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 the total financial resources is laid down in the Margin Testing Policy. ICNL has implemented a stress test framework for which the shortfall after the second round of default contribution of the clearing members is being used to request additional collateral from clearing members. On a daily basis ICNL calculates for each Clearing Participant's the extreme but plausible stress scenarios and the stress scenarios beyond extreme but plausible. The following extreme but plausible stress scenarios are used specified by ICNL:

- Parametric stress scenario's where the underlying value in/de-creases in steps of 5% up-to shifts of 80%, this in combinations with Volatility shifts up 100% and decreasing through Maturity
- A wide range of Historical stress events a.o. 1998 LTCM Collapse, 2000 Dot-com crash, 2007 December global rate cuts, 2007 Northern Rock, 2008 October Banking Crisis, 2010 May (6th) Flash crash, Bear Stearns Collapse, Lehman's Collapse, September 11 Terrorist attack.

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

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

The following risk factors are taken into account in the stress test scenarios:

- Foreign currencies: as ICNL currently only clears Euro denominated products, only accepts Euro denominated cash collateral and according to ICNL Investment Policy only invests in Euro denominated products, this risk factor is currently out of scope
- Commodity contracts: as ICNL does not clear commodity contracts this risk factor is out of scope
- Credit related contracts: as ICNL does not clear commodity contracts this risk factor is out of scope.

Besides the risk factors mentioned above appropriate consideration is given to:

- Specific characteristics of any new contracts cleared; new contracts will have to be approved by the appropriate parties prior to be added to the products cleared by ICNL.
- ICNL calculates the concentration risk per product per Clearing Participant. This is defined as the loss per product under its stressed scenarios beyond extreme but plausible.

- Interdependence and multiple relations.
- Relevant risks including foreign exchange risk; as ICNL currently only clears Euro denominated products, only accepts Euro denominated cash collateral and according to ICNL Investment Policy only invests in Euro denominated products, the risk factor is currently out of scope.
- Setting the exposure limits: the extreme but plausible stress scenarios define the exposure limits per Clearing Participant. Additionally the outcome of the stress scenarios beyond extreme but plausible will be monitored. Wrong-way risk: is covered within ICNL as described in the Regulation Collateral. The CRO will periodically check compliance with the Regulation Collateral.

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.

The ICNL Rulebook describes the default management procedure to be followed in case of a default by one or more participants. These rules set out that ICNL may use trigger the default waterfall in the event of a default.

When a Clearing Participant defaults ICNL will first try to cover the losses with the collateral posted by the Clearing Participant. Should this not be sufficient ICNL will then use the default fund contribution of the defaulting Clearing Participant. Should this also not be sufficient ICNL will apply its own dedicated financial resources, also known as "skin in the game", in the event of a member default, prior to the use of clearing fund contributions of non-defaulting clearing members.

ICNL is allowed to ask the surviving Clearing Participants to replenish the default fund after the exercising the first round of contributions in case of a 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 accepts cash, securities, and a DNB bank guarantee as acceptable collateral. The following securities and currencies can be deposited at ICNL:

Collateral Type	Currency	Admission Criteria	Security Sub-Group	Minimum Haircut
BONDS	EUR	1) Liquidity class L1A of the ESCB 2) Maximum time to maturity of 10 years. 3) Exchange listing (except Bubills) 4) Admissible proportion of the issued debt is 5% 5) Admissible proportion of the issued debt is 25% across all Clearing Participants in case the amount is greater than Euro 50 million	Central government and debt securities issued by central banks of Austria, Belgium, Finland, France, Germany, Luxemburg and the Netherlands.	3%
CASH	EUR			0%

The collateral requirements are detailed in the Regulation Collateral. ICNL does not accept collateral on an exceptional basis - i.e. ICNL only accepts the collateral above.

The ICNL collateral monitoring policy is set out within Counterparty Risk and collateral monitoring policy. ICNL has a strict collateral acceptance policy in which only the most liquid collateral is accepted; Cash (EUR denominated), guarantee provided by the Dutch Central bank and highly liquid government bonds from Euro governments.

ICNL monitors the value of collateral and takes into account 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.

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

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 can be 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.

In the Regulation Collateral the haircut amounts that will be applied are listed per type of collateral. In case of bond collateral the higher of the stress haircut or 3% will be deducted from the market value of the bond.

The stress haircuts are calculated on a daily basis in order to account for stressed market conditions (25% up or down movement of the underlying).

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 reviewing bond haircuts ICNL, as far as possible, takes into account a possible disruptive effect of big step changes that could result in procyclicality by setting appropriate minimum haircuts.

As mentioned above the stress haircuts are calculated on a daily basis in order to account for stressed market conditions (25% up or down movement of the underlying).

Key consideration 4: 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.

ICNL has the following concentrations limits in place:

- 5% regarding certain debt issue
- 25% regarding issuer for all clearing members

ICNL is aware that the current collateral pool is a breach of the current concentration limits. ICNL, however, decided to allow the breach as the collateral consists of only highly liquid, triple A government bonds. Moreover, the value of the collateral pool, EUR 27,7 million, is considered to be low and hard to diversify adequately over various bond issuers.

ICNL has introduced a limit of EUR 50.000.000 above which the portfolio will be diversified according to the Regulation Collateral.

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

The ICNL Investment Policy and Regulation Collateral are reviewed 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.

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 Eurozone member states. These are government bonds are high grade and highly liquid.

The accepted government bonds are readily available and are highly liquid which ensures that they can be used whenever necessary. ICNL closely monitors the creditworthiness of the issuers to ensure this remains the case at any time.

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

ICNL uses the ECS and the ICE Risk Model/APEX Intraday systems to monitor collateral movements. These systems allow ICNL to monitor and manage collateral in near real time.

The re-use of collateral is tracked by risk management as part of the Investment Policy. The ICNL Investment Policy dictates that ICNL can only invest in cash and Repurchase Agreements with an approved authorized credit institution; only bonds by the central government and debt securities issued by central banks of Austria, Belgium, Finland, France, Germany, Luxemburg and the Netherlands with a maximum of 10 years to maturity as underlying or cash.

ECS and the ICE Risk Model/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.

ICNL collects margin at least once a day but also intraday (only when the ratio Margin/Collateral exceeds 110% or drops below 90% compared to the closing price of the day before). On a normal trading day, ICNL calls all margin at 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.

The ICE Risk Model 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 $\frac{1}{3}$, $\frac{2}{3}$, 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 participant 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 the ICE Risk Model. 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 participant account. The total amount of exposure towards each clearing participant 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 participant 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 clearing fund

High level principles of the ICE Risk Model are made available on the ICNL website – <https://www.theice.com/clear-netherlands/risk-management>.

ICNL only clears single stock and index derivatives. The credit risks faced by ICNL are those attached to a possible default of a Clearing Participants. 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 Participant by buying/selling in the market, and
- settlement or principal risk, which is the risk of loss on deliverables or receivables from the defaulting Clearing Participant.

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.

In the case of participant payment failure ICNL may choose to put that participant into default and close out its positions with ICNL.

Following the decision of ICNL to call for additional Collateral, ICNL will inform the Clearing Participant, by email and/or telephone of the amount of the required additional Collateral Value.

Within the next thirty (30) minutes, the Clearing Participant shall transfer the required Collateral in cash to the ICNL Cash Account, in Securities to the ICNL Securities Account (each as defined in the Regulation Collateral) or by way of the Dutch Central Bank issuing a guarantee to ICNL.

After 30 minutes, the Clearing Participant may ask for another thirty (30) minutes to cover the intraday Margin Requirement. Depending on the market conditions, ICNL will decide whether it agrees to this request. This agreement can be withdrawn by ICNL if the risk situation of the Clearing Participant 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.

The ICE Risk Model uses real time price data of the derivative products and its underlying to calculate margins. The sources of this price data are Thomson Reuters and the relevant exchanges.

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

In case prices are not available, ICNL recalculates the Theoretical Value of the derivatives it clears using the prices it has received via the ICE Risk Model/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.

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.

The ICE Risk Model 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 participant 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 the ICE Risk Model. 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 participant account. The total amount of exposure towards each clearing participant 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 participant 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 clearing 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 is 15/6/2008 until 15/6/2009. 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.

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 20141120 assesses why the two-day liquidation period is appropriate for ICNL.

Within the ICE Risk 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.

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.

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 every three to five minutes, using the most up to date positions and prices. ICNL provides a real time cleared trade feed to its Clearing Participants 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.

The ICE Risk 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 the ICE Risk Model 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 80% of the difference between the sum of the ICE Risk Model results calculated individually for each product and the Model result calculated for the combined portfolio.

ICNL does not apply portfolio margining across multiple instruments.

Daily ICNL carries out stress tests for each Clearing Participant's portfolio. To incorporate new or emerging risk, ICNL has the ability to quickly change the parameters of the scenarios chosen.

The policy for stress testing the total financial resources is laid down in the Margin Testing Policy. Daily ICNL calculates for each Clearing Participant the extreme but plausible stress scenarios and the stress scenarios beyond extreme but plausible. The following stress scenarios are used by ICNL:

A movement of the price of the underlying value ranging 10% to 80% up and down in combination with movements in implied volatility of 100% in the front month (decreasing for subsequent months). Furthermore, there are several historic scenarios defined, for example based on movements that occurred during the 2007/2008 financial crisis.

The following risk factors are considered in the stress test scenarios. Risk factors corresponding to:

- Interest rates; Interest rates: ICNL captures the so-called rho risk by stressing interest rates 1 basis point up and down.
- ICNL does not consider currency risk as it only has exposures in Euro.
- Volatility of individual equity issues; ICNL captures so called vega risk by running various volatility scenarios in its margin model.
- Correlations between the contracts being cleared is considered. Correlations between identified risk factors mentioned above is zero.
- Factors corresponding to the implied and historical volatility of the contract being

cleared. ICE Risk Model scenarios are based on look back periods ranging from 60 to 525 days. The volatility of the percentage change in implied volatility and underlying price over each of these periods is calculated and used as an input for 6 value-at-risk calculations. As an anti-procyclicality measure an additional value-at-risk calculation is made which includes, with a weighting of 25%, volatility from a stress period. Based on these calculations, for which a 99% confidence interval is used, scanning ranges and volatility shifts for the 16 ICE Risk Model scenarios are set.

- Specific characteristics of any new contracts cleared; new contracts must be approved by the appropriate parties prior to be added to the products cleared by ICNL.
- ICNL calculates the concentration risk per product per Clearing Participant. ICNL will calculate at margin account level for each combination of logical commodity and relative period the number of two day periods over the initial two-day holding period that would be required to liquidate the position. This is done based on average daily volumes over 60 days, delta equivalent notional and thresholds (ranging from 10% to 200%) which are determined by ICNL Risk Management.
- Interdependencies and multiple relationships;
- Setting of exposure limits; the extreme but plausible stress scenarios define the exposure limits per Clearing Participant. Additionally, the outcome of the stress scenarios beyond extreme but plausible divided by 10 will be monitored.
- Wrong-way risk; is covered within ICNL as described in the Regulation Collateral. The CRO will periodically check compliance with the Regulation Collateral.

The requirement for each Clearing Participant's portfolio resulting from the extreme but plausible stress test is held against the Collateral plus the Clearing Fund contribution of the Clearing Participant. Where it is known to ICNL that a client or Trading Participant clears through several Clearing Participants, ICNL shall consider the potential losses arising from a default of that client or Trading Participant.

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.

Each morning ICNL determines the amount of collateral that clearing participants 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 the ICE Risk Model. 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 the ICE Risk Model, 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 ICE Risk 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 of haircuts applied to collateral

- ICNL accepts several types of collateral as defined in the Regulation Collateral. 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 via the Regulation Collateral.
- 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 ICE Risk 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 participants. Currently ICNL applies sensitivity scenarios whereby interest rates are shifted and dividend scenarios change.

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

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
- Backtesting Policy
- Stress testing Policy
- Model validation policy
- Sensitivity testing policy
- Reverse stress testing 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 initiated by the CRO. The CRO will present the proposed revisions and adjustments to the ICE Management Team and the ICE Board of Directors. The proposed revisions and adjustments will also be presented in the 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 at all times access to adequate liquidity to perform its services and activities. Thus ICNL needs to implement liquidity risk controls and assess its liquidity risks and has put in place a comprehensive Liquidity Risk Management Framework. It will ensure with a high level of confidence that it is able to effect 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 Participants and extreme but plausible market conditions).

The Liquidity Risk Management Framework shall also address 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 fees paid by clearing participants, cash collateral posted by clearing participants, contributions to the clearing fund in cash, the dedicated own resources of ICNL and any capital held by ICNL above the minimum required level. Pursuant to the Regulation Clearing Fund clearing participants have to deposit at least half of their contribution to the clearing 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 clearing fund contribution can be converted into cash. The bonds are then placed with DNB as security. In order to facilitate settlement of option transactions during the day the appointed settlement agent provides additional liquidity in the form of an intraday credit facility.

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 participant. This could occur in case of a

disruption of Target2 services, the clearing participant having technical difficulties or when the Target2 account of the clearing participant in question is insufficiently funded. For most clearing participants, 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 on a daily basis processes high volumes of transactions while maintaining high system availability percentages (2015 annual report: 99.94% of payments processed in time). In order to determine their creditworthiness and operational capacity for handling transactions clearing participants are fully reviewed at least yearly. Clearing participants can also opt for a direct debit on an account held at a commercial bank. 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 participant and the commercial bank in question and an opinion issued by Legal.

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 participant are not simultaneously received from other clearing participants. 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 (AEX index options / futures) ahead (whereby index-based derivatives have fixed exercise and settlement dates each month). The net cash amount that ICNL will receive from each clearing participant 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 clearing fund contributions deposited as cash.

Liquidity issues can be caused by the fact that a clearing participant is not able to post cash collateral or its clearing 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 ICE Model 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 participants. 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 Regulation Margin Requirement). 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 clearing 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 clearing 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 the ICE Risk Model, the risk management system, are reviewed. A query can be run in the ICE Risk Model with which an assessment can be made of the impact of any new parameters on the initial margin amounts required from clearing participants. 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 participants 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 (as specified in the Regulation Collateral), 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 participants 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.

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 Dutch central bank. In order to cover operational expenses some cash is held at two commercial banks. 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 participants, 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 clearing 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 clearing 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 clearing 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 participant can then be asked to post additional collateral or clearing 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 participant 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. ICNL has defined three different liquidity scenarios to assess its liquidity need under normal and adverse circumstances.

For the **first scenario** four stress tests are run in order to determine if ICNL can withstand the default of the largest two clearing participants. This is an EMIR-prescribed scenario (Regulation (EU) 648/2012 - article 44). For each clearing participant, it is calculated how the value of the current portfolio would develop over a margin period of risk of 2 days under each of these stress tests. The regular initial margin calculation is also taken into consideration. It is verified which two clearing participants will incur the highest losses (i.e. will have the portfolio with the most negative market value when looking at the outcomes of all four stress tests and the regular margin calculation). These figures are used as an input for this scenario. The first stress test entails a simultaneous decrease of 25 percent of all underlying stock prices and the second test a simultaneous increase of 25 percent of all underlying stock prices. In both tests the front month implied volatility is shifted with 100 percent. This percentage is gradually decreased for the subsequent expiry months. The third (AEX rally) and fourth (AEX sell off) tests are both historical tests and based on extreme market movements over the past 30 years. The determined percentage increase or decrease for each stock, together with an increase in volatility of 25 percent, is used as input for revaluing all the current positions. The feasibility of all applied volatility and underlying shift percentages is reviewed on a yearly basis.

For the two clearing participants with the largest losses it is verified if any settlements are occurring the upcoming two days. The amounts of cash that have to be paid to ICNL by those two clearing participants because of settlement of option and futures contracts are added to the calculated portfolio values under stress. ICNL will most likely not receive this cash in case of a bankruptcy so it will need to use or raise other sources of cash in order to pay the non-

defaulting clearing participants. And ICNL will not be able to replace the contracts with the defaulting clearing participant without losing (part of) the net positive market value that has to be paid or delivered to the non-defaulting clearing participants. Cash collateral of the defaulting clearing participant will have to be used. The scenario is quite stringent as ICNL might be able to reduce losses by, for example, porting a client portfolio or auctioning off transactions. It is therefore a worst-case scenario.

The potential liquidity need that is determined in the first scenario by adding up the negative portfolio values and settlement amounts is compared with ICNL's qualifying liquid resources, taking into consideration the account structure of the defaulting clearing participants. ICNL determines the amount of qualifying liquid resources it holds in accordance with article 33.1 of Regulation (EU) 153/2013 and the CPMI-IOSCO principles for financial market infrastructures (principle 7). Assets which can be converted into cash but do not fall into one of the categories listed in the aforementioned articles are not taken into consideration when applying the stress scenarios. These assets are listed in the report under "Other liquid resources". The amount of qualifying liquid resources is corrected for the expected in- and outflows for that day for all client accounts (margin calls, fee payments, option premium, rebates). Furthermore, the minimum required amount of own capital is subtracted from the qualifying liquid resources. This is done because ICNL should maintain this level of capital at all times. Therefore, it cannot be used for liquidity management purposes. The minimum required amount of capital is determined in accordance with article 16 of Regulation (EU) 648/2012 (EMIR).

The **second scenario** used to determine the potential liquidity requirement is based on the average (multiplied by 2) and maximum cash payment (taking into consideration fees, option premiums, initial margin, contingent variation margin, delivery margin and variation margin) made by clearing participants over the last 60 days. The highest amount of these two is summed with the unsecured balances held by ICNL at commercial banks. This amount is subsequently subtracted from the total amount of qualifying liquid resources.

The **third scenario** considers what would happen if ICNL is (temporarily) not able to have access to liquid resources held at custodian banks, for example due to bankruptcy or technical difficulties. In that case ICNL will not be able to liquidate them if required. Under this scenario, the post haircut value of the liquid resources in question is subtracted from the total amount of qualifying liquid resources.

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 three 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.

As of 1 June 2017, 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 Dutch Central Bank (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.

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.

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 Rulebook and regulations.
- 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%

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

ICNL does not explicitly state access to credit at the central bank of issue as a requirement.

As part of the yearly default test it is verified if amounts can be drawn under 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 clearing fund contribution, under normal and stressed market conditions. This forms part of the default management procedure of ICNL.

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 DNB and uses central bank money to settle its transactions. ICNL only uses central bank money for its settlements. ICNL does not use a payment agent.

As described above ICNL uses Citibank N.A. as settlement agent. Using a settlement agent in the settlement process does not make it a pure DvP process, but from the perspective of the ICNL it is still 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.

On a daily basis ICNL runs the stress test scenarios described under Q.7.4.1 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 regulations 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. See also answer under Q.7.2.2.

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.

The ICNL Rulebook details the rules and procedures that enable it to settle payment obligations following a default. This includes the right to perform close out netting and/or cash settle obligations due.

The ICNL Rulebook details the rules and procedures regarding a possible buy in to address liquidity shortfalls.

If due to a defaulting Clearing Participant ICNL loses all its liquid means, ICNL is entitled to call the surviving Clearing Participants to top up their Clearing Fund contributions.

A liquidity shortfall can arise in case of a default of a clearing participant. 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 paragraph 7.6 of the ICNL Rulebook. If at a certain stage in the waterfall collateral or clearing fund contributions posted as bonds have to be used, then 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 clearing fund contribution in accordance with paragraph 7.7 of the ICNL Rulebook. Half of such a second-round assessment should be deposited in cash. Depending on the developments after the declaration of default, it can be decided to close out transactions or move transactions to another clearing participant in order to free up liquid resources. In case the exposure still cannot be covered, then the guarantee issued by Intercontinental Exchange Inc. can be called upon. The guarantee is not taken into account when determining qualifying liquid resources.

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 Regulation Settlement and Regulation Fees and Penalties will apply. MT can for example decide to start a buy-in procedure. In case additional liquidity is required, first cash collateral provided by the clearing participant not delivering cash or securities will be used. Bonds can be converted into cash by means of the intraday credit facility provided by DNB.

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 rulebook. Any valid Any Entry qualifies as an entry into a settlement finality system and is irrevocable in the sense of article 212b of the Dutch Bankruptcy Law (Faillissementswet). An Entry is defined in the Rulebook as the process whereby an Exchange submits an electronic message containing all information of a Match to ICNL and the receipt of such electronic message by ICNL.

The ICNL Rulebook sets out the rights and obligations regarding the discharge of a payment, transfer instruction or other obligation between ICNL and its participants, or between participants.

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.

Any settlement instructions made by ICNL's settlement agent are final considered final as Euroclear Nederland 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.

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 1st Clearing day after expiration of such Option Contract.

Settlement will take place via a debit or payment on the Target2 account of the Clearing Participant or through its commercial bank arrangement (see elsewhere in this document). The debit or payment is initiated by ICNL and will take place around 08:00h CET.

Partial settlement is also possible in ICNL. Partial settlement for the Securities can only occur on request of ICNL. ICNL will review around 14.00 CET on Trading Date + 2 if the settlement instructions cannot be settled completely whether the settlement instructions can be settled partially. ICNL will instruct the Clearing Participant, or its settlement agent, to cancel the original settlement instruction in Euroclear NL and to provide two new settlement instructions to Euroclear Nederland, one for the quantity of Securities that can be settled and one for the remaining quantity of Securities. All new settlement instructions need to be in place before 15.30 CET.

ICNL has an account at the DNB and uses central bank money to settle its transactions. ICNL only uses central bank money for its settlements. ICNL does not use a payment agent.

ICNL is not a LVPS or SSS. ICNL does not provide intraday or real-time final settlement.

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

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 Regulation Settlement, Regulation Buy-in and the ICNL Rulebook.

Regarding the obligations of ICNL and the indemnification of participants for losses occurred in the delivery process the Rulebook states the following in article 3.9;

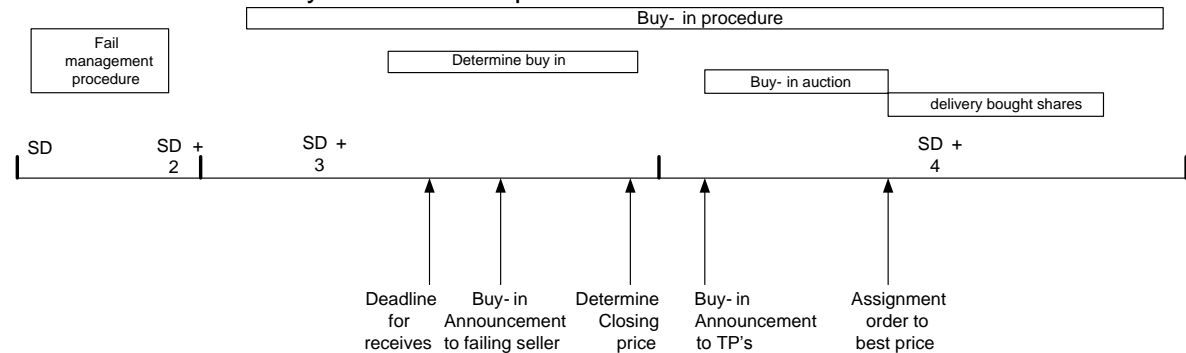
- a) ICNL undertakes to cash settle its obligations on the basis of its Open Position or fulfil its obligations to deliver Securities or to pay the Clearing Participant on the basis of its Open Position. The fulfilment by ICNL of its obligations towards the Clearing Participant is conditional upon the timely performance by such Clearing Participant of its own obligations.
- b) (b) ICNL may, but is under no obligation to, start the buy-in procedure as set out in the Regulation Buy-in Procedure, if the Clearing Participant does not deliver Securities on time to the relevant Settlement Address. In the event no buy-in procedure is started and in the event the Clearing Participant fails to provide funds on time to the relevant Settlement Address, the provisions of the Regulation Fees and Penalties shall apply. The circumstances in which ICNL may perform its delivery or payment obligation at a later time than the time originally specified for the relevant Open Position are set out in the Regulation Settlement.
- c) (c) If ICNL is unable to deliver certain Securities as a result of any Fail or due to market conditions, ICNL may partially settle any delivery obligation in accordance with the Regulation Settlement or may settle such delivery obligation or remaining part thereof in cash in accordance with the provisions of the Regulation Buy-in Procedure.
- d) In the event of a Fail, article 10.4 applies.

This Article 10.4 states that:

- a) Fails may at any time be subject to a buy-in on the initiative of ICNL. Buy-ins will only be triggered for non-deliveries of Securities by the Clearing Participant. Non settled receipts due to lack of funds from the Clearing Participant will be subject to the fail management fees as specified in the Regulation Fees and Penalties.
- b) ICNL may, but is under no obligation to, repurchase if a fail occurs. Such repurchase will be made in accordance with buy-in procedures specified in the Regulation Buy-in Procedure, at the risk and expense of the defaulting Clearing Participant.
- c) A Fail is subject to a Fee for late delivery or payment, charged to the defaulting Clearing Participant by ICNL as specified in the Regulation Fees and Penalties. The defaulting Clearing Participant shall also pay the buy-in price to ICNL.
- d) In the case of a Fail, ICNL continues to call Margin Requirement for the failed Open Position.
- e) When the buy-in procedure is not successfully completed as set out in the Regulation Buy-in Procedure due to market conditions or other conditions, the Securities that needed to be delivered or received, will no longer be required to be delivered or received and the Option

Contract will be settled for a cash amount as specified in the Regulation Buy-in Procedure.

A schedule with the buy-in timelines is provided below.



ICNL and its Clearing Participants 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 Participant, or its settlement agent, to cancel the original settlement instruction in Euroclear NL and to provide two new settlement instructions to Euroclear Nederland, one for the quantity of Securities that can be settled and one for the remaining quantity of Securities. All new settlement instructions need to be in place before 15.30 CET.

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

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

ICNL defines this relevant information in the ICNL Rulebook and applicable Regulations. 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.**

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 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 Participants' 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.

The Clearing Member in question informed ICNL that they do not wish to settle through a debit facility on a Target2 account, but they are willing to allow a commercial bank direct debit facility on their account with a commercial bank.

The Clearing Member also informed ICNL that no other CCP they connect with requires a direct debit facility at Target2 or Central Bank account.

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 Participants' 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 also has created a standing instruction to sweep any amount over and above EUR 250.000 from the commercial bank account to the Target2 account of ICNL in line with the ICNL Investment Policy. Exposure on commercial bank is top day set to EUR 0.00

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).

If an FMI conducts money settlements on its own books, it should minimise and strictly control its credit and liquidity risks.

ICNL does not conduct money settlements on its own books.

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.

Please refer to Principles 1, 4, 7, and 8 above. ICNL manages its risk through various policies and procedures. As described ICNL only settles via the use of a CSD or via its account at the central bank. All instructions in these systems are considered final and are made DvP.

Settlement instructions made by ICNL are done on a gross or net basis. ICNL offers both options. CM's can opt for gross settlement (trade for trade) or netted on TMF (position account) level.

In case of gross settlement trades are aggregated on ISIN, BUY/SELL, Trade and Settlement date and execution price.

Settlement of linked obligations are happening simultaneous and are final. Blocked assets are protected by Dutch Law in case of securities. Blocked assets in the form of cash are held at Target2 at the DNB.

ICNL uses Dutch Central Bank and a commercial bank for its cash settlements by way of direct debit facility.

ICNL uses a settlement agent for its non-cash settlement by way of DvP ICNL uses a settlement agent for its non-cash settlement by way of DvP. ICNL characterizes the level of its reliance on such services as compliant with the EMIR requirements regarding settlements and as in line with market practice.

The settlement finality is determined by the rules of the systems operated by Euroclear Nederland and the Dutch Central Bank. These rules are part of the service contract that ICNL has signed with these parties.

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.

The main rules and procedures regarding an event of default are clearly defined in the ICNL Rulebook. Additionally, the Regulation Default is published on the website. These documents include a measurement/method for identifying a default. The ICNL Default Procedure goes into more detail about the default process.

If the Clearing Participant appears to ICNL to be unable, or to be likely to become unable, to meet its obligations in respect of one or more Derivative Contracts or otherwise under the Clearing Rules, ICNL may, within its reasonable judgement consider such event 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.

In the event of a (potential) default situation, ICNL Risk Management advises the ICNL Board of Directors to activate the Default Management Team (DMT).

Upon activation, DMT meets regularly. All meetings minutes and decisions of the Board are formally documented by Risk Management.

ICNL Compliance informs the Competent Authority that ICNL considers that a Clearing Participant will not be able to meet its future obligations.

ICNL Risk Management advises the ICNL Board of Directors whether or not to declare a Default in accordance with the Clearing Rule Book section 9.1(a), The ICNL Management Team takes a formal decision by absolute majority. The ICNL Risk Management advice is documented and contains, if required, supporting financial information (e.g. pledged collateral and margin requirements).

The decision to be taken could include the following:

- The strategy towards the defaulting member i.e. are no additional trades allowed or are only risk reducing trades allowed and how will settlement obligations be handled;
- The strategy regarding outstanding amounts;
- The timelines to be followed as stated in ICNL's regulations (rulebook, regulation default, regulation buy-in procedure and regulation segregation and portability);
- The other relevant considerations.

ICE Legal assists in advising and checking all letters and documents sent out because of the Declaration of Default and advises the Management Team of ICNL about legal consequences.

The ICNL Relationship Manager assists in providing information about the contracts and

Statements of Authority with the defaulting Clearing Participant and other relevant documentation as requested by DMT.

The ICNL Operations Department provides an overview of outstanding amounts due (e.g. outstanding invoices) from the defaulting Clearing Participant.

ICNL Compliance informs the ICNL regulators and Board about the Default and keeps them up to date throughout the default management process.

ICNL Risk Management verifies with ICNL Operations if there are any pending outgoing payments for the defaulting Clearing Participant and if possible will stop those payments. Every outgoing payment needs formal approval from ICNL Risk Management or ICNL Board of Directors.

ICNL Executive Board informs the to-be defaulted Clearing Participant in writing and by phone that it is in default, with reference to the specific Clearing Rule Book section.

ICNL Relationship Manager instructs all relevant Exchanges in writing and by phone to suspend any trading activity of the Clearing Participant and its underlying Trading Participants.

The ICNL Relationship Manager ensures the Exchanges confirm timely and act accordingly that no further Matches are sent to ICNL.

Upon request from DMT, ICNL Operations revokes the defaulting Clearing Participant's Match Link in the Trade Random Assignment Module (TRAM) in order to prevent new Matches coming in.

The ICNL Relationship Manager informs non-affected Clearing Participants that the defaulting Clearing Participant has been declared in default.

ICNL Risk Management analyses the value of the pledged Collateral and remaining Open Positions. In this analysis, the segregation of the accounts in House and Client is considered per the regulations under EMIR. The outcome of this analysis and the market circumstance are being used to determine how ICNL should handle the open position of the Clearing Participant (per the procedures mentioned in the ICNL regulations).

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 Participant.

Where the defaulting Clearing Participant holds positions in an Omnibus Client Account, ICNL shall, at least, contractually commit itself to trigger the procedures for the transfer of the assets and positions held by the defaulting Clearing Participant for the account of its clients to another Clearing Participant designated by all those clients, on their request and without the consent of the defaulting Clearing Participant. The transfer of assets and positions of clients must take place in a timely and orderly fashion in close cooperation with the receiving Clearing Participant. If the transfer to that Clearing Participant has not taken place within the specified timeframe as set out in the Regulation Segregation and Portability, ICNL may use any of the measures as set

out in article 9.2(c)(ii) and 9.2(d) of the ICNL Rulebook.

Where the defaulting Clearing Participant holds positions in an Individual Client Account, ICNL shall, at least, contractually commit itself to trigger the procedures for the transfer of the assets and positions held by the defaulting Clearing Participant for the account of the client to another Clearing Participant designated by the client, on the client's request and without the consent of the defaulting Clearing Participant. The transfer of assets and positions of clients must take place in a timely and orderly fashion in close cooperation with the receiving Clearing Participant. If the transfer to that Clearing Participant has not taken place within the specified timeframe as set out in the Regulation Segregation and Portability, ICNL may use any of the measures as set out in article 9.2(c)(ii) and 9.2(d) of the ICNL Rulebook.

ICNL may in its discretion conduct one or more auctions to enable other clients to bid for the Derivative Contracts and related Collateral (or specific parts thereof, as specified by ICNL) of the defaulting Clearing Participant in accordance with article 9.2 the Rulebook and the auction terms set out in Annex D to this procedure (Auction Terms).

DMT ensures to use the collateral as pledged by the defaulted Clearing Participant (or any amount less as deemed necessary by DMT) from the Default collateral account of ICNL. In case the Clearing Participant uses the guarantee model ("Garantiemodel") of DNB, the DNB is requested to transfer the blocked amount to the Target2 account of ICNL. The procedure of actual blocking and releasing of any the blockage in case of a default is described in Annex C.

Compliance assures, that should any liquidation, cash settlement, closing out or other measures with respect to positions have taken place with a P&L impact to third parties, the documentation should be able to show that a fair price has been obtained, where considering the specific conditions under which this liquidation occurred.

ICNL Operations assists by:

- Providing cash liquidity through the available credit facilities if required.
- Informing on the ongoing settlements.
- Monitoring that no new Matches are accepted for the defaulting Clearing Participant.
- Assist in any of the measures taken as described in the Default Management Process
- Ensure timely and orderly settlement of client assets and positions in case an Omnibus Client Account or Individual Client Account is ported to another Clearing Participant.

ICNL Operations informs DMT on operational damages and costs which have arisen throughout the course of the Default. Potential damages can arise, however are not limited to, penalties for late delivery or payment, and funding costs.

ICNL Operations ensures that buy-in procedures related to the positions of the defaulting Clearing Participant are postponed until further decision.

DMT assesses if the collateral furnished by the defaulting Clearing Participant 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 Participant, ICNL may impose further requirements with regards to Collateral to be furnished to secure the

Clearing Participant's compliance with its obligations as stated in section 9.2(b)(vi) of the ICNL Rulebook.

ICNL Operations confirms receipt of seized collateral in account of ICNL.

The ICNL Relationship Manager informs non-affected Clearing Participants whether all obligations arising from the portfolio have been met.

On an ongoing basis, ICNL Risk Management informs the Management Team. The Executive Board informs the Board.

After the event, ICNL Risk Management informs the Management Team of ICNL as well as the defaulted Clearing Participant (or its administrators) on the final amount(s) due to/from ICNL based on Collateral and Margin, outstanding fees and invoices and any other costs.

After the event, ICNL Risk Management will determine any balance owed for clients recorded in the Omnibus Client Account and Individual Client Account and will readily return these balances to those clients when they are known or, if they are not, to the Clearing Participant for the account of its clients.

DMT assesses if the collateral furnished by the defaulting Clearing Participant 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 Participant, ICNL may impose further requirements with regards to Collateral to be furnished to secure the Clearing Participant's compliance with its obligations as stated in section 9.2(b)(vi) of the ICNL Rulebook.

Based on the Regulation Default as published on the website ICNL can take any of the following measures:

- Sell Open Position or part of the Open Position of a Clearing Participant
- Hedging the Open Position
- Ensuring compliance with settlement obligations by buying, selling or borrowing Financial Instruments for the account of the defaulting Clearing Participant.

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 Participant;
- b) any Contribution provided by the defaulting Clearing Participant;
- c) the dedicated own resources of ICNL as set out in Regulation Dedicated own resources;
- d) the Contributions made by all other Clearing Participants on a pro rata basis in proportion to the amount of their Contributions on the date that such payment is made.

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 Rulebook, the Regulation Default and the ICNL Risks Associated with the Services provided document. These documents are all available on the ICNL-website. The circumstances in which action may be taken are described in the Rulebook as well as the scope of the actions. The possible actions are mentioned in the Regulation Default.

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 (latest on 4 October 2016) pursuant to Regulation (EU) 648/2012 (EMIR) article 48. EMIR requires that a CCP should test its default procedure at least annually. By concluding this test, evaluating the results and reporting the results to staff, the risk committee and regulators, ICNL will comply with this requirement. On 4 October 2016 default procedure test was performed by ICNL. The test results were discussed in the Risk Committee meeting of 7 November 2016. In subsequent meetings, the Risk Committee was updated on proposed and implemented solutions for several findings. The report with default test findings is also sent to the ICNL Board and regulators. In the test, it was assumed that Interactive Brokers (UK) Ltd (IBUK) could not meet its obligations towards ICNL. In the morning of 23 October 2016, it appeared IBUK was not able to deliver stocks after an assignment of 500 short calls Ahold (20161021 with strike: 18). After 4 days, the stocks were still not delivered. And IBUK was not able to provide cash collateral after being called the morning of the test. It was also verified if provided bond collateral could be liquidated under stress market circumstances.

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 procedure and further streamline it. Given the fact that ICNL now forms part of the ICE organization and moved to the ICE system environment in December, for several steps in the default procedure it needed to be verified when and how ICE colleagues need to be informed and involved during the procedure. During the test, it became apparent that ICNL will be able to perform the actions described in the procedure once moved to ICE systems, but further streamlining is required.

Each default test covers the default of one clearing participant. ICNL clears one type of product (equity (index) options) whereby all transactions are covered by one default waterfall and clearing 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 Rulebook. By signing the Clearing Participant Agreement, clearing participants become bound by these Rules. The enforceability of the Rules in The Netherlands and the jurisdiction where the clearing participant is located is verified by Legal. 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.

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 that all assets and positions that ICNL has been informed are for the account of clients of a given Clearing Participant, are held segregated from the assets and positions for the House Account of the Clearing Participant in question.

The details of the available account structure are described in the Rulebook, Regulation Segregation and Portability, Account Disclosure, and the Regulation Fees and Penalties.

The ICNL Rulebook allows Clearing Participants to request to facilitate a certain account structure. ICNL's Clearing Participants have the possibility to request ICNL to open:

- one (1) or more Omnibus Client Accounts and one (1) House Account;
- one (1) or more Individual Client Accounts and one (1) House Account; or
- one (1) or more Individual Client Accounts, one (1) or more Omnibus Client Accounts and one (1) House Account.

For each of these accounts ICNL will administer a corresponding collateral account – e.g. for each Omnibus Client Account ICNL opens a corresponding Omnibus Client Collateral Account.

Clearing Participants can also request ICNL to open Trader Accounts within the House or Client Account. These Trader Accounts are sub-accounts of the House Account or Client 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 House Account, Individual Client Account and Omnibus Client Account can either be a Gross Account or a Net Account. Trader Accounts can also be a Gross Account or a Net Account. It is up to the Clearing Participant to indicate its preference to ICNL. For Individual Client Accounts it is the client that instructs the Clearing Participant whether the account should be on a Gross or Net basis. For Omnibus Client Accounts it is the choice of the Clearing Participant.

The House Account is the account in ICNL's records in which ICNL registers the Derivative Contracts which the Clearing Participant 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 Participant has at least one House Account. Positions record in any

one House account will not be netted with positions in any other account. A surplus of the proceeds of the (enforcement of) the House Collateral Account may be used for shortfalls in the Omnibus Client Account and the Individual Client Account.

The Omnibus Client Account is the account in ICNL's records in which ICNL registers the Derivative Contracts which the Clearing Participant has indicated as being for that Account. Each Clearing Participant 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 in the corresponding Omnibus Client Collateral Account will not be exposed to losses connected to positions in any other account.

The setup of the Omnibus Client Account and Omnibus Client Collateral account ensure that ICNL is able to 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 Participant in question and for the account(s) of other clients of the Clearing Participant in question.

The Omnibus Client Account and Collateral Account cannot be netted with positions or assets in another account but the positions and collateral of the clients within the Omnibus Client accounts are comingled.

In case of a default situation the ICNL account structure ensures that positions and assets held in a given account cannot be exposed to losses arising from another account. Under the ICNL rules ICNL may only use the Collateral held in a House Collateral Account, an Omnibus Client Collateral Account, and an Individual Client Collateral Account for a shortfall in the corresponding account.

ICNL currently does not offer any additional forms of segregated client accounts.

As mentioned under A), Clearing Participants 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 Account or Client Account and are used for informational purposes only.

ICNL has described its arrangements for portability in ICNL Rulebook, ICNL Regulation Segregation and Portability, and ICNL Account Disclosure.

ICNL has contractually committed itself through the ICNL Rule Book and the Regulation Segregation and Portability to trigger the procedures for the transfer of assets and positions held by a defaulting Clearing Participant in its Omnibus Client Position and Collateral accounts on the request of the clients to another Clearing Participant designated by those clients.

In line with the relevant requirements in Article 48 paragraph 6 ICNL has contractually committed itself through the ICNL Rule Book and the Regulation Segregation and Portability to trigger the procedures for the transfer of assets and positions held by a defaulting Clearing Participant in its Individual Client Position and Collateral accounts on the request of the individually segregated client to another Clearing Participant 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 Participant 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 Participant are:

In case of an Individual Client account ICNL has received a request of a Client of the defaulting Clearing Participant, or in case of an Omnibus Client Account ICNL has received a request of

- Receipt of a request to port by the client of the Clearing Participant (in case of an Individual Client 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 Participant of all derivatives contracts in the relevant account – provided that the back-up Clearing Participant is (and remains) able to meet the margin requirements.
- Satisfactory certainty that all pending settlements with the defaulting Clearing Participant will be cancelled, and that new equivalent instructions will be sent by the back-up Clearing Participant.

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 Rule Book without further delay if they deem the conditions for porting have not been met within this time frame.

If collateral for Individual Client Accounts is held by ICNL, any balance owed by ICNL to the defaulting Clearing Participant 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 Participant 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 Participant 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 Participant. In the absence of such consent, payment will be made by ICNL to the defaulting Clearing Participant 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 Participant 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.

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

The legal advice includes the United Kingdom and confirms that the arrangements are also enforceable under UK 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.

ICNL has made available all details on the level of protection offered to a client that each form of client account provides through the ICNL Rulebook, ICNL Regulation Segregation and Portability, ICNL Account Disclosure, and the ICNL Regulation Fees and Penalties. These documents are available via the ICNL website.

This information allows clearing members and its clients to determine the pros and cons of each account type as well as the interaction with insolvency laws and choose the account type that best fits their needs.

ICNL will provide the minimum level of accounts required (separate House Account, Omnibus Client Account and the corresponding Collateral Accounts) as part of its standard membership service. However, if Clearing Participants wish to implement the Individual Client Accounts, ICNL will charge an amount of EUR 3000 per Individual Client Account per year to cover the extra administration and monitoring required. The fee will be charged per separate Client, not per Collateral Account used.

The ICNL Regulation Fees and Penalties provides an overview of all costs associated with the ICNL account structure. As described above ICNL will provide the House Account and an Omnibus Client Account as part it standard membership service. These accounts are currently free of charge. Every additional Omnibus Client Account will be charged with an amount of EUR 4000 per Omnibus Client Account per year.

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 as a result of business risk, ICNL will have to 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 2016 the maximum business risk is set at 25% of annual gross expenses – i.e. 1.144.250 euro.

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 2015 and 2016 were used. The forecast for 2016 was based on an increase of ICNL's market share to 55%. Such an increase can, amongst others, be achieved by adding more clearing participants and/or increasing the types of products cleared. This would require (start-up) costs for linking new members, costs for adjustments to existing clearing systems or investments in entirely new systems. Costs could increase further if for example the integration of ICNL into the ICE organization would require more resources than anticipated. The budgeted figures were compared with the actual cost figures and subsequently an appropriate average was determined to which the 25%-criterion was applied.

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.

ICNL has developed a Recovery plan.

ICNL 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 Participant(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 Participant default arise in such circumstances, the Clearing Participant 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).

The current winding down charge reserved by ICNL is EUR 2.288.500.

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 span for winding down with a minimum of 6 months.

ICNL has provided an estimate of the appropriate time span 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.

Assets held to cover general business risk should be of high quality and sufficiently liquid in order to allow the FMI to meet its 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 Policy. Please note that ICNL invests its own financial resources, the contributions to the Clearing Fund and the Collateral that is

deposited with ICNL for meeting Margin requirements in the same manner.

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 Participants 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, clearing 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

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.

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

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

ICNL should deposit financial instruments with:

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

Highly secured arrangements maintain cash should be deposited with:

- the Dutch Central Bank or any other European Central Bank;
- an authorized credit institution with an investment grade rating that is not also a Clearing Participant unless the cash deposit is secured by a repo transaction.

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.

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

Assets held in custody by ICNL have either been pledged or are transferred on the basis of title transfer. Both forms of ownership rights have a sound legal basis.

It is defined in the Clearing Participant Agreement and the Regulation Collateral that a Clearing Participant 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 Participant. Prompt access is ensured by the fact that cash is deposited at the Dutch Central Bank and securities are deposited at Euroclear 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 to 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 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).

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 37 calendar days where the counterparty has a short-term rating of any one of the following: A-1 or better by S&P, P-1 by Moody's or F1 or better by Fitch.
- Time to final maturity must not exceed 7 calendar days where the counterparty has a short-term rating of any one of the following: A-2 by S&P, P-2 by Moody's or F2 by 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.

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 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.

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 to cash deposits.
- Investments are secured by collateral (repo) have claims on high quality obligors to mitigate the credit risk to which ICNL and its customers are exposed.
- Sets suitable haircuts dependent 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.

ICNL only allows investments in Cash in EUR, Repurchase Agreements with an approved authorized credit institution and only bonds by the central government and debt securities issued by central banks of Austria, Belgium, Finland, France, Germany, Luxemburg and the Netherlands with a maximum of 10 years to maturity as underlying.

Currently all of ICNL's investments are cash.

If the value of the collateral added across all clearing members in a single security exceeds the applicable concentration limit across all, ICNL may request clearing member, on a pro rata basis, to replace that collateral by other acceptable collateral. Clearing members need to comply with such request within one business day.

As a matter of policy ICNL does not invest participant assets in participants' own securities or those of its affiliates.

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

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

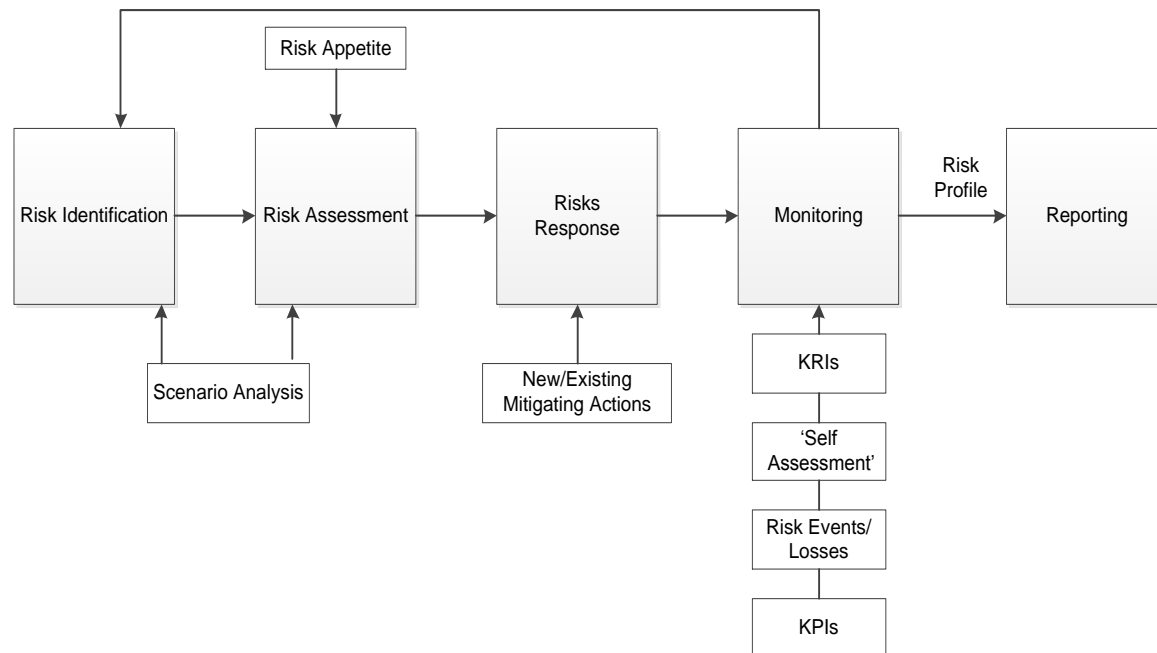
ICNL has defined an Operational Risk Management Framework.

The purpose of the Operational Risk Management Framework is to 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.

The Operational Risk Management Framework should be read in conjunction with the Operational Risk Assessment Matrix, the Incident Policy, the Business Continuity Plan and the Operational Risk Scenario Analysis.

The figure below depicts the methodology applied by ICNL.

Figure 4 – ICNL Methodology for Operational Risk Management



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

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.

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:

Table 6: Escalation within ICNL in response to operational incidents based on severity

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.

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, Clearing Operations will email Clearing Members. Clearing Operations keeps a list of email addresses of Clearing Member's personnel.

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.

The table below summarises the responsibilities of different parties in relation to the Operational Risk Management Framework.

Table 7: overview of responsible parties and their responsibilities

Risk Owner	<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).
Risk department	<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.

The policies related to risk management (Regulation Margin, Regulation Clearing Fund, Back Testing Policy etc.) 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.

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

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

ICNL measure whether it meets its operational reliability objectives through pre-defined KPIs. ICNL measures those KPIs on a monthly basis.

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.

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

For workplace premises, ICNL has defined and implemented physical security measures in line with business requirements to ensure that access to information systems is appropriate restricted.

Business Continuity

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 BCP 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.

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
- 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

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 BCT 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.

ICE has a redundant datacenter setup 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.

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.

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.

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.

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.

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.

ICNL provides two types of clearing membership based on the level of client clearing required: General Clearing Participant and Direct Clearing Participant.

General clearing members are authorized to clear trades for their own account or trades which have been undertaken on behalf of its clients or other trading participants. Direct clearing members are authorized to clear trades for its own account or trades which have been undertaken on behalf of its clients.

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 will be obliged to sign a Clearing Participant Agreement (CPA) 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 criteria and requirements for participation are further detailed in chapters 4 and 5 of the ICNL Rulebook. These requirements include limitations to the Clearing Participant's legal (regulatory) status, financial requirements, and operational requirements.

Trading venues can obtain access to ICNL if they meet the operational, technical, risk management, and regulatory requirements. These requirements are detailed in the trading venue acceptance policy.

The criteria and requirements allow for fair and open access to ICNL's services because each participant 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 participants.

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 Client Acceptance policy which sets out the process for accepting clients. The Client Acceptance policy includes annexes that assist the assessment of compliance with the access requirements.

ICNL's Risk Committee reviews new applications and advises the Board on on-boarding a new Clearing Participant.

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.

The first line of defense in managing the CCP specific risks includes a comprehensive set of membership requirements included within the ICNL Rulebook. The following financial requirements are applicable to ICNL clearing members:

In order to clear matches, the *direct clearing member* must at all times maintain such capital that is the higher of:

- EUR 10 million capital; or
- 10% of 30-day average aggregate margin requirement; or
- 10% of 250-day average aggregate margin requirement.

In order to clear matches, the *general clearing member* must at all times maintain such capital that is the higher of:

- EUR 25 million capital if the clearing member clears up to nine trading participants;
- EUR 30 million capital if the clearing member clears up to 14 trading participants;
- EUR 33.75 million capital if the clearing member clears up to 19 trading participants;
- EUR 37.5 million capital if the clearing member clears 20 or more trading participants.
- 10% of 30-day average aggregate margin requirement; or
- 10% of 250-day average aggregate margin requirement.

These financial requirements are in line with the risk profile of each category of clearing member.

ICNL is required by EMIR to offer segregated accounts to its clearing members. General clearing members are required by EMIR to segregate house and client positions.

Each class of clearing member is subject to the same access criteria. For general clearing members the financial requirements are tiered based on the number of trading participants cleared by the general clearing member.

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.

The participation criteria are publicly disclosed on the ICNL website - www.theice.com/clear-netherlands.

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.

ICNL has defined a client acceptance policy which includes the obligation to review its clearing members on a yearly basis.

The procedures for managing the suspension and orderly exit of a participant are part of the ICNL Rulebook.

If ICNL is of the opinion that any event could or is likely to result in a situation in which the Clearing Participant no longer satisfies one or more of the requirements set out in article 5, or endangers the proper functioning of the Clearing System, or can no longer comply with its obligations under the Clearing Rules, or is regularly in breach and failure with the Clearing Rules, ICNL may:

- suspend its relationship with the Clearing Participant;
- terminate its relationship with the Clearing Participant as stated in the Clearing Participant 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 Participant.

Before exercising any such power, ICNL may, but is not obliged to, enter into consultations with the Clearing Participant, which may result in ICNL specifying the latest date and time limit on which the Clearing Participant must have remedied the situation.

In any event and at any time, ICNL can decide to temporarily suspend the Clearing Participant's activities or terminate its relationship with the Clearing Participant under the conditions set out in the Clearing Participant Agreement. The Clearing Participant shall inform its clients accordingly. Such Clearing Participant is informed in writing of the reasons for termination or suspension. The termination is subject to the period of notice set out in the Clearing Participant Agreement.

When the Clearing Participant's relationship with ICNL is suspended, ICNL shall inform the relevant Exchange(s) immediately, after which the relevant Exchange(s) will not Enter any new Matches on behalf of the Clearing Participant and ICE ICNL shall refuse the registration of any new Derivative Contracts in the Clearing Participant's name. However, ICNL may decide, in view of the particular circumstances, to only refuse the registration of a new Derivative Contract increasing the Clearing Participant's Open Position. The Clearing Participant will continue to be required to satisfy its Margin Requirements and settle its Open Position as it falls due.

When the Clearing Participant's relationship with ICNL is terminated, ICNL shall discontinue registration of any new Derivative Contracts in the Clearing Participant's name. ICNL shall inform the relevant Exchange(s) immediately, after which the relevant Exchange(s) will not Enter any new Matches on behalf of the Clearing Participant.

Furthermore, suspension or revocation of the recognition of the Clearing Participant as such shall be promptly notified to the other Clearing Participants by publication in an ICNL Regulation. 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

Not applicable.

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.

Before establishing a link with another FMI, ICNL will perform a due diligence process in which it will identify all potential sources of risk arising from such a link.

Currently ICNL only has established a link with Euroclear Nederland - a CSD - for the purpose of performing settlements.

In principle ICNL will only establish a link with other FMI's if it does not deteriorate the risk profile. If the due diligence process leads to identification or risks that would deteriorate the risk profile these risks either need to be mitigated or the link will not be established.

ICNL monitors and manages arising from this link on daily basis as part of the settlement process. Management of these risks is also part of the general ICNL risk management framework.

As mentioned above the link is part of the general risk management framework of ICNL therefore ensuring observance with the other principles. Furthermore, since ICNL is compliant with EMIR it is also deemed to observe these principles.

ICNL will at least yearly review its risk management framework and links with FMI's as part of the mandatory EMIR reassessment.

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 operations process there are several needs of participants which are taken 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 electronically instruct ICNL to exercise OTM or ATM series, however the ICNL systems will automatically generate warnings to clearing member via pop up screens.

ICNL offers clearing members a range of reports and data files, distributed via Managed File Transfer (“MFT”) or via GUI report tool. 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.

An FMI should have established mechanisms for the regular review of its efficiency and effectiveness.

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.

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.

ICNL uses various internationally accepted communication procedures such as ISO standards, FIXML 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 (M@Q) ip are used.

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.

ICNL has publically available (via de website) several documents/procedure guidelines.

In addition to the internal process of setting and developing rules and procedures this ensured by external review of rules and procedures. This review is done by the Risk Committee and external legal counsel. Furthermore, all rules and procedures need to be validated by DNB, AFM, and the EMIR college of Regulators where applicable.

The Rulebook describes the rules in case of a Default of a participant. Additionally a Regulation Default, is available and describes the procedure for the measures as set out in Article 9.2 of the Rulebook.

A couple of other, non-routine though foreseeable events are described in the Rulebook:

- An ICNL Default Event,
- ICNL Insolvency Event,
- ICNL Withdrawal of Authorization Event,

The Rulebook describes the process for changing its rules and procedures:

- a. This Rulebook shall be supplemented by Regulations and published in accordance with article 3.5. In the event of any conflict between the provisions of the Rulebook and the Regulations, the provisions in the Rulebook will prevail.
- b. This Rulebook may be modified from time to time by ICNL . The Clearing Participant will be informed with reasonable prior notice of each change in writing or by such other means as may be specified by ICNL .
- c. If any material modification of the Clearing Rules (other than a modification required by EU or relevant national law) adversely affects the rights or obligations of the Clearing Participant, then the Clearing Participant so affected may terminate its relationship effective immediately upon receipt by ICNL by written notice given to ICNL , provided that such notice is received by ICNL within one (1) month from the date of publication of the relevant modification.

The Rulebook, procedures and regulations are publically accessible via de 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.

The Rulebook 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' Rulebook 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 Participant; (ii) terminate its relationship with the Clearing Participant as stated in the Clearing Participant 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 Participant.

The rights, obligations and risks are all described in the Rulebook and in the document called Risk associated with the services provided.

An FMI should provide all necessary and appropriate documentation and training to facilitate participants' understanding of the FMI's rules and procedures and the risks they face from participating in the FMI.

All information about the rules, procedures and risk is publically available on the website.

By signing the client participant membership agreement the applicant states that it understands the rules, qualified/ staff and implemented controls in a responsible manner.

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.

The regulation Fees and penalties discloses fees at the level of an individual contract as well as the maximum per day. Additionally, other fees like administration fees, ISA and OSA are communicated. This information is publically available via the website.

The ICNL Rulebook shall be supplemented by Regulations and published in accordance with article 3.5. In the event of any conflict between the provisions of the Rulebook and the Regulations, the provisions in the Rulebook will prevail.

The ICNL Rulebook may be modified from time to time by ICNL . The Clearing Participant will be informed with reasonable prior notice of each change in writing or by such other means as may be specified by ICNL .

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.