



ICE CLEAR EUROPE

Compliance with Principles for Financial Market Infrastructures

February 2025



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1. INTRODUCTION

1.1 ASSESSOR AND OBJECTIVE

Assessor:

ICE Clear Europe Limited (self-assessment)

Objective:

As at 31 January 2025, to assess observance by ICE Clear Europe Limited ("ICEU", "the Clearing House" or "the CCP") with the internationally recognised Principles for Financial Market Infrastructures ("PFMI") published in April 2012 and developed jointly by the Committee on Payments and Market Infrastructures ("CPMI"), formerly known as the Committee on Payment and Settlement Systems ("CPSS"), and the Technical Committee of the International Organization of Securities Commissions ("IOSCO").

Additionally, to assess ICEU's cyber resilience capabilities against the components of the Guidance on Cyber Resilience for Financial Market Infrastructures, published in June 2016 and developed jointly by the CPMI and IOSCO to support the existing PFMI.

1.2 SCOPE OF THE ASSESSMENT

The scope of this assessment includes the clearing services provided by ICEU at 31 January 2025 in respect of: the interest rate, equity, agricultural and energy derivative markets operated by ICE Futures Europe ("IFEU") (a UK recognised investment exchange or "RIE"); the energy derivative markets operated by ICE Endex Derivatives B.V. ("ICE Endex") (a regulated market in the Netherlands); the energy derivative markets operated by ICE Futures U.S. ("IFUS") (a Designated Contract Market pursuant to the Commodity Exchange Act); and the energy derivative markets operated by ICE Futures Abu Dhabi ("IFAD") (a recognised investment exchange located in the Abu Dhabi Global Market).

Principles 11 (Central securities depositories), 12 (Exchange-of-value settlement systems) and 24 (Disclosure of market data by trade repositories) are not applicable to ICEU.

Note 1: in this disclosure statement, unless otherwise specified, references to the European Market Infrastructure Regulation ("EMIR") and other relevant EU legislation means such legislation as onshored in the UK with effect from the end of the Brexit transitional period. For further details see [Circular C20/163](#).

Note 2: capitalised terms used but not defined in this document have the meaning given to them in the [ICE Clear Europe Clearing Rules](#).

1.3 SCOPE OF COVERAGE OF THE CCP

ICEU's activities cover the following markets and products:

- IFEU, ICE Endex, IFAD and IFUS energy derivative contracts; and
- IFEU interest rate, equity and agricultural derivative contracts.

1.4 INSTITUTIONAL AND MARKET STRUCTURE

The primary function of derivatives markets is to facilitate the management of price risk, by allowing risk to be re-distributed to better suit the requirements of individual market participants. The markets provide standardised trading environments such that



all users know what they are trading and where their obligations and risks lie. By entering into a standard exchange traded futures and/or options contract, a certain amount of price assurance can be introduced to mitigate uncertainty and price volatility.

1.5 REGULATORY STRUCTURE

ICEU is authorised as a Recognised Clearing House under the UK Financial Services and Markets Act 2000 and supervised by the Bank of England. ICEU is also: (i) designated as a derivatives clearing organization by the U.S. Commodity Futures Trading Commission (“CFTC”); (ii) recognised by the European Securities and Markets Authority (“ESMA”) as a third-country central counterparty under the European Market Infrastructure Regulation (“EMIR”); (iii) recognised as a foreign central counterparty by the Swiss Financial Market Supervisory Authority (“FINMA”); (iv) recognised as a remote clearing house by the Abu Dhabi Global Market (“ADGM”) Financial Services Regulation Authority (“FSRA”); and (v) recognised as an inter-bank payment system under the Banking Act 2009.

ICEU has received settlement finality designation under the Financial Markets and Insolvency (Settlement Finality) Regulations 1999 (“SFR”), which enhances the systemic risk protection provided to Clearing Members in the event of a clearing counterparty default. Under SFR, payment instructions within ICEU’s system can be protected from administrators or liquidators of insolvent firms.

1.6 SUMMARY STATISTICS

ICEU clears approximately over 5 million contracts every day, with Initial Margin requirements of approximately \$76.5 billion as of 31 January 2025. ICEU has 73 Clearing Members located in France, Germany, Italy, Spain, Sweden, Switzerland, the Netherlands, the United Kingdom and the United States of America.

ICEU monitors, on an intraday/daily basis, the amount of collateral that it holds together with its potential exposure to Clearing Members. In the event of a default, the following resources are available to ICEU in order that it can continue to meet its obligations to non-defaulting Clearing Members: (i) the defaulter’s initial Margin; (ii) the defaulter’s Guaranty Fund contribution; (iii) ICEU’s own capital contribution; (iv) default insurance (subject to specific provisions of Parts 9 and 11 of the ICEU Clearing Rules) (v) the Guaranty Fund contributions of non-defaulting Clearing Members; and (v) Powers of Assessment as described in the ICEU Clearing Rules.

As at 31 January 2025, minimum Clearing Member requirements in the Guaranty Funds were approximately \$2.9 billion, with additional ICEU contribution of \$197 million.

1.7 INFORMATION AND METHODOLOGY USED FOR ASSESSMENT

The approach for the review uses the assessment methodology described in the PFMI. The PFMI sets out standards for risk management of a CCP. These recommendations are recognised and have been used by national regulators (including the Bank of England) and other firms for self-assessment purposes.

Responses contained herein draw on ICEU’s existing rules, policies and procedures, as well as feedback from the Bank of England on previous versions of this document.

Supplementary to these responses is a Cyber Resilience PFMI Annex, which assesses observance by ICEU of the Guidance on Cyber Resilience for Financial Market Infrastructures. The Cyber Guidance does not establish additional standards for FMIs beyond those already set out in the PFMI but is intended to be supplemental to the PFMI.

1.8 SUMMARY OF MAJOR CHANGES

Since the date of ICEU’s previous PFMI disclosure statement, the following changes have been implemented:

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- Data Centre Migration (DC 3.0) - all ICE servers in the Atlanta and Chicago data centres were successfully upgraded and relocated;
 - Non-Default Losses (NDL) Rule Change - ICEU implemented amendments to the Clearing Rules related to the allocation of non-default losses;
 - CDS Closure - ICEU terminated its CDS clearing service and formally withdrew its registration as a clearing agency from the SEC;
 - Changes to Liquidity Stress Test - ICEU implemented an updated Liquidity Stress Test (“LST”) to provide a more accurate and complete measure of ICEU’s liquidity under stressed conditions (“LST v3”);
 - Operational Resilience - in connection with the ongoing Operational Resilience supervisory priority, ICEU continued to enhance its Operational Resilience Framework, including its programme of scenario testing, reflecting regulatory feedback and developing industry guidance/best practice;
 - Outsourcing and Third Party Risk Management - in connection with the ongoing work to comply with the BoE Supervisory Statement on outsourcing and third party risk management, ICEU implemented a new Outsourcing and Third Party Risk Management Policy and is completing a review of the relevant legal agreements;
 - Concentration Charge - ICEU implemented a set of proposed improvements to the calculation of the concentration charge as part of its IRM 1 risk model;
 - Board Risk Appetite - ICEU has implemented a new Board Risk Appetite, consolidating the requirements from several existing documents covering key components of ICEU’s Risk Management Framework into a single document; and
 - General Updates to the Clearing Rules - ICEU has implemented a further set of updates to its Clearing Rules, including certain Procedures which form part of the Clearing Rules. The amendments reflect new business developments or necessary updates, as well as enhancements, clarifications and corrections to existing provisions.

2. ASSESSMENT OF OBSERVANCE

The purpose of the assessment was to confirm whether the policies, procedures and methods used by ICEU to manage the risks it faces as a CCP meet the regulatory expectations set out in the PFMI.

Summary of key arrangements

As a CCP, ICEU's systems are designed to protect the financial integrity of the markets for which it provides clearing services by maintaining collateral, facilitating payments and collections, and limiting counterparty risk. Positions are marked to market at least daily, and in some cases at regular intervals throughout the day. ICEU maintains a comprehensive set of rules, policies and procedures in addition to customer protection, risk management and governance frameworks.

ICEU currently provides clearing services in relation to: IFEU; ICE Endex; IFAD; and IFUS Energy Division. The clearing services include:

- (a) Trade registration and position management;
- (b) Collection of Margin and collateral and associated activities;
- (c) Treasury, cash payment/receipt and billing;
- (d) Clearing risk management;
- (e) Default management; and
- (f) Contract expiry and deliveries.

ICEU accepts transactions on the basis of an open offer mechanism for exchange-traded derivatives, pursuant to which, at the point an open buy order matches with an open sell order at the relevant market, ICEU will become the buyer to the seller and the seller to the buyer. For off-screen trades which are registered with ICEU for clearing (i.e. Block Trades, Exchange for Physical and Exchange for Swaps) a contract will form upon complete details being sent to the relevant market and accepted through their systems at which point ICEU becomes counterparty to the trade based on open offer.

Whenever a Contract is recorded in a Customer Account of a Clearing Member, a back-to-back Customer-Clearing Member Transaction with equal terms will also arise between the Clearing Member and its Customer. The liabilities and obligations of ICEU will extend only to, and be enforceable only by, Clearing Members. Some contracts will be void from inception, and some via a 'filter mechanism' enable ICEU to avoid clearing certain transactions. ICEU can also request additional Margin or restrict a Clearing Member from increasing its open position, inter alia, if a Clearing Member exceeds its Position Limit.

ICEU's clearing systems (described below) receive details of trades in real-time from the relevant market.

ICEU receives only validated data in relation to both matched trades and block trades. The trading systems are designed to ensure that only details of matched trades or complete block trades are passed to ICEU for clearing. However, ICEU retains a right to reject contracts in the event of an error.

Clearing Members have rights and obligations set out in the ICEU Clearing Rules and a Clearing Membership Agreement ("CMA") and, where applicable, an additional addendum to the Clearing Membership Agreement. Every Clearing Member agrees to be contractually bound by the ICEU Clearing Rules as a result of becoming a Clearing Member.

Information Technology, including cybersecurity

ICEU's IT functions, systems and services are predominantly outsourced to other ICE entities which include Intercontinental Exchange, Inc. ("ICE") and IFEU. The ICEU IT team is responsible for overseeing and supporting clearing systems and related IT projects, in particular system design (definition of business and functional requirements), project management and co-ordination of internal and external UAT as part of the overall ICE system development lifecycle. The ICEU IT team works collaboratively with ICE, ICEU business teams and relevant external parties (e.g. Clearing Member firms) to ensure that the functionality of new/modified systems is acceptable and meets the intended business requirements.

ICEU's operations rely on the following key systems environments: post trade administration and clearing, banking and collateral management, risk management and deliveries.

ICEU's primary systems comprise:

- a) Post-trade administration/clearing: Post Trade Management System/Allocation Claim Management System (combined "ICE FEC");
- b) Primary exchange integration component for cleared exchange traded derivatives: Hercules;
- c) Treasury, banking and collateral management: Extensible Clearing System ("ECS") and ICE SWIFT Gateway ("ISG");
- d) Clearing risk management systems: PRSK, ECS, Intra-day Risk System (Oracle based);
- e) Default managements: ICE's Default Management System ("DMS");
- f) Delivery systems: Guardian; Deliveries for ICE ("DICE"), Softs Deliveries Platform ("SDP");
- g) Bond and equity settlement: Settlements Processing for ICE ("SPICE");
- h) Billing and finance systems: Platform Billing, Revenue Management and Billing ("RMB"), Crystal Reports;
- i) Central data repository: Enterprise Data Warehouse; and
- j) Managed File Transfer system ("MFT").

ICEU, its parent (ICE) and other entities within the ICE group operate under a single information security policy and security organisation. ICE has also formally documented its strategy for managing cyber risk through a Cyber Security Strategy ("CSS").

The CSS complements ICE's information security policy and procedures by capturing the organisation's overarching intent in managing cyber risk. The CSS been developed in accordance with the National Institute of Standards and Technology ("NIST") Cyber Security Framework.

The CSS and security policy and procedures are overseen by the ICE Operational Oversight Committee ("OOC") at which ICEU is represented by relevant members of the Senior Management of the Clearing House, including its President and COO. Intra-group service arrangements are underpinned by formal contractual arrangements. The CSS is reviewed on annual basis by the ICEU Board.

PRINCIPLE 1: LEGAL

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

Key Consideration 1

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

The following are material aspects relating to ICEU's activities that require a high degree of legal certainty:

- Legal enforceability of margin calls, guaranty fund contributions and other payment obligations;
- Terms, settlement arrangements and (where relevant) delivery mechanics for cleared contracts;
- ICEU Clearing Rules, including Part 9 Default Rules (which contain netting provisions);
- Settlement finality;
- APS bank network, concentration bank arrangements, investment programme; and
- Segregation and portability of client positions.

The ICEU Clearing Rules, which provide details of cleared contracts and the material aspects of ICEU's operations, are primarily governed by the laws of England and Wales (Rule 102(s)). The one exception to this relates to FCM / BD Clearing Members' Pledged Collateral Matters (such terms as defined in the ICEU Rules and as further detailed in Rule 1608). Notwithstanding, England and Wales is the principal jurisdiction in which ICEU operates, is incorporated and regulated.

ICEU is part of the Intercontinental Exchange, Inc. ("ICE") group, and was incorporated in England and Wales on 19 April 2007 as a private limited company under the Companies Act 1985 (as amended) with registered number 06219884. ICEU's registered office is at 2nd Floor, Sancroft, Rose Street, Paternoster Sq., London, EC4M 7DQ, from where it operates. ICEU provides clearing and settlement services to certain markets operated by companies within the ICE group.

ICEU is authorised as a Recognised Clearing House ("RCH") under section 286 of the Financial Services and Markets Act 2000 ("FSMA") and supervised as such by the Bank of England. Recognition as an RCH was granted on 12 May 2008. As an RCH, ICEU is subject to the Financial Services and Markets Act 2000 ("Recognition Requirements for Investment Exchanges and Clearing Houses") Regulations 2001 (SI 2001/995) ("Recognition Requirements") and the relevant parts of the Bank of England's policies, rules and standards.

On 19 September 2016 ICEU was authorised as a central counterparty under Article 14 of Regulation (EU) No 648/2012 of the European Parliament and of the Council of 4 July 2012 on OTC derivatives, central counterparties and trade repositories ("EMIR") and recognised as a central counterparty under section 290(1)(b) of FSMA. As such, ICEU is subject to EMIR, as onshored in the UK, with certain modifications, with effect from 1 January 2021, together with associated regulatory technical standards.

On 25 September 2020, ICEU was recognised by ESMA as a Tier 2 third-country CCP pursuant to Article 25 of EMIR (as such legislation applies in the EU), with effect from 1 January 2021 until 30 June 2022. This temporary recognition was subsequently extended to 30 June 2025. In December 2018, the Swiss Financial Market Supervisory Authority (FINMA) recognised ICEU as a foreign central counterparty. ICEU is also registered as a derivatives clearing organization ("DCO") with the US Commodity Futures Trading Commission ("CFTC").

Following the cessation of its CDS Clearing business in October 2023 and with effect from 9 November 2023, ICEU deregistered as a clearing agency with the U.S. Securities and Exchange Commission ("SEC").

In April 2020, ICEU was granted a Recognition Order as an RCH by the Abu Dhabi Global Market ("ADGM") Financial Services Regulatory Authority ("FSRA"). The recognition allows ICEU to offer clearing services to firms based in the ADGM.

The clearing services currently support exchange markets operated by ICE Futures Europe (a UK recognised investment exchange or “RIE”), the energy markets operated by ICE Futures US (“IFUS”), the markets operated by IFAD (a recognised investment exchange located in the ADGM), the markets operated by ICE Endex Markets B.V. (“ICE Endex”) and ICE Endex Gas Spot Limited (“ICE Endex UK”).

Accordingly, the relevant jurisdictions for ICEU are the UK, the EU, the US, Switzerland, ADGM, all jurisdictions in which ICEU has Clearing Members, as well as Belgium and Luxembourg. As noted below, ICEU obtains legal opinions from external counsel in relation to the enforceability of its ICEU Clearing Rules in such jurisdictions.

ICEU takes legal advice in relation to insolvency, the regulation of clearing houses, central counterparties, the enforceability of contracts and the ICEU Clearing Rules, close-out netting, enforceability of collateral, choice of law, jurisdiction, enforceability of disciplinary powers and other relevant material aspects of ICEU’s operations in relevant jurisdictions, as well as any jurisdiction in respect of an applicant Clearing Member. This informs its decisions in relation to the jurisdictions where it accepts Clearing Members (Rule 201(a)(xxxi)) and Rule 202(a)(xiv)(F)).

Subsequent regulatory filings and notification processes provide a further external check and basis of assurance.

Part 4 of the ICEU Clearing Rules sets out the rules relating to the formation of Contracts in the context of open offer arrangements. There is only one applicable mechanism.

Part 12 of the ICEU Clearing Rules addresses settlement finality and the irrevocability of relevant Transfer Orders, specifying the point at which each Transfer Order arises in ICEU’s system, becomes irrevocable and is satisfied and terminated. ICEU is the system operator of a Designated System for the purposes of the UK Settlement Finality Regulations in respect of Transfer Orders identified under the ICEU Clearing Rules, which is the legal basis supporting the finality of relevant transactions within ICEU systems and in accordance with the ICEU Clearing Rules and Procedures.

In order to ensure that the post-Brexit EU settlement finality protections applied to ICEU are effectively captured in the ICEU Clearing Rules, ICEU published a Circular on the interpretation of references to EU legislation in the Clearing House Rules (https://www.theice.com/publicdocs/clear_europe/circulars/C20163.pdf). This Circular including the following statement in respect of the provisions of Part 12 of the ICEU Clearing Rules:

The Clearing House will also benefit from a designated or deemed national SFD status in certain EU member states. Part 12 should therefore be interpreted as also constituting the settlement finality rules applicable to ICEU’s designated system under the laws of those EU member states. ICEU has previously obtained legal opinions under English, and the laws of all jurisdictions in which ICEU has Clearing Members (plus Belgium and Luxembourg), confirming that the arrangements in Part 12 of the ICEU Clearing Rules are protected by the UK’s Settlement Finality Regulations and Directive 98/26/EC on the settlement finality in payment and securities settlement systems (“Settlement Finality Directive”). These opinions were updated in 2021 to reflect the receipt of individual EU nation settlement finality protections by ICEU detailed above. The Scottish and US legal opinions were also updated in respect of this point.

Key Consideration 2	An FMI should have rules, procedures, and contracts that are clear, understandable, and consistent with relevant laws and regulations.
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ICEU Clearing Rules (including the Procedures) are publicly available at:

<https://www.ice.com/clear-europe/regulation>

The Clearing Rules and Procedures have evolved over time, taking into account the input and feedback provided by various parties including independent external counsel, Clearing Members, industry bodies and regulators. As a standard practice, the majority of Clearing Rule changes involves a market consultation in relation to proposed amendments, providing

prospective and actual Clearing Members as well as other interested third parties with an opportunity to review, suggest amendments and give feedback. Additionally, the ICEU Clearing Rules and Procedures have at various stages been, and continue to be, subject to strict regulatory filing processes and regulatory review.

Further, and in line with its regulatory obligations, ICEU sets out on its website an EMIR Disclosure Statement which provides a clear and accessible description of various key aspects of clearing and the ICEU Clearing Rules.

ICEU's EMIR disclosure statement is publicly available at:

https://www.ice.com/publicdocs/clear_europe/ICEU_EMIR_Disclosure_Statement.pdf

These levels of third-party engagement and disclosures provide assurance that the ICEU Clearing Rules and Procedures are clear and understandable.

Each Clearing Member accedes to the ICEU Clearing Rules and Procedures through the execution of a standard form Clearing Membership Agreement ("CMA"). As part of the onboarding process, applicants have the opportunity to raise questions and seek clarifications in relation to ICEU Clearing Rules and Procedures.

ICEU has close working relationships with its regulators and an ongoing consultative and advisory relationship with external counsel. This ensures that ICEU is fully apprised of relevant laws and regulations and that its ICEU Clearing Rules, Procedures and legal opinions are consistent with relevant laws and regulations. Rule changes are required to be filed with and approved by relevant regulators in advance of implementation as part of prescribed regulatory processes. In general, proposed changes to the Clearing Rules are also publicly consulted on prior to implementation.

ICEU has also implemented a Compliance Monitoring and Testing Programme ("CMTP") that is designed to monitor and test ICEU's adherence to applicable regulatory requirements.

Given the rate of regulatory changes applicable to clearing houses / CCPs, new enhancements are regularly identified and proposed. Accordingly, the Clearing Rules and Procedures are routinely assessed when considering the impact of regulatory-driven initiatives.

ICEU Clearing Rules and Procedures changes follow different internal processes depending on materiality, subject matter and urgency. Business-as-usual amendments to the ICEU Clearing Rules and Procedures and those relating to the essential operations or conduct of ICEU, can be approved by the ICEU President, provided they have been reviewed by the Executive Risk Committee ("ERC") and recommended to the President for approval. Material changes are considered and approved by the Audit Committee (at the request of the ERC) on behalf of the Board. Alternatively, at the request of the Audit Committee, specific proposed changes to the ICEU Clearing Rules can be escalated for consideration by the Board.

Other than in limited and defined circumstances set out Rule 109(b) (e.g. minor or technical changes or as required by law or regulation), Rule 109(a) of the ICEU Clearing Rules requires ICEU to hold public consultations on proposed changes to the ICEU Clearing Rules. In addition, ICEU has established a specific EMIR-compliant risk committee to determine various arrangements (including governance arrangements and operational procedures) and to advise the Board on arrangements that may impact the risk management of ICEU, such as default procedures and the criteria for accepting Clearing Members.

ICEU's regulators are given notice of and/or approve (depending on the nature of the change and the specific regulator's requirements) all proposed changes to the ICEU Clearing Rules and Procedures. The Bank of England and ESMA are provided with the details of proposed changes by email as well as part of regular update calls and meetings. Rule changes are subject to regulatory filings submissions which set out the proposed changes and are either self-certified by ICEU or approved by the CFTC prior to implementation. ICEU liaises with FINMA and the ADGM FSRA in respect of those changes relevant to ICEU's status in those jurisdictions.

Key Consideration 3	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.
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The legal basis for ICEU's activities is articulated through the regulatory approval and authorisation processes with the following relevant authorities:

- Bank of England under the Recognition Requirements and EMIR (with respect to RCH/recognised central counterparty status);
- ESMA (with respect to third country CCP status);
- CFTC (with respect to DCO status);
- FINMA (with respect to Remote Clearing House status); and
- ADGM FSRA (with respect to foreign central counterparty status).

Clearing Members and their customers can view information regarding the legal basis for ICEU’s activities, which is publicly available at:

<https://www.ice.com/clear-europe/regulation>

ICEU also regularly publishes Circulars, which are sent to Clearing Members and any interested party that signs up to the Circular mailing lists. Circulars are published on the ICE group website here:

<https://www.ice.com/clear-europe/circulars>

Circulars are another way that Clearing Members and their customers can obtain information regarding the legal basis for ICEU’s activities. For example, Circulars detailing proposed changes to the ICEU Clearing Rules explain the proposed changes in a clear and understandable way.

ICEU also makes certain legal opinions available to Clearing Members on request, such its UK and US netting opinions.

Key Consideration 4	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.
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ICEU’s legal counsel obtain external legal opinions on the enforceability of the ICEU Clearing Rules in all the jurisdictions where Clearing Members are based.

ICEU’s regulators are given notice of and / or approve (depending on the nature of the change and the specific regulator’s requirements) all proposed changes to the ICEU Clearing Rules and Procedures. ICEU is also required to hold public consultations on the majority of such changes. These processes ensure that regulators and Clearing Members have the opportunity to consider and challenge the proposed changes, including with respect to enforceability in specific jurisdictions.

Key contractual documentation, such as the Clearing Membership Agreement (“CMA”) and the contracts that govern the APS bank and concentration bank arrangements, are drafted with the assistance of and reviewed by external counsel, which gives ICEU a high degree of certainty in respect of a range of contractual features, including enforceability in specific jurisdictions.

ICEU achieves a high degree of certainty that its rules, procedures and contracts will not be voided, reversed or subject to stays on the basis of legal enforceability opinions, external counsel drafting and review of key contractual documents (such as the Clearing Member Agreement) and the consultation process.

ICEU is the operator of a Designated System for the purposes of the UK Settlement Finality Regulations, with the effect that certain protections against the operation of standard UK insolvency laws are afforded to ICEU in respect of Transfer Orders, collateral security, rules on the settlement of Transfer Orders and default arrangements of ICEU and net sums declared by ICEU.

As a result of Brexit and the end of the transition period on 31 December 2020, ICEU (in conjunction with external counsel) assessed what was required to obtain settlement finality protections in the non-UK jurisdictions where it has Clearing Members. As detailed under ICEU's answer to 1.1.3(e), ICEU automatically qualifies for these protections in Germany, Italy and the Netherlands; has applied and been approved to receive these protections in Sweden, France and Ireland; and does not need to apply for approval in Spain, as UK insolvency law would apply.

ICEU is a recognised central counterparty under Part VII of the Companies Act 1989, with the effect that certain proceedings of ICEU (e.g. default rules, default proceedings, liquidation of Clearing Member's proprietary and customer account positions and related Margin, and transfers of Clearing Member account positions and related Margin) take precedence over insolvency procedures.

The UK Settlement Finality Regulations, the equivalent EU national settlement finality protections and Part VII of the Companies Act 1989 combine to significantly reduce the risk that actions taken by ICEU in managing a default would be subject to successful legal challenge.

The international initiatives establishing a framework for the recovery and resolution of credit institutions and investment firms, do not exempt CCPs from bail-in or stays on resolution in all circumstances. Such matters are outside the control of ICEU, and it has sought legal advice to mitigate this risk.

ICEU has also issued information to its Clearing Members explaining the documentation requirements to ensure that clients have agreed to the relevant Standard Terms applicable to Customer-Clearing Member Transactions.

Key Consideration 5

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

ICEU has obtained legal opinions in all Clearing Member jurisdictions to, amongst other things, identify and analyse conflict-of-law risks and to ensure that the ICEU Clearing Rules are enforceable in the respective jurisdictions.

Conflict-of-law risks in the legal opinions include governing law as well as insolvency risks. Governing law issues are addressed through clear governing law provisions in the ICEU Clearing Rules and Procedures and via appropriately designed contracts. Insolvency issues are addressed by reliance on Part VII of the Companies Act 1989 (which includes specific provisions on the non-enforceability of contrary foreign judgments in relation to insolvency law) and the UK Settlement Finality Regulations (and national EU equivalent protections). In the event that any other conflict-of-law issues arise that are not addressed through governing law provisions or UK legislation, ICEU would seek to ensure that such conflict was addressed as appropriate by working with local counsel and making rule amendments (for example, ICEU has previously amended the ICEU Clearing Rules to address conflicts between German anti-boycott laws and US sanctions laws).

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.

Key Consideration 1

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.

ICEU was launched in 2008. Its principal activity is the provision of clearing services to certain markets within the ICE Group. ICEU clears, settles and guarantees the financial performance of F&O contracts.

ICEU's core objectives are to:

- Operate a clearing house that provides stability to the financial markets while providing fair and open access to clearing and sound risk management services.
- Provide reliable, scalable and innovative clearing technology.
- Prevent, detect, track and mitigate cyber incidents.
- Maintain and grow ICEU's clearing and risk management services.

The core objectives noted above are mapped to the ICEU Risk Register and Risk Appetite Metrics which ensures that the ICEU Board has oversight of whether these core objectives are being met on an ongoing basis.

ICEU's risk governance arrangements and its risk management framework are designed to promote safety and efficiency whilst supporting the stability of the broader financial system, other relevant public interest considerations and the objectives of relevant stakeholders. ICEU have defined incident management policies and procedures for risks that threaten the efficiency of its operations, asset protection, safeguards and continuity of its important business services.

As required under Article 28 of UK EMIR and EMIR, ICEU has established an advisory Board level risk committee, the Client Risk Committee ("CRC"), which is composed of representatives of its Clearing Members, clients and Independent Non-Executive Directors ("INEDs"). In accordance with the Terms of Reference of the CRC, none of the groups of representatives have a voting majority within the CRC (although the Chair has a casting vote in the case of an equality of votes). The CRC's duties and responsibilities as per its Terms of Reference are set out below:

1. The Committee shall advise the Board only on any arrangements that may impact the risk management of ICEU, such as a significant change in its risk model, the default procedures, the criteria for accepting clearing members, the clearing of new classes of instruments or the outsourcing of functions.
2. The Committee shall also advise the Board on:
 - (a) the framework used by a CCP to identify extreme but plausible market conditions for purposes of article 42(3) of EMIR;
 - (b) the set of historical and hypothetical scenarios used by ICEU to identify extreme but plausible market conditions, at least annually and more frequently when market developments or material changes to the set of contracts cleared by ICEU affect the assumptions underlying the scenarios and so require an adjustment to the scenarios as identified by management;
 - (c) the liquidity plan drawn up under article 32 of the EMIR CCP Regulation;

- (d) any material revisions or adjustments to the policies used to test ICEU's margin, default fund and other financial resources methodologies and framework for calculating liquid financial resources (including, where pricing data is not readily available or reliable, the systems and valuation models used for addressing pricing limitations);
- (e) matters arising out of back testing results and analysis;
- (f) matters arising out of sensitivity testing results and analysis;
- (g) matters arising out of stress testing results and analysis;
- (h) matters arising out of reverse stress testing results and analysis;
- (i) any material revisions or adjustments to ICEU's models, their methodologies and the liquidity risk management framework;
- (j) ICEU's policy for the use of derivative contracts as highly liquid financial investments, bearing minimal credit and market risk for the purposes of article 47(1) of EMIR;
- (k) developments impacting the risk management of ICEU in emergency situations;
- (l) as appropriate, matters relating to transparency, segregation or portability, which are to be considered by the Board;
- (m) amendments to these terms of reference; and
- (n) such other matters as EMIR or the Bank of England requires be addressed by the Committee.

In addition to the CRC, ICEU has also established a Board Risk Committee ("BRC") which is comprised of Non-Executive Directors, the majority of whom must be INEDs. The BRC is responsible for oversight of the matters set out below:

1. Risk Appetite & Risk Profile
2. Risk Policies
3. Internal Control & Risk Control Framework
4. Liquidity
5. Technology Operations, Technology Governance, Cyber Risk & Business Continuity Planning
6. Risk Oversight Department & Chief Risk Officer

The BRC considers matters presented by management in relation to the above and, where necessary, either approves or makes recommendations to the ICEU Board to approve.

As well as the Board level risk committees, an advisory Product Risk Committee ("PRC") for the F&O business has been constituted under the President's authority. The PRC is comprised of appointees nominated by F&O Clearing Members, their clients and an INED, who acts as Chair. The PRC's responsibilities are limited to the clearing of F&O Contracts and the criteria for F&O Clearing Membership and is, on behalf of the F&O Clearing Membership as a whole, to ensure that ICEU maintains and implements agreed procedures, processes and controls designed to protect the integrity of the F&O Guaranty Fund and to ensure that ICEU can successfully handle the insolvency of an F&O Clearing Member. The PRC is responsible for advising the Board on the continued adequacy of the key policies and controls designed to manage counterparty risk and to cover market risk.

ICEU has also adopted a structured three-lines model for managing risks:

- (i) business lines and support functions (e.g. Clearing Risk, Operations, Legal, Treasury and Banking) that manage day-to-day risks;
- (ii) risk oversight services (Compliance, Risk Oversight, Information Security, Business Continuity) which create and oversee ICEU's risk framework, related policies and their implementation; and
- (iii) Internal Audit function and ICEU's external auditors.

Key Consideration 2

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.

ICEU's constituent documentation, comprised of its Articles of Association and the Board and Board Committees' Terms of Reference/Matters Reserved, specify the governance arrangements for the Board and shareholder(s), as appropriate.

In terms of relevant governance requirements, these are set out in various pieces of legislation, including UK EMIR, the UK Companies Act 2006 (as amended) and legislation in other jurisdictions in which ICEU is authorised to conduct business.

The Board, through the Articles of Association, ICEU Clearing Rules and relevant Board resolutions, have delegated certain authority to members of the ICEU management.

With regard to the lines of responsibility, the Board has four standing committees, each of which has separately agreed Terms of Reference that set out their roles and responsibilities.

The Board's standing committees are:

- Audit Committee;
- Board Risk Committee;
- Client Risk Committee; and
- Nominations and Compensation Committee.

Each of the standing committees fulfil various statutory, regulatory and corporate governance requirements, providing oversight and assurance to the Board. However, the CRC operates in an advisory capacity only.

Independence of Directors, in all cases, is determined by the definition contained within Article 2(28) of UK EMIR.

Details of the responsibilities and composition of each committee are set out below:

Audit Committee

The Audit Committee is a committee of the Board, responsible for providing oversight and assurance to the ICEU Board in relation to annual financial statements and financial reporting, legal, compliance, and financial crime, internal audit and external audit.

Per the Terms of Reference, the Audit Committee may consist of up to five members, all of whom shall be Independent Non-Executive Directors, at least one of whom shall have recent and financial experience and with competence in accounting and/or auditing and at least one member shall also be a member of the BRC. The Chair shall be an INED.

Board Risk Committee

The BRC is a committee of the Board, responsible for providing oversight and assurance to the ICEU Board in relation to risk appetite and risk profile, risk policies, internal controls and risk control framework, liquidity, technology operations, technology governance, cyber risk and business continuity planning and the Risk Oversight Department and Chief Risk Officer.

Per the Terms of Reference, the BRC may consist of up to five Committee Members, all of whom must be Non-Executive Directors and at least three must be ICEU INEDs and at least one member must be a member of the Audit Committee.

Client Risk Committee

The CRC is a committee of the Board, responsible for providing advice to the Board to enable it to ensure that ICEU maintains and implements appropriate risk management policies, processes and controls in line with regulatory requirements.

Per the Terms of Reference, the CRC may consist of up to eleven Committee Members (excluding the Chair) and shall include up to four Clearing Member Representatives, four Customer Representatives and up to three INEDs. The Chair shall be an INED of ICEU.

Nominations & Compensation Committee

The Nominations & Compensation Committee is a committee of the Board and is responsible for providing oversight to the Board in relation to: composition of the Board and its committees; Board evaluation; succession planning for both Board and Senior Management; appointments and/or re-appointments to the Board; and compensation matters, including the application of the ICEU Compensation Policy as per the requirements of UK EMIR. .

Per the Terms of Reference, the Nominations & Compensation Committee may consist of up to five Committee Members the majority of whom must be INEDs.

Product Risk Committee

ICEU operates a product specific Risk Committee for F&O products ("PRC"), which is constituted under the President's authority and operates in an advisory capacity. The PRC plays a key advisory role in relation to ensuring that ICEU maintains and implements procedures, processes and controls that are designed to:

- Protect the integrity of the guaranty fund;
- Ensure that ICEU can successfully manage the default of a F&O Clearing Member;
- Manage and mitigate counterparty and market risks; and
- Review the clearing of new F&O products.

The PRC consists of a minimum of eight members, including the following (at a minimum):

- two representatives of Clearing Members; and
- two representatives of customers of Clearing Members.

An INED of the ICEU Board will act as Chair (and is excluded from the minimum membership count of eight).

Executive responsibilities

The executive responsibility for the day-to-day management and operations of ICEU rests with the President. The President delegates responsibilities to the Senior Management Team, as appropriate. ICEU's Management Committees are:

- Executive Risk Committee; and
- Model Oversight Committee.

Executive Risk Committee

The Executive Risk Committee (“ERC”) is a committee constituted by the ICEU President. The ERC considers and reviews key aspects of risk management and assists the Chief Risk Officer in ensuring that all risks across ICEU are captured and appropriately managed. Where appropriate, the ERC makes recommendations to the ICEU Board or other Committees within the ICEU.

The President acts as Chair of the ERC. In the absence of the President or at their request, the Chief Operating Officer will serve as Chair of the ERC. The ERC consists of the following voting Committee Members:

- President;
- Chief Operating Officer;
- Chief Risk Officer;
- Head of Operations;
- Head of Risk;
- Head of Regulation & Compliance;
- Senior Director, Corporate Development; and
- Head of Treasury.

The following non-voting Committee Members also attend meetings of the ERC:

- Group Head of Finance EMEA;
- Head of Legal;
- Business Information Security Officer, Trading & Clearing; and
- Head of Internal Audit.

Model Oversight Committee

The Model Oversight Committee is a committee constituted by the President. The Model Oversight Committee considers and reviews key aspects of model risk management, in accordance with ICEU Model Risk Policy and assists the Chief Risk Officer to ensure all model-related risks across ICEU are captured and properly managed. Where appropriate, the Committee makes recommendations to the ICEU Board or other committees within ICEU. The Chief Risk Officer chairs the Model Oversight Committee which has the following members:

- President;
- Head of Risk;
- Chief Risk Officer;
- Chief Operating Officer
- Head of Treasury; and
- Head of Regulation & Compliance.

The operation of Board-level Committees (including advisory committees) is governed by Terms of Reference which are discussed and supported by each Committee and approved by the Board. These documents are reviewed annually in connection with scope of committee, best practice, regulatory requirements and corporate governance guidance.

ICEU is not a central bank-operated FMI.

Accountability to owners, participants and other stakeholders is achieved by the following methods, as appropriate:

- The Board includes one executive and two non-executive directors, who are nominated by the shareholder amongst a total of ten;
- The CRC includes representatives of Clearing Members and their clients;
- The PRC includes F&O Clearing Members, clients and one INED;

- Rule amendments and business initiatives are consulted on with Clearing Members and market participants, as appropriate;
- Information is made available upon request to the relevant authorities; and
- On-going engagement and relationships with relevant regulatory authorities.

The Articles of Association are publicly available at Companies House. Additional information can be found on the ICEU [website](#).

Key Consideration 3

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

The composition, role and responsibilities of the Board and Board committees are contained in various documents, policies, procedures and processes, such as:

- Articles of Association;
- Directors' duties as codified under Chapter 2 of Part 10 of the Companies Act 2006 for the Board;
- Board Matters Reserved / Terms of Reference;
- Committee Terms of Reference; and
- Letters of appointment for the Board and Board Committees.

The Board is collectively responsible to ICEU's shareholder for the long-term success of ICEU, exercising all of the powers of ICEU, subject to any relevant laws and regulations and in accordance with the Articles of Association. In particular, the Board takes into account the Directors' duties contained in the Companies Act 2006. The Board's Terms of Reference / Matters Reserved includes those items which cannot be delegated by the Board, as well as those items which the Board will take direction from its various committees.

The Board's role is to provide leadership of ICEU within a framework of prudent and effective controls which enables risk to be appropriately assessed and managed.

As part of its decision-making process, the Board must have due regard to ICEU's systemic importance to market and financial stability and takes into account ICEU's impact on its (internal and external) stakeholders. The Board works with management to help to ensure that ICEU fosters a relationship of trust with its stakeholders.

In addition to the Board Terms of Reference / Matters Reserved, as noted above, each of the Board's committees have agreed Terms of Reference, which direct committee operations.

The Companies Act 2006 requires Directors to avoid a situation in which they have or can have direct or indirect interests that conflict or possibly may conflict, with the interests of ICEU. There are circumstances in which the duty is not infringed, including if the matter is authorised by directors or the shareholder. Directors can be authorised where, amongst other things, there is nothing in ICEU's constitution to invalidate the authorisation. In relation to conflicts of interest ICEU considered the relevant regulatory requirements, including UK EMIR / EMIR, the ESMA Guidelines on CCP conflict of interest management and applicable CFTC requirements.

The ICE Global Code of Business Conduct and ICEU Conflicts of Interest Policy set out requirements for identifying, disclosing and managing potential conflicts that apply to all Directors and staff. The ICEU Conflicts of Interest Policy also contains, as an appendix, a register of potential conflicts of interest which outlines the different categories of conflicts of interest that may arise between, and among, the various stakeholders of ICEU, including Clearing Members and their clients, ICEU itself and the

related systems and control in place to manage these conflicts, should they arise. The Conflicts of Interest Policy is reviewed on an annual basis.

ICEU's Articles of Association provides for circumstances in which a Director can have a conflict of interest, including allowing the Director to be party to, or otherwise be interested in, any transaction or arrangement with ICEU or in which ICEU is otherwise interested. This is subject to Directors disclosing the nature and extent of any material interest.

At the start of each Board meeting, Directors are requested to confirm that there are no conflicts to be declared which are not already known by the Board. It is the responsibility of each Director to make sure that disclosures are made to the Board in accordance with the relevant obligations under the Articles of Association and the Companies Act 2006. Relevant template disclosure forms are available to Directors. This is an on-going obligation. On an annual basis the Company Secretary undertakes a review of the Directors' Interests and Conflicts which is presented for consideration and recommendation by the Nominations & Compensation Committee and for approval by the Board. Conflicts of interest procedures are documented in the Articles of Association (which are publicly available) and the ICE Global Code of Business Conduct which applies to all ICEU staff.

Relevant responsibilities and obligations are set out in the committees' respective Terms of Reference.

The Board undertakes an annual review of its performance. Internally facilitated Board evaluations involve questionnaires which cover the overall performance of the Board and Board committees. In addition to the questionnaires, the Chair is tasked with gathering feedback on the personal contribution of individual directors and holds one to one conversations to discuss that feedback. The Senior Independent Director leads a similar process in relation to the Chair. The process is coordinated by the Company Secretary and the Nominations & Compensation Committee propose the criteria for approval by the Board. Externally facilitated Board evaluations are conducted on a periodic basis.

Key consideration 4

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

The ICEU Board is comprised of nine Directors, of whom three have executive roles within ICEU or the ICE Group, one is the Chair, and five are independent for the purposes of UK EMIR / EMIR. Individuals are selected as Directors based on their skills and prior experience and are reviewed by the Nominations and Compensation Committee prior to approval by the Board. The Nominations & Compensation Committee considers a wide range of factors when considering candidates, such as diversity as well as appropriate skills and experience in financial services, risk management and clearing services. ICEU applies vetting and interview processes for all new Board members, key individuals and other staff to ensure that all ICEU staff and Directors are of sufficiently good repute.

In order for ICEU to attract and maintain members of the Board with the appropriate skills, Board member remuneration is reviewed and contains elements consistent with the long-term performance of ICEU.

The Nominations & Compensation Committee is responsible for ensuring that ICEU's compensation is balanced between fixed and variable components and is consistent with risk alignment and ICEU's performance against its corporate objectives. The Compensation Policy is reviewed annually and is subject to independent audit on an annual basis.

The composition of the Board includes one executive, two shareholder representatives, the Chair and five INEDs.

Certain directors have been classified as independent members of the board under UK EMIR / EMIR, i.e. a member of the board who has no business, family or other relationship that raises a conflict of interest regarding ICEU or its controlling shareholders, its management or its Clearing Members, and who has had no such relationship during the five years preceding his membership of the Board.

ICEU discloses its Board composition, which identifies the Directors that it regards as independent – please refer to https://www.theice.com/publicdocs/clear_europe/Organisational_Structure_Objectives_Strategy.pdf.

Key Consideration 5	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.
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ICEU structure and reporting lines are set out in its Organisation Chart with each member of ICEU’s staff having clear management reporting lines. The role and responsibilities of each manager is detailed in their job description.

ICEU discloses its management team composition at:

https://www.theice.com/publicdocs/clear_europe/Organisational_Structure_Objectives_Strategy.pdf

The President has the responsibility to set and evaluate the roles and objectives of ICEU’s management and can do this through the goal setting and performance review process. The President is evaluated by a Non-Executive Director.

The President keeps under review the experience and mix of skills required of the Senior Management team to manage ICEU’s operations and risks with a high degree of integrity. The President is accountable to the Board on these matters (amongst others).

The Nominations & Compensation Committee recommends to the Board nominations for the appointment of Directors, and members of all Board Committees

ICEU’s Risk Oversight Department consists of the Chief Risk Officer, supported by staff members who conduct risk analysis and have a range of reporting responsibilities.

Please also refer to Principle 17 Key Consideration 1 for more details on ICEU staff recruitment and performance management practices.

The Board is responsible for selecting, evaluating, and if necessary, removing the President. The President has the delegated authority of the Board for the removal of management, subject to applicable law.

Key Consideration 6	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.
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ICEU’s overarching approach to risk-management is administered according to its Enterprise Risk Management Framework. The framework provides a disciplined approach to identifying, measuring, monitoring and managing risks. It is structured around the three lines model, well-defined governance arrangements, and through the articulation of the risk taxonomy, risk registers, risk appetites, limits and policies, frameworks and procedures (see Principle 3, Key Consideration 1, for further details on the Enterprise Risk Management Framework and its supporting documentation).

The Board, its delegated committees and the ERC assess ICEU’s risk tolerance performance by reviewing risk appetite metrics, risk reporting, financial statements and compliance reports on a periodic basis. Risk reporting includes emerging risks, status of the risk indicators and residual risk levels.

The Enterprise Risk Management Framework is supported by governance arrangements that establish the decision-making process for risk-related aspects within ICEU. For instance, material model risks are approved by the Model Oversight Committee and the Board or its delegated committee. The policies, procedures and other related documentation forming the

framework define ownership of risk, also determining the surrounding responsibilities for its identification, measurement, monitoring and management. Overlaying these specific determinations of responsibility and accountability within ICEU is the three lines model, which broadly establishes that the First Line owns the risks, the Second Line oversees them, and the Third Line provides independent assurance of the work performed. ICEU's decision making in crises and emergencies is also covered by the framework and its governance arrangements, being supported by the following list of non-exhaustive policies and procedures (see Principle 17 Key Consideration 6, for further details on ICEU's crisis and communication management processes):

- Business Recovery;
- Wind Down;
- Disaster Recovery and Business Continuity;
- Default Management;
- Incident Management and Response; and
- Cyber Security and Threat Responses.

The Board is ultimately responsible for establishing, enforcing and maintaining the Enterprise Risk Management Framework. As such, applicable additions, modifications or exclusions from the framework are approved by the Board or its delegated committees. In particular, the Board, its delegated committees, together with Senior Management and staff regularly review ICEU's policies, procedures and controls to ensure that they continue to be consistent with ICEU current practices and the purposes for which they were designed. Policies are considered and approved by the Board, on recommendation from the relevant Board committee; procedures are considered and approved by the ERC. Finally, ICEU also operates within the relevant policies and procedures of ICE, as appropriate. Oversight and management of the Enterprise Risk Management Framework is further outlined in Principle 3.

The Clearing Risk department is responsible for the management of ICEU's credit and market risk, including, amongst other activities, the setting of Margin, the sizing of ICEU's Guaranty Fund, related back-testing and stress testing, as well as the application of ICEU's internal credit rating system.

The role of the Risk Oversight department is to facilitate and oversee the management of business and operational risks of ICEU, including, but not limited to, those emanating from the front-end clearing functions such as Clearing Risk, Treasury and Banking Services, and Operations.

The Chief Risk Officer reports both to the President and the Board Risk Committee Chair.

The Risk Oversight Department is led by the Chief Risk Officer. The authority of the Risk Oversight Department is derived from its Charter.

The Executive Risk Committee is a formal part of ICEU's governance arrangements with the mandate of advising on all key aspects of risk management and to assist the Chief Risk Officer in ensuring all risks across ICEU are captured and appropriately managed and make proposals for review by the relevant committees and/or the Board, as appropriate.

The ICE Group operates a single global Internal Audit function that is independent from the activities of the business and provides Internal Audit services to ICEU. The arrangements for the supply of internal audit services by ICE to ICEU are governed by an outsourcing agreement with ICE Inc. The scope of the Internal Audit function's work and its detailed responsibilities are set out in the ICE Inc. Internal Audit Charter which is published on the ICE website. Broadly speaking, Internal Audit's work is focused on evaluation of governance, risk management and key controls mitigating current and evolving risks to ICEU and assessing the effectiveness of risk management strategies in the context of the current and expected business environment. In addition, Internal Audit also carries out special investigations and undertakes work required by regulators, or to validate remediation of regulatory reported matters.

The London-based Head of Internal Audit reports functionally to the ICE Chief Audit Executive and to the ICEU Board and to the ICEU Audit Committee which provides the Board with oversight and recommendations on matters of importance to ICEU's financial and operational conditions such as financial information, systems and controls, project assurance and legal and

regulatory compliance. Opportunities for improving management control may also be identified during internal audits, which are escalated to the appropriate level of management.

The staff of the Internal Audit Function are authorised to:

- Have unrestricted access to all functions, records, property, and personnel;
- Have full and free access to the Audit Committee;
- Allocate resources, set frequencies, select subjects, determine scopes of work, and apply the techniques required to accomplish audit objectives; and
- Obtain the necessary assistance of personnel in units of the organisation where they perform audits, as well as other specialised services from within or outside the organisation.

The London based audit team uses the resources, tools, methodologies and protocols established and maintained by the ICE Internal Audit Function as needed.

The ICEU Audit Committee receives CVs and profiles of the Head of Internal Audit, IT Audit Senior Director (US based) and Chief Audit Executive ICE on an ad hoc basis whenever there is a change to the team as part of their team update.

The Model Risk Policy is the part of the enterprise risk framework that establishes standards and principles for managing and mitigating the impact to ICEU’s business caused by model error / failure or inappropriate model use. The MRGF is reviewed on an annual basis or in the event of a material change to the model risk governance and/or procedures required under the MRGF. The MRGF is ultimately approved by the Board, being also reviewed by the Model Oversight Committee. The MRGF set out the responsibilities and governance arrangements for risk management models within ICEU.

Model validation activities are undertaken in line with the Model Risk Policy and are subject to review, challenge and approval by the Model Oversight Committee and the Board, or its delegated committee, in case of material models (see Principle 6, Key Consideration 7, for further details on model validations).

Key Consideration 7	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.
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Relevant interests are identified, and taken account of, through various mechanisms within the ICEU governance arrangements, including Board (and shareholder) meetings and resolutions, Board level committee meetings, management committee meetings and Product Risk Committee meetings.

In addition, Rule 109 of the ICEU Clearing Rules requires ICEU to hold public consultations on proposed rule changes, providing prospective and actual Clearing Members with an opportunity to review and suggest amendments to the ICEU Clearing Rules and Procedures.

ICEU is also required to notify the Bank of England, ESMA and the CFTC of proposed rule changes. Rule changes filed with the CFTC are required to be published on the ICEU website. ICEU takes appropriate steps to ensure that the Bank of England and ESMA are given adequate advance notice of proposed Circulars related to rule changes prior to implementation.

As noted earlier in this document the PRC consists of external members who provide advice and insight and views. The PRC has an important part to play in relation to the decisions taken by ICEU and is involved in the setting/amending the key market, counterparty, liquidity and risk related policies. The Board and Board level committees, including the CRC (which also consists of client and Clearing Member representatives), will review once the PRC has provided feedback. The PRC receives periodic reporting on risk related policy review results (including stress and back-testing), summary exception reports (e.g. limit breaches) or special reports as requested by the PRC.

The PRC is consulted on any major changes in relation to the design, rules and overall strategy of ICEU on an advisory basis in accordance with its Terms of Reference.

Conflicts of interest are dealt with under the relevant Terms of Reference, Non-Disclosure Agreements or agreements executed on appointment of a member, the Conflicts of Interest Policy and the Global Code of Business Conduct.

Information provided to the PRC is also anonymised, where appropriate, to ensure confidentiality.

Decisions affecting Clearing Members are notified by Circular where appropriate and posted on the ICEU website. The decisions of the Board and its Committees are formally documented, reviewed and subsequently approved.

Formal notifications to regulators concerning material changes and Rule makings are made in line with their requirements. The CFTC requires that ICEU publish proposed rule changes on its 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.

Key Consideration 1	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.
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The types of risks inherent in ICEU’s core business are categorised and defined in the risk register as follows:

- **Failure to maintain adequate resources and failure to safeguard resources.** ICEU’s risk management policies and procedures fail to maintain sufficient resources to safeguard ICEU, the wider marketplace and our clearing member / clearing participant / contracting party’s assets.
- **Failure to comply with regulatory requirements, implement effective contracts and legal agreements and maintain appropriate employment practices.** ICEU does not have a well-founded, clear, transparent and enforceable legal basis for material aspects of its activities, or does not comply with relevant laws or regulations, or maintain effective employment practices.
- **Failure to design, implement and monitor clearing operations and processes.** Clearing operations and functions are not designed or implemented to deliver services performed by ICEU.
- **Failure to secure CCP data, systems and premises.** Confidentiality, integrity and availability of ICEU’s systems, resources, customer data, internal data, intellectual property, or other cyber assets may not be adequately protected.
- **Failure to design and operate clearing technology services reliably.** Clearing technologies fail to operate as expected and do not provide sufficient availability, performance, capacity, resiliency and/or security.
- **Failure to deliver competitive and cost-effective clearing services or meet stakeholder needs.** ICEU may fail to identify or respond to changing market demand for clearing services or opportunities arising from changing industry, market and/or regulatory factors. Clearing services are not competitive and capital efficient.

ICEU’s overarching approach to risk management is administered according to its Enterprise Risk Management Framework. This provides a structured and disciplined approach towards identifying and managing risk inherent in ICEU’s core business processes and decision-making activities. In particular, the Enterprise Risk Management Framework establishes the three lines of defense model, where the appropriate roles, responsibilities, and governance incentives are defined.

Moreover, through the framework, ICEU’s risk appetite, risk taxonomy, and risk mitigation measures are assessed. The President assists the Board in establishing an appropriate risk appetite which is consistent with ICEU’s short- and long-term strategy, business and capital plans, risk capacity as well as compensation programmes. The articulation of the risk appetite into the business areas is achieved through the development of risk appetite metrics and policy statements. The resulting key policies, procedures and controls listed below support the risk management framework and address how ICEU manages certain risks to which it is inherently exposed.

The Compliance department also maintains a Compliance Monitoring and Testing Programme (“CMTP”), which entails the review of the different areas of activity where ICEU is subject to regulatory requirements, to assist ICEU in identifying the risks of non-compliance with the regulations applicable to ICEU’s provision of clearing services, and its processes and systems.

Please see below for a list of the key policies and procedures that help identify, measure, monitor and manage the risks faced by ICEU.

ICEU's Clearing Rules and Procedures - Clearing Members have rights and obligations set out in the ICEU Clearing Rules and Procedures (also referred as the "Rules") and a Clearing Membership Agreement and, where applicable, an additional addendum to the Clearing Membership Agreement. Every Clearing Member agrees to be contractually bound by the ICEU Clearing Rules as a result of becoming a Clearing Member. ICEU publishes its Rules on its website making them publicly available. Rule 502 enables ICEU to call and collect Margin from its Clearing Members and to set the eligibility and form of permitted cover (also known as 'collateral'). Under Part 2, Rule 201(a) (xx) and Part 11, Rule 1101, Clearing Members are liable to make and maintain Guaranty Fund Contributions in the Guaranty Fund operated by ICEU.

Futures and Options Risk Policy - Establishes requirements for the management of contingent market risk as aligned to the Board risk appetite.

Anti-Procyclicality Policy - Sets out ICEU's risk appetite and mitigation for procyclical changes in the default resources collected from Clearing Members, recognising that a degree of procyclicality is necessary to ensure adequate protection against Clearing Member default risk. Applies to ICEU's margining, membership, collateral haircuts, stress testing and concentration risk policies.

Default Management Policy - Default management policy sets out the actions required in the event of default of a Clearing Member.

Collateral and Haircut Policy - Sets out the arrangements by which ICEU considers the eligibility of assets for inclusion on the list of Permitted Cover and the appropriate valuation, haircut and limits procedures.

Liquidity and Investment Management Policy - Designed to ensure that, with a high level of confidence, sufficient liquid resources are available to meet all payment and settlement obligations, during normal and stressed conditions.

Model Risk Policy - Establishes the standards and principles for identifying, managing and mitigating model risks related, but not limited to, performance issues, model error and/or model misuse that could adversely impact ICEU's business.

Business Continuity Plan and Disaster Recovery Plan - These specify ICEU's overriding business continuity planning and disaster recovery policies and arrangements, which are designed to ensure timely recovery of operations and fulfilment of clearing obligations and effective coordination among affected parties during a business continuity and/or disaster recovery event. These policies and arrangements are subject to routine review and systematic testing. Results and any lessons learned arising from actual events and/or test exercises are captured, monitored and factored into the review process.

Incident Management Policy & Procedures - These set out procedures for managing incidents that impact the general business processes and/or IT production systems. An incident is defined as any event that is not part of the standard operation of a service and that causes, or may cause, an interruption to, or a reduction in, the quality of that service. Causes of incidents are ascertained and lessons learned are factored into the Risk Identification process.

Operational Risk and Resilience Policy - An assurance methodology designed to identify ICEU's key internal controls and ensure that appropriate oversight is applied to ensure resilience of important business services.

Recovery Plan - Pursuant to relevant requirements of the Financial Services and Markets Act 2000 ("FSMA") and UK EMIR / EMIR, ICEU maintains a Recovery Plan.

In addition to its Rules, ICEU relies on its legal rights under Applicable Laws in handling Events of Default, including under UK EMIR / EMIR, FSMA, the Companies Act 1989, the Settlement Finality Directive, the Settlement Finality Regulations, the Financial Collateral Directive, the Financial Collateral Regulations and the U.S. Bankruptcy Code, as applicable.

ICEU employs a number of dedicated (i.e. IT developed) and non-dedicated (e.g. process-driven) systems to help identify, measure, monitor and manage the range of risks that arise from its clearing activity. Different types of risk require distinct systems in order to deliver efficiently the expected outcome. A non-exhaustive list includes the following:

- **Overarching**
 - **Qualitative Assessment** - At least annually ICEU performs a review and refresh of its risk management cycle, which includes risk identification and assessment in order to determine whether risk responses remain fit-for-purpose. Information used in the identification process include historical information, such as incidents, trends, etc. and includes forward looking assumptions in relation to expected or anticipated internal or external changes.
 - **Risk Register** - Identification of each risk borne by ICEU, the owners of each risk and the evaluation of the residual risks after considering any mitigating actions. It also supports the implementation of the RCSA, as presented below.
 - **Emerging Risk Register** - Identification of forthcoming risk events, including geopolitical developments and climate related risks, in order to assess how they could manifest and affect either ICEU or its stakeholders.
- **Business Risk**
 - **Business Impact Analysis** - In the event of a new or a change to an existing product or service, a business impact assessment to determine any impact on ICEU's risk profile and an appropriate response is performed.
- **Legal & Regulatory Risk**
 - **Compliance Monitoring and Testing Programme (CMTP)** - Review of ICEU practices versus the regulatory requirements applicable to ICEU.
 - **PFMI Self-Assessment** - Evaluation of ICEU practices against the industry standards presented in the Principles for Financial Market Infrastructures.
- **Financial Risk**
 - **Margin** - Intraday and end-of-day risk systems that assess current (realised) and potential future credit exposures arising from cleared contracts.
 - **Stress Testing** - Evaluation of potential future credit exposures and liquidity needs under extreme but plausible conditions.
 - **Collateral** - Systems designed to assess haircut levels and concentration of collateral.
 - **Counterparty** - Credit risk rating of Clearing Members and collateral issuers.
- **Operational Risk**
 - **Model Performance** - Execution of back-testing and sensitivity analysis.
 - **RCSA** - Risk & Control Self-Assessment conducted by each of ICEU's business areas.
 - **Incident Management** - System used to ensure that any disruption to ICEU's operations is reported and corrected, including near misses, and root causes are identified and addressed.
- **Information Security (including Cyber Risk)**
 - **Cyber Risk** - Risk assessment of cyber security including, for instance, penetration exercises.
 - **Phishing Exercises** - Testing of ICEU staff awareness for information security.

In general, risk metrics are calculated at the most granular level possible, such that consolidation into aggregated figures is always enabled. For instance, financial risk measurements are derived at the instrument level. Related risks can be netted or aggregated where appropriate in accordance with strict rules, guidelines and methodologies whether at a position level, Margining level, account level, legal entity level or at a clearing service level. In particular, for the Counterparty Rating System ("CRS"), the credit risk is assessed and monitored at the entity level, but aggregation of exposures within and across entities for a given group structure is also possible. Further, similar aggregation approach is also feasible for concentration of credit risk. In case of a default, ICEU can generate management information across the F&O business to create an overall overview of the defaulted entity or entities.

Different governance processes apply depending on the stage (i.e. development, approval, and maintenance) and item (i.e. policies, procedures, frameworks and systems) being considered. Importantly, however, is that all these are subject to strict review and approval prior to implementation, in accordance with the documentation governance schedule and established in the appropriate terms of references of ICEU committees. For instance, in the case of systems related to a new model (or model changes), governance processes are established by the Model Risk Policy. The Model Risk Policy generally defines that these models shall be developed by the first line, independently validated by the second line and approved by the Model Oversight Committee and the Board of Directors. In the case of policies, policy owners are responsible for developing guidance that supports the objectives of ICEU, while ensuring compliance with the applicable regulatory rules. Most commonly these are approved by the ERC and the Board of Directors. Maintenance is driven by the Documentation Governance Review Cycle, which sets out the review schedules that each policy should adopt. Similar processes apply to other types of documentation, such as frameworks, procedures, guidelines, etc. Further to the above, regulatory approval may be required in addition to the internal approval process.

The effectiveness of ICEU’s risk management policies, procedures and systems is assured through different mechanisms. For example, systems supporting risk models are assessed as a part of the independent validation exercises. On a periodic basis, model performance is reviewed in order to assess whether models continue to be fit-for-purpose. Back-testing and stress testing are performed daily. In the case of policies (and related documentation such as frameworks, procedures, guidelines, etc.), oversight is typically performed by ICEU’s senior management, including the audit team and appropriate executive committee. Periodic review cycles are also established aiming at assessing whether ICEU practices continue to be reflected in its policies and related documentation. More broadly, trends, variances and anomalies are captured as part of routine risk reporting. Risk, incurred by ICEU as part of its clearing activity, is continuously assessed against predetermined and defined indicators, performance levels, tolerances, limits and appetite thresholds which collectively determine the risk profile. Collectively, these measures test the effectiveness of ICEU’s risk management policies, procedures and systems in terms of their ability to mitigate risk or their ability to escalate matters of concern. Additionally, effectiveness is further assured through the ORSA control framework which includes sample testing of controls, and incident remediation which cross-references if any gaps exist in procedures and/or manuals which also need updating.

ICEU’s core risk management policies, procedures and control systems that form part of ICEU’s risk management framework are reviewed at least annually. There are several components of the risk assessment and testing program that are undertaken more frequently, for example quarterly. In addition, risk management practices and methodologies are tested for effectiveness on a regular basis as part of the routine daily and monthly risk reporting processes. Updates to these typically happen either as a result of the reviews or on an ad hoc basis initiated by owners. Ad hoc changes are typically prompted by new initiatives and business activities, regulatory changes, changes in market practices or changes in the risk environment and there are several processes to ensure that reviews of the policies, procedures and control systems are triggered. New initiatives need to be approved through internal governance committees and risk assessments submitted as part of that process to determine any required changes. Regulatory changes are also reviewed through business review and periodic testing through the CMTP. Changes in the risk environment are monitored on a continuous basis and through our routine daily and monthly reporting and any changes required are assessed in order to determine their significance in relation to the risk profile and risk appetite.

Key Consideration 2	An FMI should provide incentives to participants and, where relevant, their customers to manage and contain the risks they pose to the FMI.
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In addition to the information provided in the CPMI-IOSCO Quantitative Disclosure, ICEU provides the following information to Clearing Members and, where relevant, to their customers to enable them to manage and contain the risks they pose to ICEU:

- Possible issues identified in membership applications and from ongoing membership oversight and due diligence;

- ICE Risk Model (“IRM 1.0”) parameters and access to the methodology used via IRM portal;
- Daily reporting of Margin requirements and positions (key management reports);
- Results of stress testing and back-testing;
- Real time access to view and adjust positions via proprietary ICE systems and GUIs as appropriate;
- Model parameter changes and configurations; and
- Clearing Member rankings highlighting relative size of positions held by that Clearing Member and volumes cleared.

In terms of daily reporting, ICEU provides Clearing Members with appropriate information including, but not limited to:

- Margin requirements;
- Cash/collateral movements and balances;
- Open position reporting;
- Deliveries reports; and
- Product data.

The incentives provided by ICEU to Clearing Members and their customers to monitor and manage the risks they pose to ICEU include:

- Initial Margin - requirement for Clearing Members to provide Margin to ICEU daily, before 09:00 GMT. In addition, where necessary, Clearing Members are required to provide funds intra-day. Failure to meet deadlines could impact the Clearing Member’s counterparty rating and could lead the Clearing Member being asked for additional Margin and ultimately potentially being declared in Default;
- Margin Add-ons - Clearing Members are required to pay additional charges in circumstances where additional risk is posed to ICEU. This includes for example: large position or concentration charges and wrong way risk charges;
- Price Discovery Mechanisms - Clearing Members submitting settlement prices for ICEU contracts may be required to clear on offered quotes;
- Guaranty Funds - Clearing Members are required to contribute to the ICEU Guaranty Fund which provides a means of mutualising losses arising from the default of a particular Clearing Member across ICEU and the Clearing Members;
- Stress Margin for Clearing Members - for example an additional charge will be incurred by a Clearing Member when under stress testing the default of that Clearing Member would cause a breach of regulatory rules, governing the adequacy of the relevant section of the Guaranty Fund and other ICEU resources;
- Permitted Cover, haircuts and concentration limits - to mitigate price risk from liquidating collateral of defaulters, Clearing Members are required to provide additional Margin and to ensure that collateral posted meets minimum requirements (List of Permitted Cover and limits on collateral);
- Delivery Procedures - used to manage delivery obligations. The procedures enable ICEU to bring disciplinary proceedings or levy a fine against a Clearing Member, including (without limitation) in respect of late or failed delivery;
- Membership criteria - acceptance criteria for membership are designed to ensure that the Clearing Member has adequate controls in place;
- Clearing Member Rules and Procedures that require Clearing Members to actively manage their positions and the ability of ICEU, should a Clearing Member fail to continue to meet membership criteria, to remove that Clearing Members’ membership of ICEU; and
- The Counterparty Credit Risk Policy enables ICEU to impose higher Margin and default fund requirements on those Clearing Members who ICEU consider pose increased risk to ICEU.

The Product Risk Committee includes representation from suitably qualified Clearing Members and clients who advise the Board on risk management arrangements and the adequacy of the relevant Guaranty Fund and other incentives.

The Client Risk Committee (“CRC”) includes representation from both Clearing Members and their customers in order to advise the Board more broadly on any arrangements that materially impact the risk management of ICEU.

ICEU’s policies (and related documentation such as frameworks, procedures, guidelines, etc.) are designed to enable the prompt identification, measurement, monitoring and management of risks. For instance, reporting lines are specified such that emerging risks can be rapidly escalated to ICEU Senior Management and Board-level committees. ICEU’s systems are designed to provide, where possible, real-time access by participants to the relevant information to enable participants to manage and contain their risks. The following tools are available to Clearing Members to facilitate management of their exposure to ICEU:

- ICE Risk Model (IRM 1.0): ICEU determines potential future exposure (ICEU’s Initial Margin) using the ICE Risk Model. It is publicly available to customers and documented on ICE’s website. See Principle 6 for detail of the model;
- Post-Trade Management System (“PTMS”): Trade registration and clearing system used by Clearing Members and the Operations department for registering and allocating trades among Clearing Members;
- Allocation and Claim Transaction System (“ACT”): ACT is an extension of PTMS, and is designed to provide Clearing Members with access to claim and allocate give ups; and
- Extensible Clearing System (“ECS”): Treasury and banking system which handles collateral (cash/non-cash), positions and custody management.

The ICEU Clearing Rules and the Clearing Membership Agreement give ICEU the powers to discipline and/or take corrective action against Clearing Members who fail to comply with those aspects that relate to amongst others the minimum capital adequacy and risk management requirements.

Key consideration 3	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.
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ICEU performs initial and ongoing due diligence on all entities where it has a direct relationship and/or a direct dependency with regard to meeting its clearing obligations and service provisions. The due diligence processes are governed by the policies covering the following areas: clearing membership; Counterparty Rating System; liquidity and investment management; outsourcing and third party risk management; anti-money laundering, counter terrorist financing and counter proliferation financing.

Supporting these policies, ICEU performs regular and routine assessments, including credit watch reports and meetings, due diligence reviews, and vendor and service monitoring.

Due diligence processes include quantitative and qualitative credit, operational and/or liquidity assessments of the entity’s structure and risk profile. The assessments are performed on a risk-based approach and in accordance with ICEU Clearing Rules, applicable laws, and relevant regulations. Types of entities include Clearing Members, central securities depositories, payment systems, exchanges, rating agencies, intermediaries, outsourced partners, vendors, liquidity providers, settlement agents, etc.

Additional measures and requirements are placed on entities that have fallen below expected standards to ensure that ICEU’s continuity of clearing service is not disrupted and where relevant safety of assets is assured. Additional measures and requirements are applied in a timely and sensitive manner and aim to be anti-procyclical.

Further details on these due diligence processes, and identification mechanisms, per type of risk are presented in each respective CPMI-IOSCO principle. For example, ICEU’s management of counterparty and credit risk and associated model risks are addressed in detail under Principle 4 (Credit) and Principle 6 (Margin). Principle 7 (Liquidity) covers the interdependencies related to liquidity risks. Principle 17 details how ICEU manages its operational risks including, risks posed

by its suppliers, technology infrastructure and systems and key staff. ICEU does not currently provide interoperability with CCPs either within ICE group or with third parties - please see Principle 20 for more information.

Finally, the risks posed by ICEU to other entities are also considered in the Recovery Plan, under the following assessment scenarios:

- Clearing Member Default - impact of different Clearing Member default scenarios on other entities (and Clearing Members). This includes consideration of liquidity and contagion risks;
- Suspension or failure of critical ICEU functions and the impact on other entities;
- Business and commercial threats facing ICEU and the impact on other entities;
- Investment losses and the impact on other entities; and
- The scenarios also consider the impact on liquidity and contagion risks.

Importantly, ICEU's primary business is to operate as a CCP. Even though, ICEU provides and uses certain ancillary services to and from other entities within ICE under strict sourcing agreements, these services are not considered to be outsourcing of core services and do not pose a risk to ICEU's objectives.

Measurement and monitoring of risks arising from interdependencies vary according to the type of risk, although intersection exists, and mechanisms may serve multiple purposes. For example, the following illustrate some mechanisms for key material risks.

Counterparty credit risk forms part of the risk management framework, and the Clearing Risk department conducts daily financial monitoring over its counterparties. It assesses intraday and overnight exposures via Margin systems and stress testing exercises. Concentration risk is measured both as part of margining (concentration charges are applied) and counterparty credit risk management (reduced and avoided). Measures are embedded within the risk management framework to avoid wrong-way risk where possible (e.g. collateral management and investment management) and factored within margining requirements, where necessary, to minimise exposure to wrong way risk. ICEU's procyclicality framework helps ensure that where ICEU processes and systems are procyclical, and that there are appropriate measures in place to reduce the effect of these.

In regard to liquidity risk more broadly, ICEU uses a private settlement bank model and Approved Payment System ("APS") to transfer funds in the relevant currencies to and from Clearing Members. The Treasury department is charged with managing its credit and liquidity risks arising from the settlement banks - see Principles 7 and 9 for more information. Moreover, the intra-day credit risk that arises through ICEU paying and receiving cash settlements via APS Banks and its Clearing Members is reduced by the use of concentration banks (i.e. liability commences and ceases at the point funds are received or debited at ICEU's concentration bank rather than at the Clearing Members' APS Banks). The assessments are supplemented by the execution of daily liquidity stress tests. Please also refer to Key Consideration 1 for more information regarding how ICEU manages risks it bears from, and poses to, settlement banks, custodians, and service providers.

For operational risks, Clearing Members are required to have in place robust operational arrangements and, together with outsourced service providers, are required to have business continuity arrangements in place that are subject to regular review and annual business continuity testing to meet ICEU's minimum requirements. Test results are evaluated by senior management and the Board, and the business continuity planning process remains viable through assessment of the testing program and test results by an independent party - please refer to Principle 17 Key consideration 6 for more information. When default management procedures are considered, ICEU's periodic default management tests are designed to ensure that there are correct processes, procedures and measure in place to adequately operate and continue services during a Clearing Member default - Please refer to Principle 13 Key consideration 4 for more information.

ICEU employs the following non-exhaustive list of tools to address the material risks arising from interdependencies with other entities:

- Due diligence on providers - e.g. receive Third Party Assurance Reports on financial institutions' ability to perform service;
- Approved Financial Institution Policy, which entails minimum eligibility criteria for ICEU counterparties and liquidity providers;
- Legal arrangements - required to include agreed terms on their resilience and ability to operate;
- Rights to access information on providers - contractual requirement of service provision;
- Pre-acceptance credit checks performed by Treasury and the Credit Risk team; and
- ICEU devotes appropriate resources and efforts to the daily monitoring of its outsourced services and ensures that service providers meet its high standards, thus increasing the level of certainty that the outsourced service arrangements deliver efficiency and resilience that benefits ICEU and its stakeholders.

ICEU's Recovery Plan also provides an analysis of ICEU's key interdependencies including inter-group service arrangements (e.g. with ICE Inc. and ICE Futures Europe), reliance on third party service providers, technology systems and key staff, together with an inventory of recovery tools and options (including policies and frameworks mentioned above) that will be employed in the event of operational disruptions.

The assessment and review of the risk management framework, and its tools in particular, are performed via the established operational and governance structures.

ICEU has a 'three lines' model, which provides structure around risk and control management. In such a model, in addition to checks implemented by the First Line, the Second Line is responsible for overseeing how the various risk types are managed and mitigated within ICEU and if these levels are sufficiently effective. The main components of this Second Line oversight and measurement of effectiveness include, but are not limited to:

- Model Validation and checks on implementation when it comes to the ICEU risk models;
- Policy reviews and the testing Operational Controls to assess if these are still effective and fit for purpose; and
- Post-mortem on incidents to assess if controls have failed.

The third line of defense (Internal Audit) provides independent assurance of the working of the First and Second Line. Internal Audit provides independent objective assurance on the effectiveness of ICEU's risk governance and risk management strategies and tools in the context of the current and expected business environment. In addition, Internal Audit also carries out special investigations and undertakes work required by regulators, or to validate remediation of regulatory reported matters.

The various ICEU Risk Committees and Board appointed risk advisory committees are charged with undertaking reviews of the continued adequacy of policies and controls designed to manage risks. Policies and procedures are reviewed by the relevant committees in line with the Documentation Governance Schedule and with a frequency as prescribed by the applicable regulatory requirements. Models are reviewed by the Model Risk Oversight Committee at least on an annual basis in line with the Model Risk Policy. The Board appointed Audit Committee monitor and review the objectivity and effectiveness of the internal audit function and the external auditors. Moreover, ICE's OOC is charged with governing ICE's Information Security and BCP programmes to ensure there are adequate processes and controls in place to manage technology risks and threats.

Other specific examples of assessments and reviews conducted by ICEU include:

- ICEU continuously reviews how it oversees its outsourced services to ensure that what it outsources remains appropriate and that the service levels received are optimum
- ICEU has designed its BCP and DR testing regimes to support incident management (initial evaluation and response), continuity (maintaining essential operations) and recovery (returning to business as usual) in a crisis event, which typically include non-default events such as loss of site/facilities or technology outages;

- ICEU conducts annual BCP exercises and DR testing to ensure its business can effectively respond to large scale disruptions, it can maintain continuity of its operations, and that technology operations and systems can be recovered in a timely manner. Any material issues identified during tests or exercises are immediately raised and escalated via ICEU ticketing system, Service Now; and
- ICEU also undertakes annual default management tests to assess the effectiveness of its default management procedures. This includes simulating the disposal of large or complex portfolios following the default of one or more of its Clearing Members.

Key Consideration 4

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.

ICEU has several methods for identifying scenarios that may potentially prevent it from providing its critical operations and services:

- Through the development and regular review of ICEU’s Recovery Plan;
- Through ICEU’s monitoring of emerging risks and its risk register;
- Through ICEU’s annual capital assessment process; and
- Through ongoing work to establish a more specific and clearly articulated risk appetite for capital.

The identified scenarios are documented in ICEU’s Recovery Plan and include:

- Default Losses
 - Default of one or two Clearing Members causing losses larger than ICEU’s prefunded resources;
 - Default of more than two Clearing Members causing losses larger than ICEU’s prefunded resources; and
 - Liquidity shortfalls occurring with a Clearing Member default.
- Non-default losses
 - Investment losses;
 - Severe liquidity issues - e.g. failure of a settlement bank or custodian;
 - Contracts can no longer perform, or are illegal or impossible to perform;
 - Fraud;
 - Cybersecurity breach;
 - Legal judgements / liabilities; and
 - Losses from interconnections or interdependencies between ICEU and its affiliates and service providers.

The scenarios listed above explicitly include both independent and related risks - e.g. liquidity shortfalls occurring with a Clearing Member default and separate to a Clearing Member default.

ICEU’s recovery tools are generally structures so that they can be applied whether they arise as an independent risk or a related risk - e.g. recovery tools for dealing with the impact of a cybersecurity breach can be applied whether this occurs independently or in conjunction with other risks.

ICEU has a Recovery Plan and a Wind Down Plan, governed and reviewed as described above.

ICEU’s Recovery Plan sets out the relevant information, the steps to take and the options available to restore ICEU to normal operation in the event of severe financial stress and losses.

The Recovery Plan builds on ICEU’s existing risk management tools, policies and procedures. It clearly defines ICEU’s

recovery trigger points and describes the recovery mechanisms, tools and options that ICEU can use in order to recover its critical services.

ICEU also has a separate Wind Down Framework and Plan if ICEU's recovery tools are unable to recover its critical services, or if ICEU decides to cease providing one of its critical services.

The Wind Down Plan provides a road map to wind down some or all of ICEU's business in an orderly and timely manner with minimum contagion risk, including the continued provision of critical services. The Wind Down Plan sets out the governance arrangements and provides the basis for estimating the costs associated with an orderly wind down over a six-month period. Please refer to Principle 15.3.1 for more information.

ICEU's Recovery Plan allows ICEU to continue to provide critical operations and services by providing the recovery tools necessary to fully cover all Default Losses, all liquidity shortfalls and all investment losses.

This allows ICEU to continue the provision of its critical operations and services even after suffering a severe financial loss (beyond its pre-funded resources) or a severe liquidity shortfall (beyond its liquid financial resources).

ICEU's Recovery Plan and Wind Down Framework and Plan are reviewed as part of ICEU's Documentation Governance Schedule which sets out the frequency of reviews and the governance process for changes to the documents.

ICEU's Recovery Plan and Wind Down Framework and Plan are reviewed annually and updated as needed per the Documentation Governance Schedule. These documents can also be updated ad-hoc, if required, based on changes to ICEU's operating model.

PRINCIPLE 4: CREDIT RISK

An FMI should effectively measure, monitor, and manage its credit exposures 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 participants and their affiliates that would potentially cause the largest aggregate credit exposure to 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 to the CCP in extreme but plausible market conditions.

Key consideration 1

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.

ICEU's risk management is structured specifically to ensure robust clearing arrangements to minimise risks for the Clearing House and its Clearing Members. ICEU has developed a comprehensive tiered waterfall approach to systemic risk management.

These tiers are:

- 1) Membership criteria;
- 2) Original Margin (also known as Initial Margin) and Additional Margin;
- 3) Variation Margin;
- 4) Intra-day monitoring and Intraday Margin Call;
- 5) ICE's Initial Contribution;
- 6) Default insurance;
- 7) Guaranty Fund; and
- 8) Powers of assessment.

Key to the success and effectiveness of this approach is the determination of Initial Margin, Additional Margin, Variation Margin and intra-day Margin calls that address current and potential exposures, as well as Guaranty Fund contributions from each Clearing Member.

Note that:

- 1) ICEU also accounts for position concentration risk through the calling of Additional Margin;
- 2) ICEU assesses Clearing Members using an internal Counterparty Rating System ("CRS"), and closely monitors Clearing Members beyond specific CRS limits, based on market information and financial information provided by Clearing Members;
- 3) ICEU narrowly defines eligible collateral posted by Clearing Members to cover their requirement, and monitors limits on issuers of collateral in addition to the existing monitoring under other policies; and

- 4) ICEU has a conservative liquidity risk management framework and plan and operates an Assured Payment System (“APS”) bank network to ensure timely payments.

ICEU performs the day-to-day management of credit risk posed by Clearing Members and monitors current and potential futures exposures against limits. The intraday position limits and capital to Margin limits are reviewed and approved by the relevant risk committee(s).

In addition, ICEU ensures that unsecured credit limits to individual counterparties or groups of counterparties that are also Clearing Members are not exceeded. The Risk Oversight Department reports and measures these exposures daily.

ICEU monitors the activities of its investment agents and custodians and monitors exposures against internally agreed limits.

Operationally, the waterfall structure is reviewed on a periodic basis via a number of different assessments performed by ICEU.

For instance, the size of the pre-funded resources to manage credit exposures is reviewed daily, with changes to Margin and Guaranty Fund requirements implemented if required. Default procedures are reviewed at least quarterly and simulation exercises (“Default Tests”) at least annually allowing the CCP to assess the entirety of the waterfall.

Similarly, a core principle of ICEU's model risk governance is that all significant risk model changes must be reviewed at least annually by the independent Risk Oversight Department (as defined by Model Risk Policy) or an equivalent third-party review team who must be independent of the persons/team that carried out the model development. Finally, all risk model changes are approved by the Model Oversight Committee (“MOC”). The model owner is responsible for ensuring that all models are formally independently validated at the frequency required by the original model documentation. The remediation plans from the validation exercises are signed off by the MOC.

ICEU has established a formal policy review and approval programme to ensure policies and procedures are kept up-to-date and reflective of current practices. As part of this programme, policy and procedures documentation is reviewed by relevant governance forums (see Principle 3 for more details) where the frequency of review (e.g. annually, biannually, periodically, semi-annually) differs based on the criticality and importance of the relevant documentation.

The above structure enables ICEU to define a rigorous governance process with regard to changes in its practices to reflect alterations in the environment, markets and new products.

Key Consideration 2	An FMI should identify sources of credit risk, routinely measure and monitor credit exposures, and use appropriate risk-management tools to control these risks.
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ICEU defines credit risk as risk of a third-party failing to meet its contractual obligations resulting in adverse financial impact. ICEU identifies and assesses credit risk through a combination of assessments related to methodologies, policies, and practices. These include:

- 1) The Clearing Member criteria;
- 2) The internal Counterparty Rating System;
- 3) Statistical and non-statistical reviews and assessments of counterparty and market related data; and
- 4) Continuous monitoring of counterparties' unsecured exposures such as time deposits or Assured Payment System flows, as well as current and potential future exposures.

The sources of credit risk within ICEU include:

- 1) Failure of Clearing Members (and their countries of domicile);
- 2) Failure of investment Counterparties, Assured Payment System Banks, and Concentration Banks; and
- 3) Failure of issuers of collateral provided by Clearing Members.

The Board-appointed risk committees discuss and review ICEU's adopted risk methodologies and risk models which are designed to identify and mitigate credit risk. Additional Board oversight and challenge is provided by the Board Risk Committee ("BRC") with regard to significant changes to those models and methodologies. Also, the Board Risk Committee receives regular reporting from ICEU on Clearing Member and counterparty risk.

The following approaches are used to monitor and measure credit risk and credit exposures:

- 1) Intraday risk management (on a near real time basis): Intraday monitoring of current and potential exposures of (i) intraday market price movements of counterparties cleared positions (Variation Margin) and collateral (collateral value change) and (ii) intraday positions (Initial Margin).
- 2) End-of-day risk management: Assessment of current exposure (Variation Margin) to be exchanged next day, and calculation of potential future exposures based on normal and extreme market conditions to be collateralised in the form of pre-funded resources (e.g. Initial Margin, Add-ons, Stress Margin, etc.).
- 3) Counterparty Credit Risk Management (daily): Monitoring of breaches and exceptions in Clearing Member performance measures such as:
 - i. Number of special Margin calls (at the discretion of ICEU);
 - ii. Counterparty credit scoring;
 - iii. Capital to Margin limits and shortfall Margin calls;
 - iv. Uncollateralised stress losses and stress Margin;
 - v. Unsecured credit exposures such as time deposits and APS exposures;
 - vi. Collateral limits;
 - vii. Initial Margin levels;
 - viii. Missed/late Margin payments/09.00 cash calls; and
 - ix. Other Margin buffers called by ICEU such as wrong way risk add-on or concentration charge add-on.
- 4) Other counterparty risk, i.e. non-member risk (daily): Monitoring of financial service providers with specific focus on issuers of eligible collateral, eligibility criteria of investment counterparties, eligibility criteria of Assured Payment System Banks, investment agents, custodians and concentration bank counterparties. Also, ICEU sets and

monitors limits for overnight deposits and other unsecured cash exposure by counterparty. The limits are set at counterparty level and are reduced by uncollateralised stress losses if the financial service provider is also a Clearing Member.

- 5) Credit reporting (daily): Review of Clearing Member share price, CDS Spread, reported capital, relevant news and other pertinent indicators such as sovereign ratings. This information is used to monitor on-going financial strength, to compare the current vs. the previous credit score, and to identify any significant changes. The capital to Margin is also reported daily with, when appropriate, a recommendation of actions in response to a deteriorating capital position and / or a relative increase in Margin.
- 6) Watchlist (monthly): The Watchlist highlights participants with a deteriorating credit score or with a special risk situation. Entries to the watch list are considered based on daily risk reports (including stress tests), the quarterly credit report, feedback from supporting departments (Operations, Compliance and Treasury), and the Counterparty Rating System ("CRS"). ICEU monitors Clearing Members in Watchlist daily and updates the Senior Management team every month.
- 7) Counterparty financial review (daily and quarterly): Updates to Clearing Members' credit scores daily to reflect the impact of market indicators (shares, CDS prices), the size of the Margins on the counterparty risk and the capital requirements in relation to the Margins. In addition, updates to financial information, aligned with the Members' reporting cycle, and the generation of a quarterly counterparty risk report. Ad-hoc reports on new Watch List members are also produced, with an in-depth economic cycle analysis to cover all members every four-years. This provides a baseline measurement of both Clearing Members reported financial position and a measure of performance relative to their previous review.
- 8) Counterparty risk monitoring (monthly): Reviews of Watchlist members, score migrations, buffer Margin, financial service providers and Clearing Members secured and unsecured exposures.
- 9) Counterparty review (at least quarterly): The Clearing Members' financials are reviewed at every quarter. Clearing Members' membership requirements are reviewed every 4 years, following a submission of audited financial statements.

To respond to potential issues identified by the tools above, ICEU has a range of actions which can be used to manage counterparty credit risk based on risk bands of Clearing Members including, but not limited to:

- 1) Initiate an ad-hoc Membership review, to ensure the Clearing Member is adhering to the Clearing Membership criteria;
- 2) Imposition of buffer Margin requirements, consistent with risk evaluation carried out;
- 3) Review of intra-day thresholds;
- 4) Discussion of (termination of) Membership; and
- 5) Notification to the appropriate regulatory authorities.

ICEU has a range of actions which can be used to manage counterparty credit risk based on risk bands of Clearing Members:

- 1) Current exposure is calculated using end-of-day and intraday mark-to-market prices enabling monitoring and calling realised and unrealised Variation Margin throughout the day from ICEU's intraday Margin system. End of day Variation Margin is settled daily from the Extensible Clearing System ("ECS");
- 2) Clearing Member end of day Initial Margin is calculated and called daily. Clearing Member intraday Initial Margins are recalculated and changes in Margin requirement intraday added to changes in mark-to-market (i.e. change in Variation Margin) to reflect an overall change in intraday liability of the Clearing Member through ICEU's intraday Margin system. Thresholds are in place with regards to the risk tolerance permitted by ICEU;
- 3) Controls are in place with regards to concentration charge, wrong-way risk charge, delivery charges, liquidity (bid-offer) risk, and collateral haircuts that might impact the credit risk undertaken by ICEU. Calls for these Additional

Margins are scheduled as part of the end of day process within ECS. ICEU can issue intraday Margin calls covering these additional potential future exposures through ICEU’s intraday Margin system at its discretion;

- 4) For equity settlements, that result from option exercise/expiries, ICEU only applies DvP;
- 5) Position transfers are always pre-checked by ICEU to assess any pre-funding requirements prior to the position transfer, which are processed through ICEU’s intraday Margin system;
- 6) ICEU’s core banking system (ECS) prevents Clearing Members withdrawing collateral which would leave them uncovered against their Margin requirements, effectively not allowing any net debits.
- 7) Clearing Member’s credit risk assessment is carried out by the ICEU in-depth for each Applicant prior to becoming a Clearing Member, followed by an in-depth annual review. ICEU’s monitoring mechanisms include (but are not limited to):
 - i. Periodic review of fundamental credit indicators coupled with the output of the counterparty rating system provides an ongoing view of a Clearing Member’s creditworthiness;
 - ii. Periodic review of Clearing Member’s Risk Management and Systems, conducted via on-site visits, completion of a risk questionnaire and documentation requests.
 - iii. Short term credit assessment takes place reviewing data within the daily credit reports, that cover short-term indicators such as share price and CDS credit spread;
 - iv. Review of monthly/quarterly financial submissions from Clearing Members; and
 - v. Quarterly review of the Counterparty Rating System which is presented and discussed at the Product Risk Committee.

ICEU measures the effectiveness of these tools via tailored assessments. For the end of day Initial Margin, extensive back testing is performed daily. Similarly, collateral haircuts are reviewed monthly and monitored on a daily and intra-day basis to ensure their sufficiency. Distinct measures are used for the other tools listed above.

Key Consideration 3	A payment system or SSS should cover its current and, where they exist, potential future exposures to each participant fully with a high degree of confidence using collateral and other equivalent financial resources (see Principle 5 on collateral). In the case of a DNS (Deferred Net Settlement) payment system or DNS SSS (Securities Settlement System) in which there is no settlement guarantee but where its participants face credit exposures arising from its payment, clearing, and settlement processes, such an FMI should maintain, at a minimum, sufficient resources to cover the exposures of the two participants and their affiliates that would create the largest aggregate credit exposure in the system.
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N/A for ICEU.

Key Consideration 4	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
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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.

ICEU covers its current and potential future exposures to each Clearing Member through the following arrangements. Please also refer to the default waterfall approach, summarized in 4.1.1 and described in more detail in Principle 13.

- 1) The Clearing Rules require Clearing Members to meet unrealised or realised Variation Margin calls, on an end of day and intraday basis, to cover current exposures.
- 2) ICEU's Clearing Rules require that Clearing Members post Initial Margin and Additional Margins requirements to cover potential future exposures (see Principle 6 for further details). Initial Margin is set as a minimum to a 99% degree of confidence, and any additional (i.e. buffer or shortfall) Margin required increases this degree of confidence. Margins are posted on an end of day and intraday basis.
- 3) ICEU narrowly defines eligible collateral (see Principle 5 for further details). Haircuts applied to eligible collateral covers potential future changes in collateral value.
- 4) The Clearing Rules require that each Clearing Member contributes to the applicable Guaranty Fund.
- 5) The Guaranty Fund is calibrated to cover the stress losses in excess of Initial Margin (Initial Margin, with only limited add-ons considered) held by the two largest Clearing Member groups under extreme but plausible stress scenarios.
- 6) ICEU itself makes a pre-defined contribution to the default waterfall which is consumed before the Guaranty Fund. ICEU's F&O contribution is a total of \$197million.¹
- 7) Default Insurance in an amount of \$100million that involves application of ICEU's contributions.
- 8) ICEU has the power under its Clearing Rules to impose Powers of Assessment on Clearing Members if prefunded resources are not sufficient to cover the Clearing Member losses (i.e. Initial Margin and add-ons of the defaulting Clearing Member, the prefunded contributions of relevant Clearing Members, the prefunded Guaranty Fund and ICEU's own contributions).

The Initial Margin methodology is targeting a 99% degree of confidence. Additional Margin covers other potential futures exposures in relation to wrong-way risk, concentration risk, etc. and therefore increase the degree of confidence.

The ICEU F&O Guaranty Fund is established based on extreme but plausible stress scenarios and tested against a 99.9% confidence interval, when appropriate.

On an intraday and end of day basis the Initial Margin (resources) sufficiency is evaluated. Any breach is reviewed by ICEU. End of day Variation Margin and Initial Margin must be settled by 9AM GMT and any delayed payments are immediately reported internally. Clearing Members' pre-funded resources (i.e. Initial Margin and Guaranty Fund) are also reviewed daily via stress testing exercises.

ICEU provides clearing services in respect of financial instruments across multiple jurisdictions, which are highly correlated with the potential participant defaults. On this basis, wrong-way risk and concentration risk are considered by ICEU, and ICEU calls for additional Margin as appropriate. This is further detailed in Principle 6.

¹ Values reported below are updated periodically and reported under <https://www.ice.com/clear-europe/regulation>

The ICEU F&O Guaranty Fund is fully funded by Clearing Members and ICEU in accordance with sizing calculation and allocation methodology. The Guaranty Fund is sized based on the largest two Clearing Member groups defaulting at the same time, i.e. Cover 2 Losses. In other words, the uncollateralised stress losses are aggregated across all Clearing Members under a common ownership (e.g. affiliates) to size the Guaranty Fund. In addition to the Guaranty Fund, ICEU also calls from its members Stress Margin to mitigate any risk under extreme but plausible conditions that goes beyond the Guaranty Fund. A Default Insurance has also been established, as described above.

ICEU maintains financial resources equivalent to largest uncollateralised stress losses of any two Clearing Member groups in extreme but plausible market conditions, i.e. Cover 2 Losses. The uncollateralised stress losses are aggregated up to a Clearing Member group level, under common ownership.

Stress tests are performed, reviewed and reported to ICEU management daily. Any Cover 2 Losses beyond the Guaranty Fund are collateralised via additional Margin call, i.e. Stress Margin.

ICEU also provides an analysis and recommendation regarding the sizing of the Guaranty Fund. The daily stress test results are reviewed regularly by the Product Risk Committee to assess the adequacy of the fund. The Committee advises on any adjustments to the Guaranty Fund size and segment allocation.

The authority to hold financial resources and the basis on which they are to be calculated is held in the ICEU Clearing Rules and Clearing Membership Agreement.

ICEU documents in the respective risk policies the supporting rationale for its holding of financial resources in accordance with the sizing calculation and allocation methodology.

Risk policies, including the ones that address the level of financial resources, are reviewed and approved by the relevant risk committee(s) and ICEU Board at least annually. In case of a rule change, or policy changes, regulatory approval will be required. The policy governance review calendar sets out the ongoing role of the relevant committee(s) including at least an annual review of the continued adequacy of the Margin and Guaranty Fund related policies.

Changes to the models that affect the amount of total financial resources are approved by the Model Oversight Committee. Significant model changes also require Board and regulatory approvals. These processes are defined by ICEU’s Model Risk Policy, that includes model oversight and model control. Model oversight covers the Model Risk Policy’s scope, components, governance and related roles and responsibilities. Model control covers the management of model error through the introduction and application of controls to the development, independent validation, approval, implementation, use and monitoring of risk models.

Notwithstanding the above, risk models that calculate Clearing Member requirements are subject to regular testing. If the model calibration consistently demonstrates exceptions outside of the required tolerance, ICEU reviews the models and recommends revisions to the relevant risk committee and/or the Board in line with governance requirements.

<p>Key Consideration 5</p>	<p>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</p>
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the size or concentration of positions held by a CCP's participant's increases significantly. A full validation of a CCP's risk-management model should be performed at least annually.

ICEU determines the total financial resources based on the largest Cover 2 Losses i.e. largest uncollateralised stress losses of the two largest Clearing Member groups in extreme but plausible market conditions.

ICEU reviews the results of daily stress tests. These tests compare the amount pre-funded resources, i.e. the Guaranty Fund, against the uncollateralized stress loss. Any insufficiency of pre-funded resources is identified as deficiency or breach, and reported accordingly, as detailed above.

On a daily basis ICEU publishes stress test results and breaches to senior management and senior stakeholders within the organisation. The Head of Risk is responsible for escalating any concerns to the President of the Clearing House and proposing remediation actions.

Detailed anonymous stress testing results are also reported and made available to the relevant risk committee(s) for review. ICEU provides an analysis and recommendation regarding the sizing of the Guaranty Fund as a function of the fund's performance (i.e. historical largest Cover 2 Losses against the size of funds).

Additionally, calls for Stress Margin, where applicable, are issued to Clearing Members to ensure the adequacy of ICEU's total financial resources at all times.

ICEU monitors the appropriateness of the stress scenario suite via a number of assessments including, but not limited to: Cover 1/Cover 2 daily metrics, the stress backtesting, LowCoverage test and OverCoverage test.

On a periodic basis ICEU assesses the performance of its stress testing framework more generally, with the results presented to the appropriate risk committee(s). At least annually, ICEU conducts a comprehensive review of the stress testing framework and may, for instance, recommend under the appropriate governance the inclusion and/or exclusion of a particular stress scenarios. The annual review is presented to the Product Risk Committee, Board Risk Committee, Client Risk Committee, and Board.

Under the existing framework, there is a preference not to reduce to the current standard scenario set. ICEU can add new scenarios whenever required, subject to applicable regulatory notifications, to fully reflect changing market conditions, parameters, increased volatility or unusual positions. ICEU's stress testing programme is designed to take into account most risk factors identified, such as price moves along the curve, volatility shifts at any point on the surface, dividends and interest rates.

The Model Risk Policy establishes that risk models used in production shall be independently validated according to a validation cycle, in a manner which is compliant with regulatory requirements (i.e. annually). The Model Risk Policy also defines that such exercises shall be designed to ensure that the model and its documentation meet the intended business requirements, minimum regulatory requirements and prescribed objectives. These validations typically cover a minimum set of key aspects, such as: regulatory compliance; documentation and purpose; theory and application; development; performance; implementation; and use.

The Model Risk Policy is supported by, and operated via, strict governance arrangements, including the three lines of defense (discussed under Principle 3) and a structure of accountable committees. Under the former, the second line is responsible for independently validating the models used by the first line. Specifically, the validation is the responsibility of the Risk Oversight Department and may be carried out by the department itself or using an external third-party validator. The Model Risk Policy is approved by the Model Oversight Committee and the Board (or delegated committee). Regulatory engagement is pursued according to applicable law.

Key Consideration 6	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.
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ICEU has 2 types of scenarios for price shocks:

- 1) **Historic Stress-Testing Events** aim to select the most significant historic events in terms of extreme price movement and/or correlation change for the relevant product group from the previous 30 years. The aim is to replicate as accurately as possible the historic event that has been selected across the range of cleared products and apply these stress tests to contemporary positions. This type of scenario replicates what potentially could happen to a Clearing Member's portfolios if the event were repeated and is based on applying the same stress. Depending on the historic event, the actual historic percentage shifts can be applied to contemporary positions and prices; for other events, the historic percentage shifts are re-calibrated and applied to contemporary positions and prices. ICEU reviews historical returns to provide assurance that the suite of historical scenario has comprehensive product coverage based on historic stress events. ICEU runs a check that the scenario return exceeds the daily VM; and add a new scenario if the new stress emerges.
- 2) **Theoretical scenarios:** prices shift based on variety of approaches to create extreme but plausible scenarios that are not contained within the set of historical scenarios. The stress shocks are defined by using a technique that combines Principal Component Analysis ("PCA") and Extreme Value Theory ("EVT"); narrative-driven macro or idiosyncratic scenarios; or regulatory-driven scenarios. Under the PCA-EVT approach, for each key component, the EVT derives the stress shock calibrated to a 99.9% confidence interval. The calibrated shocks are then applied to individual risk factors to generate the losses. When appropriate, shocks from this type of scenario can be targeted at specific sets of portfolios with a pre-defined risk profile.

The price shocks obtained from these scenarios are applied individually to each contract. For futures positions, each profit and loss will be calculated by shifting the value of risk factors under the different stress scenarios. Settlement prices will be used as the basis for calculation of profit and loss together with each member's registered closing positions, which include intraday trades. Option positions will be re-valued in each stress-testing scenario using the relevant underlying futures price and the implied volatility at settlement. Options will be re-baselined and re-priced using the relevant pricing model. The volatility smile for options is derived from the last available settlement volatility surface.

In addition to price shocks, the following set of assumptions define the extreme but plausible characterizing the stress testing framework:

- stress test results are generated based on net positions and aggregated into the worst shortfall across all scenarios separately for House and Segregated Member accounts;
- stress test results at account level are aggregated conservatively with only gains on the House account being used to cover other accounts losses;
- for Cover 2 aggregation, where counterparts are linked by ownership, stress test results are treated in a worst-case manner; and
- collateral value are considered post-haircuts, and haircuts and price shocks are based on a worst-case approach.

Key consideration 7	<p>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.</p>
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The ICEU Default Rules deal with the application of assets upon an event of default, the powers of assessment reserved to the Clearing House in the event of there being relevant shortfalls and the use of the Guaranty Fund in this context. Moreover, the ICEU Clearing Rules allow ICEU in very extreme circumstances to use loss allocation techniques such as variation margin gain haircutting, partial tear-ups, payment delays, amongst others.

Relevant liquidity policies provide detail in relation to the management of liquidity requirements.

Replenishment is required by the ICEU Clearing Rules in a number of contexts: through the utilisation of Powers of Assessment under Rule 909; in the Guaranty Fund context through Rule 1102(i) (i - v) and the specification of new amounts of Guaranty Fund being required in the event of the application of any Guaranty Fund Contributions; in relation to Non-Default, such as Investment Losses, through the mechanism of the indemnity provisions in Rule 919.

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.

Key consideration 1

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

The Collateral and Haircut Policy and the Collateral and Haircut Procedures set out the general principles by which ICEU considers the eligibility of specific assets for inclusion on the List of Permitted Cover, Margin Cover and Limits on Collateral ("LoC") and the appropriate valuation and haircut procedures. These principles establish, for instance, that assets must have sufficient liquidity, enough price history, and be in an eligible currency. Also, all collateral must also meet the relevant requirements set out in the applicable regulations, for example, the UK EMIR RTS and EMIR RTS.

ICEU has discretion over which assets are proposed to form part of the Permitted and Margin Cover, as long as they adhere to those established principles. Proposals to accept any new types of collateral are presented to the Executive Risk Committee for review and approval prior to being added to the List of Permitted Cover.

The Collateral and Haircut Policy and the Collateral and Haircut Procedures are reviewed at least on an annual basis, or more frequently if there is a required change. The Collateral and Haircut model is independently validated, in line with the Model Risk Policy, at least on an annual basis. The List of Permitted Cover, collateral haircuts and limits are reviewed on a monthly basis by members of the Clearing Risk, Risk Oversight and Compliance departments. Amendments to the List of Permitted Cover and collateral haircuts are communicated to Clearing Members by Circular from when updated and the live List of Permitted Cover is available on the website. ICEU only accepts collateral from its Clearing Members in the form specified on the List of Permitted Cover.

ICEU monitors publicly available sources during each day for information that may affect the eligibility of collateral on the List of Permitted Cover, Margin Cover and Limits. Information which suggests that collateral may no longer be eligible triggers a review of the eligibility of that collateral. ICEU also runs a daily report to identify any ineligible forms of collateral posted to ICEU. Ineligible collateral that is identified, is recorded, reported and is also discussed and actions are followed up at the monthly collateral review meeting.

Additionally, ICEU monitors the collateral limits on a daily basis. This is done by producing a collateral breakdown report that contains a 'Limit Check' flag, triggered when limits breach. A Clearing Member will be in breach of a collateral limit only when the total cover value of collateral posted is less than that Clearing Member's total requirement. As such, where a Clearing Member meets its requirement but holds collateral in excess of the allowable limits which is included in the calculation, the Clearing Member is not considered to be in breach of the collateral limits. An automated control prevents Members breaching relative limits by requiring them to post additional collateral to mitigate the risk of breach.

ICEU has daily procedures to monitor limits on collateral. The daily automated control to prevent relative limit breaches enables the identification and mitigation of specific and general Wrong Way Risk ("WWR"). ICEU analyses Clearing Members' non-cash collateral to identify WWR daily. Where ICEU identifies material WWR, ICEU requires the Clearing Member to take mitigating actions such as substituting the lodged Permitted Cover with alternative Permitted Cover.

Clearing Members are not permitted to provide collateral referenced on themselves. In general, wrong-way risk stress testing is designed to encourage that collateral provided is not correlated with the net futures/options position and also that Clearing Members' positions and collateral are not exposed to joint domicile risk. Emissions margin cover is accepted covering only short positions of the underlier of the futures contract and has strict limits and haircuts to take into account

credit, market and liquidity risk of the underlying asset. Guaranty Fund contributions must be made using the appropriate referenced currency and is subject to a minimum cash portion.

Key Consideration 2

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

Collateral is valued as of end of day each day and Clearing Members are not allowed to withdraw collateral which would leave them with uncovered credit exposures.

Additionally, to mitigate the risk of large intraday moves leading to significant losses of collateral value, ICEU monitors the collateral's price movements at least on an hourly basis. In the event the downward price movement breaches any security's haircut, the Clearing Member collateral portfolio that contains the affected security is fully revalued. If ICEU deems that there has been a material deterioration or is likely to be a material deterioration based upon reasonable expectations in relation to the creditworthiness of the issuer of a security posted as collateral, or other potential issue, then ICEU will take steps to mitigate that risk by asking for additional collateral or collateral substitution.

Collateral is marked to market daily and ICEU aims to use market information without the exercise of discretion. To that end, ICEU uses trustworthy sources only, with appropriate data quality checks in place. In case of errors to the data, ICEU has the authority to apply the appropriate corrections, subject to the appropriate procedures and governance.

If market failure results in inability to price collateral, Clearing Members may be required to replace the collateral with cash or other price transparent and acceptable collateral. In addition, ICEU can indirectly exercise conservative discretion in valuing assets by changing the corresponding haircut percentage. ICEU has the ability to significantly increase haircuts in the short-term to provide additional security with respect to collateral price valuation.

The haircut calculation for all assets that are acceptable as collateral is based on the most conservative value across a range of VaR estimates, for each risk factor, calculated using a 99.9% confidence level. The methodology aims to take into consideration both recent volatility and (longer term) historical volatility. VaR estimates are calculated using a parametric, a fat tail and an historical simulation methodology, parameterised using a holding period of 1 or 2 days, and a look back period of 3 months or 4 years. Additionally, ICEU applies qualitative, but more conservative, overrides based on forward looking scenarios or certain market circumstances.

ICEU set its collateral haircuts using a 99.9% confidence level which is in line with the confidence level set for calibrating theoretical stress scenarios to ensure that the post haircut cover value of collateral includes stressed market observations. Additionally, ICEU applies a 25% stress period weight to some of its VaR models and a bid-ask spread adds another layer of conservatism.

Haircuts are reviewed monthly and monitored on a daily and intra-day basis to ensure the sufficiency of these haircuts such that any decline in asset value that breaches the applicable haircut is investigated. If this indicates that the prevailing haircut level is insufficient, a review will be conducted. Daily verification of data completeness and accuracy; and periodical data validation is also performed.

ICEU also sets both relative and absolute limits for the amount of collateral from an individual issuer that a Clearing Member (or its group) may deposit. This ensures that ICEU will not have concentrated collateral positions to liquidate in the event of a Clearing Member default.

ICEU's Treasury department also performs an annual liquidation test to ensure ICEU has reliable arrangements in place to generate same day liquidity by selling high quality government securities, due to a Clearing Member default or difficult market event such as stressed market conditions.

The Collateral and Haircut Policy and Collateral and Haircut Procedures are reviewed on an annual basis, are also independently validated annually as per the ICEU Model Risk Policy.

Key Consideration 3	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.
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As market fundamentals change and/or the creditworthiness of an issuer deteriorates, haircuts are likely to increase, which may cause procyclical increases on Margin requirements for Clearing Members. ICEU limits the likelihood of such procyclical impact while ensuring that sufficient collateral continues to be in place by combining some or all of the following anti-procyclicality considerations:

- Applying a conservative minimum haircut level to all collateral types, regardless of issuer and tenor, to ensure haircuts are sufficient even in periods of low volatility;
- Including stressed market conditions in the haircuts;
- Pre-emptively identifying and including potential future events into the haircuts via the qualitative overlays and analytical tools to allow more gradual and pro-active increases in the haircuts; and
- Providing advance notice of changes in haircuts to Clearing Members and competent authorities.

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.
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The Collateral and Haircut Procedures set concentration limits based upon perceived market liquidity of eligible instruments and control collateral concentration. These limits restrict all securities (except US Treasuries) to the lower of 35% (or a lower percentage for certain issuers) of portfolio requirement or the relevant absolute collateral limit published in the List of Permitted Cover and Margin Cover for a certain issuer. Emissions as Margin Cover have absolute and relative limits to ensure the amount that may need to be liquidated is conservative.

Both absolute and relative collateral limits are monitored daily. If a Clearing Member is in breach of a limit, the Clearing Member will be required to replace the collateral above the limits with alternative Permitted Cover or ICEU may call additional Margin to ensure it has sufficient collateral.

ICEU reviews and evaluates concentration policies and practices at least annually, as part of its annual review of the Collateral and Haircut Policy and the Collateral and Procedures, in line with Model Risk Policy. As part of the annual review, concentration policies and practices are subject to independent validation and a report is provided to the Executive Risk Committee highlighting the results of the validation.

Key Consideration 5	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.
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Apart from FX risks, cross-border collateral has similar risks as those discussed under Principle 4, Key Consideration 1. Other than US FCM customer pledged collateral, ICEU takes all Margin and Guaranty Fund assets by way of title transfer and thus has title ownership for the vast majority of the assets it holds irrespective of its origin. Additionally, ICEU accepts collateral quoted in another currency rather than the liabilities it covers but this is limited to only three currencies (EUR, USD and GBP).

Notwithstanding the above, to mitigate any additional risk on accepting cross-border collateral the following applies:

- ICEU has taken appropriate legal advice in relation to the manner in which it holds relevant assets and has structured its holding of relevant assets in such a way as to ensure, as far as possible, that ICEU itself has proprietary title and possession of such assets.
- The preamble to Part 9 of the ICEU Clearing Rules confirms the characterisation of Part 9 under relevant legislation as variously “default rules”, containing a “default waterfall”, default proceedings, “default rules and procedures” and “default procedures” and the protections afforded to ICEU when taking relevant steps under Part 9. ICEU is also protected by the Settlement Finality Regulations.
- ICEU has obtained legal opinions in relation to the enforceability of collateral. ICEU’s Legal department and external counsel monitor legislative and judicial developments in relation to relevant matters as far as possible.
- In the Liquidity Stress test (“LST”) ICEU assesses whether the available resources in a specific currency are sufficient to offset its payment obligations in extreme but plausible conditions. ICEU has various uncommitted FX facilities in place to mitigate temporary liquidity shortages or exchange assets in the currency of the loss experienced.

Collateral is provided to ICEU (in relation to Margin and Guaranty Fund) in accordance with the ICEU Clearing Rules. ICEU has received appropriate legal advice on the use of such collateral in a timely basis.

Key Consideration 6	An FMI should use a collateral management system that is well-designed and operationally flexible.
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The Extensible Clearing System (“ECS”), ICEU’s collateral management system, is developed and maintained by ICE. The system is well established and used by all clearing houses within the ICE group. Regular maintenance and enhancement are executed to meet the changing demands of the market.

The ECS provides Clearing Members with information regarding the assets deposited and can be used by Clearing Members to instruct a deposit of cash, securities and other assets to the Clearing House and, when there is excess Margin in place, to instruct a withdrawal of assets held on deposit. The primary features of ECS are as follows:

- Real time update of positions;
- Overnight mark to market valuation;
- Hard limits on type and concentration of permitted collateral at Issuer level;
- Separate review and approval of collateral change requests initiated by participants; and
- Automatic confirmation checks that requests for changes in collateral will not result in exposures not having sufficient collateral to manage the financial risks that arise from the exposure.

ICEU does not re-use collateral as part of its daily operations.

The collateral management system (ECS) is fully flexible to accommodate changes in acceptable collateral and to changes in concentration limits, in each case at the ISIN level, subject to relevant internal governance.

Collateral requests are viewed via the clearing console (an internal system) and monitored by Treasury. Withdrawal requests exceeding excess collateral on the account will not be accepted.

ICEU's collateral management systems are designed to accept or reject changes (determined by the rules established to monitor acceptable collateral and concentration limits) with minimal manual intervention. ICEU Business Operation team is always staffed during publicised opening times and the team has sufficient scale to ensure smooth operations at all times.

IT system development and operational support for ECS is outsourced to ICE's primary data center based in the USA, while a secondary (Disaster Recovery, "DR") site situated in a different location provides real time redundancy in case of a technology disruption or incident.

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.

Key Consideration 1

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.

ICEU uses a combination of Variation Margin (“VM”) and Initial Margin (“IM”), amongst other requirements, to mitigate current and potential future exposures. IM deals with ICEU's potential future exposures whilst VM corresponds to current exposure. The general framework of ICEU's Margin system ensures that IM is set to an appropriate level allowing the close out of a Defaulter's positions under the defined confidence interval and holding period. VM is the portfolio or segregated accounts positions' profit and loss (that is, settlement movement).

Rule 502 grants ICEU's right to call and collect Margin from its Clearing Members and to set the eligibility and form of collateral (including use of haircuts) that may be lodged by Clearing Members with ICEU.

In addition to IM, where relevant, ICEU applies specific add-ons, e.g. liquidity and concentration charges, stress margin, and wrong way risk (“WWR”) charges.

ICEU operates an intra-day risk system that allows ICEU to recalculate a Clearing Member's IM and VM near real time throughout the business day and to make intra-day Margin calls where necessary.

Margin requirements are re-calculated separately for each account using the IRM 1 model:

- 1) the Filtered Historical Simulation (“FHS”) for Energy contracts; and
- 2) the parametric and historical simulation VaR approaches for Financial & Softs (“F&S”) contracts when calibrating Margin rate parameters.

Other Margin requirements include, but are not limited to, are:

- 1) WWR requirements;
- 2) Concentration Charge requirement; and
- 3) Stress Margin.

There are policies, procedures and technical model descriptions that form the set of documents describing the Margin methodologies. The review and approvals of such documentation is subject to ICEU's internal and external governance processes.

ICEU provides participants, pursuant to Article 10 of EMIR RTS 153/2013, with information on the Margin methodologies allowing them to replicate Margin calculations for their portfolios via procedure documentations, white papers and Margin parameter files, available in ICE Community (<https://service.ice.com/s/>). Upon request, ICEU also holds bespoke sessions with Clearing Members to clarify details of its Margin methodologies.

The IRM 1 software is publicly available along with the daily IRM 1 Parameters files on ICEU's website, allowing Clearing Members and market participants to replicate ICEU IM Calculation. Additionally, ICEU offers the ICE Clearing Analytics (“ICA”) platform for web-based calculation.

The determinants of credit exposures for all contracts are the volatility of the underlying market price, correlation of market price returns with other economically linked risk factors, change in implied volatility for non-linear contracts, and changes to interest and FX rates.

In addition to core Margin, ICEU calculates additional Margin requirements reflecting, for instance, concentration of positions, market liquidity and specific WWR.

ICEU determines Margin requirements commensurate with the risks and particular attributes of its F&O products. The IM of segregated accounts are aggregated across all products within the F&O segment. Portfolio benefits are only applied to positions within each asset class, i.e. Interest Rates, Equities, Agriculturals or Energy.

The Margin requirements (at least collected on a daily basis) are driven by:

- 1) Variation Margin ("VM"), settlement price movements where profit and loss are credited/debited; and
- 2) Initial Margin ("IM") on portfolio (segregated account) positions.

While VM is a Profit and Loss ("PnL") calculation based on intraday and end of day price, the IM is calculated via IRM 1 with model parameters set as per ICEU policies and procedures reflecting each product's specific risk such as its volatility and cyclicity.

Furthermore, IRM 1 is supplemented with various Margin add-ons and buffers to adequately collateralise particular attributes of products and Clearing Member portfolios.

ICEU has extensive provision for addressing the risk of payment failure by a Clearing Member that would otherwise create a shortage of required Margin to the Clearing Member's position. These provisions are enforced throughout the Clearing Membership Agreement and the ICEU Clearing Rules (Part 9).

According to the ICEU Clearing Rules and Finance Procedures (Part 9 Default Rules, Rule 901-iv and the Finance Procedures Section 13.5), any delayed payment or payment failure could lead to an 'Event of Default' being declared. ICEU operates a default waterfall arrangement described in more detail in Principle 4, Credit Risk, and Principle 13, Participant Default Rules and Procedures.

In the event of ICEU declaring an 'Event of Default', ICEU will terminate the Defaulter's membership and a Circular is issued to the broader market informing that the Clearing Member has defaulted. ICEU will therefore use as part of its default waterfall structure, but not limited to, the Defaulter's IM (on House account) and Default Fund (or Guaranty Fund) contribution to meet the Defaulter's obligations.

In particular, the Guaranty Fund mutualises losses in excess of its Margin on deposit. It is based on extreme but plausible market scenarios and is designed to provide adequate funds to cover losses associated with the default of the two largest Clearing Member groups including affiliates (i.e. uncollateralised losses).

Section 5 within the Finance Procedures set out the details of settlement times (including Bank Holidays) and arrangements for settling in different currencies.

As part of the on-boarding procedure, ICEU ensures any future Clearing Member has capacity to arrange the transfer of funds before the 9.00am (London local time) cut-off.

In order to accommodate different time zones, ICEU allows any currencies apart from GBP, Euro and US Dollars an additional day ("x+1 currency") to be settled before 09:00 am (London local time). However, additional Margin is collected to ensure all liabilities inclusive of these pending Margin calls are covered.

Key Consideration 2

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.

ICEU uses settlement prices from ICE Futures Europe, ICE Endex, ICE Futures Abu Dhabi, and ICE Futures US (the "Exchanges") as the main data source for its Margin model. End of day prices from the relevant Exchange are set according to the applicable Contract Procedures and available from the relevant Exchange's web page.

ICEU uses returns (e.g. log return or absolute) derived from the Exchange prices in order to determine the Margin rate of a contract.

The Exchanges have policies, procedures and rules in place to set End of Day Settlement Prices ("EDSP"). These procedures are recognised as standard practice by market participants.

Moreover, checks and validations are performed by the Market Settlement team and the Market Supervision team before the publication of end of day prices and therefore before prices are communicated to ICEU for Margin purpose.

While the Exchange's principal role is to ensure timely and reliable prices, ICEU performs additional validations to ensure the integrity of its processes. When EDSP are published, checks are performed on the prices to prevent obvious settlement price errors, which could potentially result in incorrect VM requirements, and Margin parameters.

The Exchanges ensure that market prices that conform to its own criteria quality are available. Price validation processes in place identify excessive, stale or anomalous price moves before completion of the settlement process leading to publication. In the unlikely event of a 'not readily available or reliable' price, ICEU may exercise its right under the Rules to override the Market's settlement prices (Rule 701). Amongst its options, ICEU could use previous day's close of business prices. All profits and losses resulting from these daily settlement prices (overridden or not) is credited and debited, as appropriate, to the relevant Clearing Members' accounts.

Independent validations performed as part of ICEU Model Risk Policy ("MRP") requirements typically cover a minimum set of key aspects, such as: regulatory compliance, documentation and purpose, theory and application, development, performance, implementation and use (see Principle 6, Key Consideration 7, for further details). While some of these aspects may be directly influenced by the availability of reliable data, for others there is little impact. For the latter case, the validation is performed according to the normal standards displayed in the Model Risk Policy. For those other aspects where data availability is key, additional considerations are needed. These commonly cover internal consistency, adherence, and appropriateness. For instance, in the case of the theory and application, the use of proxy variables for the non-available/non-reliable data shall also be tested for adherence and appropriateness. The same reviews apply where models are used to substitute non-available/non-reliable data, with an additional test for consistency of the model.

ICEU ensures independence through the use of stringent requirements for the selection of validators, including:

- 1) no involvement or responsibility for any component of model development, implementation or operation relating to the model subject to validation;
- 2) no involvement or responsibility for any upstream development process relating to an input feeding into the model being submitted for independent model validation; and
- 3) for ICEU employees, a reporting line to the Chief Risk Officer.

All other dynamic inputs feeding pricing models follow the same level of validations and checks as prices to ensure accurate pricing.

Additionally, pricing models are designed to be consistent with market practices and standard data feeds.

The Rules state that ICEU has the right to override the Market's settlement prices in exceptional circumstances (Rule 701). These modifications are then reflected in the VM and the Margin Parameters.

Where ICEU has a concern that the model is not performing as required, Margins can be increased, or add-on requirements can be applied under the terms of the Rules to cover the identified risk.

Key Consideration 3

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.

ICEU determines potential future exposure (ICEU's Initial Margin) using the IRM 1 methodology.

The model uses potential market moves and calculates the profit or loss on individual contracts. The risk of a portfolio is derived aggregating the individual profit and loss for all contracts of the portfolio. The inputs for the calculations, i.e. the margin parameters, are set to meet a confidence level of 99% over a one or two day holding period, in accordance with EMIR RTS 153/2013 Article 26. Additionally, IRM 1 determines the IM by identifying strategies (such as Butterfly), calendar spreads and futures positions and applies the associated Margin rates for all components to compute the IM. The algorithm then identifies pairs of contracts with different underlying instruments (within the same market) and apply a credit rate to opposite futures contracts in order to provide some level of diversification benefit.

The IRM 1 Margin model parameter assumptions are disclosed via ICEU website in the following link:

- <https://www.ice.com/clear-europe/risk-management>

The margin period of risk is based on the asset class of the contract and the account type (e.g. gross vs net). The confidence level is 99%. The appropriateness of these settings is checked daily via back testing exercises. For the IM add-ons, parameters include those related to the concentration risk charge (e.g. volume thresholds and maximum daily volumes), those necessary for the wrong-way risk charge (e.g. the WWR ratios), amongst a few others. These are updated and reviewed periodically by ICEU following the schedule of each parameter.

The IRM 1 model requires Margin rate parameters to be set and reviewed for each cleared contract individually. These are: Scanning range; Inter-month spread charge rates; Inter-contract spread credit rates; Option volatility shift parameters; Strategy spread Margin rates (such as Condors or Butterflies); Prompt date charge rates; and Volatility credit offset. The rates are calculated using historical prices and returns over different time horizons, as specified below. The Value at Risk ("VaR") models used are: Filtered Historical Simulation for Energy; Historical Simulation and Parametric for Financials and Softs ("F&S") contracts. The look back period for Energy products is based on 500 days. The F&S the look back periods are based on: 60 days (Parametric only); 100 days (Historical only); 250 days and 525 days for both Historical and Parametric. Note for the F&S markets, the Margin rate applied is the most conservative VaR value of the permutation above.

Each product has a native margin period of risk, i.e. 1-day or 2-day, which may be adjusted depending on the margin account type (e.g. gross vs net). ICEU determines the appropriateness of the margin period of risk for each product by assessing the back test results and the trading activity of such products. In particular, ICEU regularly assesses different measures of market liquidity such as Average Daily Volume ("ADV"), with a particular focus on concentrated contract positions. When ICEU's assessment of market liquidity and Clearing Member's portfolio positions do not meet these minimum criteria (i.e. longer

holding period to potentially close out positions), ICEU will have additional Margin to cover for any liquidation shortfall, i.e. the concentration charge. ICEU can use the additional charges to either: close out these positions; or hedge the positions and close out at a later date when market liquidity allows.

The default drills conducted at least quarterly provides additional assessment of the margin period of risk.

ICEU uses different lookback periods depending on the Value-at-Risk methodology applied (e.g. parametric vs historical) and asset class (Energy vs Financial & Softs). These are set to cover recent, new and past volatilities and aim to reflect the different risk profiles of the futures and option contracts cleared. The appropriateness of these settings is checked daily via back test exercises. In the particular case of Financial & Soft contracts, the Margin rate applied is the most conservative VaR value of the different lookback periods considered.

For new products with no historical data, ICEU uses typically two methods depending on the contract characteristics:

- derive historical prices from one or more contracts of the same underlying which already exist;
- consider an existing contract which has similar characteristics based on a waterfall mapping.

ICEU regularly monitors market liquidity across products and assumes there is a level of trading activity which will have no material impact on the price i.e. a tradable volume. If the positions are concentrated such that the liquidation over the defined time horizon (i.e. two days) will exceed the tradable volume, the concentration charge applies. ICEU can use the additional charges to either: close out these positions; or hedge the positions and close out at a later date when market liquidity allows. Such decision will depend on market conditions prevailing at the time of the default.

ICEU endeavors to reduce the model procyclicality by applying the set of parameters which lead to the least de-stabilising Margins but without compromising the model performance. The anti-procyclical measure embedded in the IM calculation further prevents unwarranted levels of Margin procyclicality. The degree to which ICEU tolerates Margin procyclicality, as outlined in the procyclicality framework and disclosed on its website, is practiced and tested on a daily basis.

ICEU has adopted Article 28 EMIR RTS 153/2013 option (b). Where stress volatility is added to new volatility in order to address procyclicality, a one-year stressed volatility for each product is defined as a stressed period which account for 25% weight of the volatility forecast. When stressed data is not available, stressed volatility from benchmark contracts (or proxy) will be used.

With regard to other Margin add-ons such as the concentration charge and WWR, ICEU considers the following factors to prevent procyclical Margin behaviour:

- 1) ICEU models its concentration charge based on its IM including the anti-procyclical measure, i.e. concentration charge is simply a scaled IM which has embedded in it the anti-procyclicality component;
- 2) The WWR Margin add-on, driven by a self-referencing Clearing Member position, is based on a set of conservative assumptions which has no model element inducing Margin increases during volatile periods.

Specific Wrong Way Risk ("SWWR") can occur where a Clearing Member has positions in a derivative on its own stocks. To mitigate such risk, ICEU will consider all the positions that a Clearing Member group (i.e. combining positions where two or more Clearing Members are linked by common ownership) holds in derivatives on its own stocks. This can include futures, put and call options, and both long and short positions.

The specific WWR methodology re-values the portfolio of self-referencing derivative positions under the following conservative assumptions:

- 1) The Clearing Member's stock price has gone to zero;
- 2) All futures on the stock have gone to zero;
- 3) All call options on the stock have gone to zero; and
- 4) All put options on the stock price are now valued at their strike price.

A Profit and Loss (“PnL”) is calculated for each derivative and aggregated for the portfolio as a whole. ICEU calls for this PnL as additional WWR only when the PnL is negative (i.e. the Clearing Member incurs a loss).

Key Consideration 4

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.

ICEU, as a minimum, marks or settles to market cleared positions or trades on a daily basis. Marking or settling to market results in either the collection or payment of PnL (i.e. Variation Margin, VM) based on exchange settlement prices to ensure losses are properly accounted for and trades and positions are held at current market value.

For the end of day process, VMs are collected daily together with IMs and any other requirements. Payments are due by 9.00am London Time. VM is also calculated intraday on a near real time basis comparing intraday most recent prices versus end of day settlement price. If the Clearing Member’s intraday exposure exceeds pre-defined thresholds, an intraday Margin call including potential VM losses will be made that will have to be met within one hour. Differently than the end of day process, any VM amount collected intraday is held with the CCP and is not passed through.

The capability to issue intraday Margin calls is regulated by the F&O Risk Policy and Procedures and enforced under Rule 503(c). Within these policies a Clearing Member whose intraday shortfall is eroded by pre-defined threshold shall be liable to an intraday call.

ICEU has implemented a full intraday Margining system that allows ICEU to consider updated prices and positions, enabling it to make a combined price and size driven intraday Margin call for IM and VM over extended intraday hours pursuant to Article 26 of EMIR RTS 153/2013.

Key Consideration 5

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.

ICEU allows offsets between contracts if they are within the same segment, i.e. between oil contracts, but not between oil and interest rate contracts. Margin offsets reduce the total Margin requirements and are restricted to 80% pursuant to Article 27 of EMIR RTS 153/2013. When deciding whether to provide risk offsets, there must be an economic rationale for provision of a risk offset. The significance and reliability of such offsets are assessed via back test exercises performed daily.

The model used to calculate Margin requirements for single products is the same as that applied for portfolios. However, ICEU recognises that different products within the same market may exhibit co-movement of prices. The corresponding dependency between such products may increase or reduce the Margin requirement, depending on the portfolio.

The amount of portfolio offsets is determined by the relationship between each pair of products and is set by ICEU using a 2-day MPOR 99% Value-at-Risk. Margin offsets are applied sequentially based on each pair of contracts, with the pairs exhibiting the largest offsets having the highest priority in the Margin reduction ordering.

There is no cross-Margining between ICEU and any other CCP.

ICEU runs daily macro back testing (i.e. at portfolio level) to ensure sufficient collateral is collected to cover daily mark to market value. Insufficient collateral will lead to portfolio breaches and trigger a review of the Margin parameters. ICEU also runs daily micro back testing (i.e. at the risk factor level). For instance, back-testing on inter-commodity offsets ensure correlation has not broken between two legs since the last Margin update.

More generally, ICEU’s back testing regime provides feedback on the performance of the IM model. The IM model postulates a holding period and percentile confidence interval for Financials and Softs (“F&S”) and Energy products. The goal is to monitor the IM model by evaluating the number of actual losses against the number of predicted losses to identify exceptions. The total number of exceptions is evaluated against the desired risk quantile and the model is considered well calibrated if the number of exceptions is consistent with the risk quantile. If the model calibration consistently demonstrates exceptions outside of the quantile, ICEU will review the models, potentially increasing Margin rates or calling for additional requirements until the model is corrected.

Key Consideration 6

A CCP should analyse and monitor its model performance and overall Margin coverage by conducting rigorous daily backtesting and at least monthly, and more frequently 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.

ICEU calculates the IM requirement to a 99% confidence level over a one and two day time horizon at the product level and at Clearing Member account level. In order to check IM requirements were sufficient to cover 99% of market price movements over a one or two day time horizon, back testing is conducted against clean PnL.

ICEU checks the adequacy of the level of IM at a portfolio level (macro) and at the contract level (Margin parameters or micro level) daily. Where losses are greater than the IM, a “breach” occurs. Any micro or macro back test breaches are reported internally within ICEU and details summarised for the Product Risk Committee. Back test breaches are also reviewed at the Model Monitoring Group and reported to the Model Oversight Committee (“MOC”). Portfolio back tests are calculated separately for the house account and segregated client account positions (i.e. at Clearing Members’ Margin account level).

Additionally, the Basel statistical back test is the standard test considered by ICEU, i.e. the Basel Committee Traffic Light System which classifies back testing outcomes into three categories: Green, Yellow and Red zones. The Basel Traffic Light system provides a tool to monitor the model performance and, therefore, is used in assessing what type of action is required.

There is no cross-Margining between ICEU and any other CCP.

ICEU applies different types of sensitivity analysis relevant to the underlying IM models. For the filtered simulation model, ICEU applies different EWMA lambda values. For all IM models, including the filtered simulation, ICEU applies different confidence levels to the Margin model in order to determine its sensitivity at the parameters level and portfolio level. Sensitivity analysis is performed daily.

There have not been any known Margin model shortcomings identified based solely on back-testing and sensitivity analyses. These tools, together with other mechanisms, help to ensure model risk is appropriately managed. Back-testing and sensitivity analysis results have, nonetheless, supported BAU parameter recalibrations to ensure the level of confidence on the model remains appropriate.

The set of actions to be taken following the under-performance of a model is dependent on its severity, measured in accordance with the Basel Traffic Light System, i.e. categorization under Green, Yellow or Red Zones dependent on the number of breaches.

Different options are available for the CCP, from parameters update to model change. Importantly, additional Margin can be applied as a remediation for portfolios while the model is being reviewed. Any change to the portfolio composition shall be factored into the level of additional Margin applied. Immediate escalation is required to the Head of Risk. Any change to parameters or the model would follow the appropriate governance including, for instance, approval from the President and/or the Model Oversight Committee. In the particular case of a model change, the Model Risk Policy requirements should apply.

Back-testing results which would identify potential shortcomings are communicated to ICEU regulators regularly to ensure transparency.

Senior Management receive the backtesting results daily via email, and periodically as materials presented at the appropriate committees. The latter includes, for instance, the Model Oversight Committee and Board Risk Committee. When necessary, direct escalation and communication may occur, depending on the results. Model Users have, in addition to the above means, access to the full set of results at the tools (e.g. Oracle databases) where they are generated and stored. MFT technology is used to transfer backtesting results externally on a daily basis, where participants have access to their own portfolio details. Additionally, the Product Risk Committee formed by external participants and the Board Client Risk Committee have access to backtesting results.

Results are also disclosed in an aggregated form that does not breach confidentiality in the Quarterly Quantitative Disclosure form. Results are provided to the Bank of England and other regulators.

Key Consideration 7

A CCP should regularly review and validate its Margin system.

The Model Risk Policy establishes that risk models used in production shall be independently validated according to a validation cycle, compliant with regulatory requirements (i.e. annually). The Model Risk Policy also defines that such exercises shall be designed to ensure that the model and its documentation meet the intended business requirements, minimum regulatory requirements and prescribed objectives. In particular, these validations typically cover a minimum set of key aspects, such as: regulatory compliance; documentation and purpose; theory and application; development; performance; implementation; and use. Production models are also subject to performance assessments, which aims at monitoring the behaviour of models, and model risk, in-between validations. These assessments represent an important mechanism to evaluate whether the empirical properties of a model continue to be adequate and as expected. Amongst other aspects, the performance assessments include back-testing, sensitivity testing, stress testing, procyclicality testing and pricing testing. Most tests are performed daily and reported in different timeframes depending on the audience.

The requirements of the Model Risk Policy are supported by, and operated via, strict governance arrangements, including the three lines of defense model (discussed under Principle 3) and a structure of accountable committees. Under the former, the second line is responsible for independently validating the models used by the first line. With regard to performance assessments, the first line runs the tests, with the oversight from the second line. If needed, the second line also runs a complementary, but distinct, set of tests. The third line audits the work performed. Governance related to validation and assessment of risk models is the responsibility of the senior management, the Model Oversight Committee, and the Board (or delegated committee). Regulatory engagement is pursued according to applicable law.

New models, model changes and models under a retirement process are under the scope of the Model Risk Policy, with similar operationalization and governance arrangements as those performed for production models (discussed above). The process defined within the Model Risk Policy establishes that all model changes be properly justified, approved, documented and verified for accuracy by the model owner. Model changes are categorised into significant and not significant, in accordance with the applicable law and the existing regulatory guidelines. All model changes are independently validated and are approved by the Model Oversight Committee. Significant model changes are approved by the Board (or its delegated committee).

In the case of revisions and adjustments related to a Margin methodology which are not considered a model change (e.g. use, governance, parameterisation, etc.), control processes are also established by ICEU, according to the type of the alteration. For instance, alterations to parameters are governed by the schedule of parameters and reviews that establishes, amongst other aspects frequency of the reviews, level of approval necessary and threshold for parameters. The second line oversees the first line impact assessments, and appropriate governance is performed by the departmental control meetings and the Model Oversight Committee.

Disclosure of independent validation exercises and performance assessments varies across stakeholders. Senior management, the Executive Risk Committee, the Board (or its delegated committee), and regulators have access to full reports. The Product Risk Committee is notified of the review results and validation exercises.

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.

Key Consideration 1

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

ICEU's approach to liquidity risk management is documented in the Liquidity and Investment Management Policy which is supported by the:

- Liquidity Management Procedures
- Investment Management Procedures

The liquidity risk management framework (comprised of the Liquidity and Investment Management Policy and the Liquidity Management Procedures) is subject to annual independent validation and is designed to ensure a high level of confidence in ICEU's ability to effect payment and settlement obligations in all relevant original currencies as they fall due, including where appropriate intraday. It also includes the assessment of ICEU's potential future liquidity needs under BAU and a wide range of potential extreme but plausible stress scenarios.

The purpose of the liquidity risk management framework and the supporting procedures is to identify and measure its potential liquidity needs arising in all relevant currencies and outline its strategies to maintain sufficient liquid resources to cover for these needs by:

- Defining and implementing effective operational and analytical tools to identify, measure and monitor its settlement and funding flows on an on-going and timely basis;
- Conducting regular assessment of the design and operation of the liquidity management framework, taking into consideration the results of the liquidity stress test;
- Managing and monitoring, on a daily basis, its liquidity needs across a range of extreme but plausible stressed market scenarios including its exposure to clearing members and financial service providers like custodian, settlement banks and investment counterparts;
- Assessing and valuing the liquid assets available daily to ICEU and its liquidity needs;
- Assessing timescales over which ICEU's liquid financial resources should be available;
- Considering potential liquidity needs stemming from its non-defaulting members such as their ability to swap collateral and withdrawal of excess margin held with ICEU;
- Identifying the process for remediating any liquidity shortfalls and replenishing any liquid financial resources it may employ during a stress event; and
- Documenting the governance structure of the framework.

The main sources of liquidity needs considered are:

- potential default of Clearing Members groups in all their capacities, resulting in Variation Margin payment requirements, physical deliveries settlement obligations, hedging and liquidation costs;
- unavailability of financial service providers such as custodians and investment counterparties resulting in reductions to available liquid resources; and
- operational liquidity requirements, such as excess margin withdrawals due to changes in the members' margin requirements from position changes or margin updates and substitution of assets by members.

The size of ICEU's liquidity needs in all relevant currencies and on an aggregated basis are disclosed regularly as part of its public quantitative disclosures.

Per the liquidity risk management framework, the liquidity needs calculated in liquidity stress tests consider ICEU's exposure to its members and all its associated legal entities. Clearing House also considers the potential loss of access to its liquid resources due to simultaneous unavailability of the financial service providers (such as Custodians and investment counterparts) affiliated to the defaulting member(s).

Key Consideration 2	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.
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The Treasury department uses proprietary banking and payments platform and reporting tools to monitor its live cashflows from members and investment activities. Additionally, a regular in-depth review of intraday liquidity exposure is conducted and reported to the key internal stakeholders.

For regulatory oversight purposes, the Bank of England receives reports from ICEU of intraday exposures to the APS and settlement banks on a quarterly basis.

Stress testing and Treasury & Investment Report results are reported daily to Senior Management. The Risk Oversight department, as a second line function, reports related management thresholds and board risk appetite metrics, highlighting any breaches. Management thresholds are defined to be early warning indicators and not necessarily an indication of liquidity deficiency.

ICEU actively monitors outstanding payment requests and generated payments flows throughout the day and additionally at currency specific cut-offs for cash transactions.

Any delayed settlement of member payments or investments are escalated promptly. ICEU Treasury maintain standard operating procedures detailing the investigation mechanism of such delays. ICEU Treasury escalates any material outstanding cash and/or securities settlement issues to ensure that sufficient liquidity is available to process ICEU's payment obligations with minimal possible delays intraday.

Key Consideration 3	A payment system or SSS, including one employing a DNS mechanism, should maintain sufficient liquid resources in all relevant currencies to effect same-day settlement, and where appropriate intraday or 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 payment obligation in extreme but plausible market conditions.
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N/A for ICEU.

Key Consideration 4	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 members and their affiliates that would generate the largest aggregate payment obligation to the CCP in extreme but plausible market conditions.
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Via its liquidity stress testing, ICEU evaluates its ability to service payment obligations to clearing members arising from simultaneous default of any two clearing members and their affiliated entities in all capacities under extreme but plausible market conditions. The Clearing House determines the amount of liquid resources available by considering only the cash, investment maturities and highly liquid securities which are available immediately for raising liquidity. The liquid resource value of any available security is subject to a set of carefully assessed haircuts, to account for severe but plausible stressed conditions in the markets.

ICEU measures and monitors its total liquid resources and liquidity needs (in extreme but plausible market conditions) on a daily basis.

<p>ICEU is involved in clearing of products having complex risk profiles and it is deemed to be systemically important in multiple jurisdictions. ICEU maintains additional financial resources over and above its potential liquidity needs arising from a wide range of scenarios, including default of any two Clearing Members and their affiliates or operational availability of its financial service providers in extreme but plausible market conditions (see above).</p>	
<p>Key Consideration 5</p>	<p>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.</p>
<p>The size and composition of ICEU’s liquid resources are disclosed regularly as part of its public quantitative disclosures. ICEU’s liquid resources are maintained in cash, highly liquid securities and investments mostly comprising of overnight reverse repos. All these liquid resources are readily available and convertible into cash on same day basis.</p> <p>The immediate liquidity available to ICEU is inherent within the Margin collection and investment arrangements. For the purpose of Liquidity Stress Testing, only resources which are readily available and convertible into cash are included.</p> <ul style="list-style-type: none"> • ICEU conducts an annual survey including multiple large dealers and brokers to assess the amount of liquidity available via repo and sale of its collateral and investment securities under extreme but plausible market conditions; and • ICEU has in place committed repo facilities in three major currencies available with same day liquidity with 6 different counterparties for USD equivalent 1 billion <p>Additionally, ICEU, as a participant in the Sterling Monetary Framework, has access to BOE’s Discount Window Facility and the Operational Standing Facility.</p> <p>ICEU does not have access to any routine credit at the central bank of issue.</p> <p>ICEU maintains sufficient liquid resources to fully cover its potential liquidity needs, at minimum. Additional liquid resources are maintained to account for the complexity of ICEU’s clearing activities. This is calculated in the liquidity stress test daily.</p>	
<p>Key Consideration 6</p>	<p>An FMI may supplement its qualifying liquid resources with other forms of liquid resources. If the FMI does so, then these liquid resources should be in the form of assets that are likely to be saleable or acceptable as collateral for lines of credit, swaps, or repos on an ad hoc basis following a default, even if this cannot be reliably prearranged or guaranteed in extreme market conditions. Even if an FMI does not have access to routine central bank credit, it should still take account of what collateral is typically accepted by the relevant central bank, as such assets may be more likely to be liquid in stressed circumstances. An FMI should not assume the availability of emergency central bank credit as a part of its liquidity plan.</p>
<p>As described above, ICEU considers only cash and high-quality liquid assets as liquid resources. The clearing house does not rely on any other forms of liquid resources.</p> <p>The liquidity needs are fully covered with qualifying liquid resources as described above. Liquidity resources and liquidity needs are evaluated on a daily basis.</p>	
<p>Key consideration 7</p>	<p>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</p>

	taken into account. An FMI should regularly test its procedures for accessing its liquid resources at a liquidity provider.
<p>ICEU uses liquidity providers to raise liquidity only from qualifying liquid resources such as high-quality liquid assets. Counterparties for ICEU’s liquidity facilities include:</p> <ul style="list-style-type: none"> • Large size dealers and brokers to assist with repo or outright sale of ICEU’s collateral and investment securities. • Committed Repo facilities provided by regulated counterparties <p>These arrangements are tested periodically, and the liquidity providers are informed of the potential stress scenarios in which they would be required to arrange liquidity for the clearing house.</p> <p>Due diligence and capacity resting of the liquidity providers is conducted on an annual basis.</p> <p>ICEU does not rely on accessing liquidity from central bank of issue, directly or indirectly via its liquidity providers, for the purpose of liquidity management. ICEU primarily relies on its network of large dealers and brokers to raise liquidity via repo and outright sale of securities.</p> <p>As mentioned above, ICEU conducts an annual testing of liquidity providers to ensure the timeliness and reliability of its procedures.</p>	
Key Consideration 8	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.
<p>ICEU has access to and utilises the Bank of England as a GBP concentration bank and has access to a reserve account at the Bank of England. These funds are immediately available to meet GBP payment obligations.</p> <p>ICEU does not have a USD Federal Reserve account to settle and hold US securities in its own name. Legal agreements with investment agents and custodian banks have been agreed to safeguard assets.</p> <p>ICEU has access to Euro facilities via The European Central Bank (“ECB”) and uses ECB for Euro concentration as and when practicable. Because of the zero-rate cap policy for UK CCPs at ECB, EUR balance at ECB is mostly kept to a minimum. It is still however a safe and useful alternative, when we have large delivery settlements or year-end repo market constraints to manage the liquidity risk.</p> <p>Securities transferred to ICEU as Margin by Clearing Members are held in accounts in ICEU’s name at the relevant CSDs, where possible. ICEU relies mostly on large custodians like Euroclear UK & Ireland, Euroclear Bank, JP Morgan and State Street Bank & Trust to manage member securities.</p> <p>ICEU maintains access to and utilises payment and settlement services at each relevant central bank, where practical.</p> <p>Currently ICEU does not meet the Federal Reserve requirements to obtain direct access to central bank money in USD.</p> <p>For EUR, due to the zero-rate cap policy for UK CCPs at ECB, EUR balances at ECB is mostly kept to a minimum. It is still however used a safe alternative to manage the liquidity risk around large delivery settlements or year-end.</p>	

Key Consideration 9	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.
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Liquidity stress testing is conducted daily and reported to Senior Management and Bank of England. The range of stress scenarios and associated stress losses are determined as explained above.

Liquidity stress testing is conducted daily, and results are reported to Senior Management with any possible associated breaches. Risk Appetite Metrics (RAM) are set and any breaches reported to the Board by the Risk Oversight department. A “RED” limit breach within RAM, will result in immediate Board and regulatory escalation. Additionally, Management Thresholds (MT) are set over and above RAM to act as early indicator to highly any potential risk RAM breach to the Senior Management.

The Liquidity stress scenarios are derived from a range of historical and hypothetical stressed market conditions that are extreme but plausible. Anticipated stress losses are calculated for Cover 2 scenarios that simulate the default of any two clearing member groups or a combination of a clearing member group and a financial service provider such as custodians and investment counterparts. Liquidity requirements arising from operational needs, liquidation of defaulter’s portfolios and settlement of physical deliveries are covered under a spectrum of stress losses considered in daily stress test.

Liquidity scenarios and stress tests are ICEU specific and take account of ICEU payment and settlement structure and the liquidity risk that is borne directly by ICEU, by ICEU’s Clearing Members, or both.

ICEU considers the default of a clearing member and its affiliated entities in all their capacities to account for members and their affiliates playing multiple roles with respect to the clearing house.

In addition to the daily liquidity stress testing (LST), ICEU carries out reverse stress testing and sensitivity testing of LST assumptions and parameters over a broad spectrum of variables like changes in market liquidity, extreme and implausible stressed market conditions, collateral concentration among others. The results of these tests are monitored and reviewed monthly.

Independent validation of the liquidity risk management framework is completed on an annual basis, in accordance with the relevant EMIR / UK EMIR RTS Article 47 and EMIR / UK EMIR Article 49.

Within the liquidity risk management framework, the liquidity management procedures set out how ICEU monitors and manages liquidity risks, needs and resources.

Key Consideration 10	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 members. 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.
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ICEU's liquidity risk management framework is designed so that ICEU holds an amount of liquid assets which are readily converted to cash at least equivalent to its estimate of the potential stressed losses that could arise from the default of its any two Clearing Members. ICEU's liquidity plan provides details of liquidity resources to be utilised to settle payments obligation under extreme but plausible scenarios including default among its members.

In the event of unforeseen and potentially uncovered liquidity shortfalls, under Rule 502, ICEU can ask Clearing Members to transfer cash in other eligible currencies in substitution for collateral already transferred.

The payments to be made by the Clearing House intra-day, to satisfy the relevant payment obligations, will typically be paid in the morning in London, it being understood that payments may be made later in the day and potentially on the subsequent day, dependent on the currencies, in respect of which payments are to be made, and other operational or market condition constraints.

ICEU's liquidity plan provides details of procedures for the replenishment of liquid resources employed during a stress event.

Additionally, as per Powers of Assessment ("PoA") - Rule 909:

- ICEU can require Clearing Members to pay additional funds to further mutualise default losses, up to the value of two times each Clearing Member's GF contribution for F&O products (per default event);
- ICEU can call any amount up to the maximums, can call multiple times and can also call the maximum amounts without calling smaller amounts first;
- ICEU will return any unused amounts to Clearing Members after Recovery is resolved;
- PoA can (and should) be assessed proactively at the point of default. PoA can be used before running default auctions in order to improve the likely success of the auction, rather than waiting for an auction to fail before using PoA;
- PoA can only be used in a Default Loss scenario; and
- PoA can be collected intraday as an intraday Margin call and is required to be paid within the intraday Margin call deadline.

Capital Replenishment Plan ("CRP")

- The CRP covers ICEU's options for replenishing capital, including raising additional capital, through the ICE Group and third parties;
- The CRP also includes insurance cover, which may be available to cover certain losses. However, it is noted that the insurance cover is unlikely to release funds quickly and recovery scenarios are likely to be time sensitive. Insurance cover is therefore more likely to provide confidence to other parties (including the ICE Group) for supplying additional capital to ICEU, rather than as a source of capital in the recovery itself;
- The CRP can be used in both Default and Non-default Loss scenarios;
- The timescales will depend on the specific sources of additional capital. For example, funds from ICE Group may be able to be provided in a matter of days, whereas funds from third parties may take multiple days, weeks or months; and
- Additional capital raised through the CRP is by no means guaranteed, either from existing resources, ICE Group or from third parties.

The effect of the rights available to ICEU under the ICEU Clearing Rules is not included in determining the liquidity available for any of the Stress Test scenarios.

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.

Key consideration 1

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

Rule 1203 of the ICEU Clearing Rules sets out detailed provisions on when payment transfer orders and securities transfer orders become irrevocable.

Rule 301(f) provides that, in broad terms, payments by Clearing Members to ICEU are not final until actually received in ICEU's account at its concentration bank.

Transactions cleared by ICEU in securities are settled in delivery-versus-payment settlement systems. In broad terms, Rule 1203 provides for finality of settlement to be determined in accordance with the rules of the securities settlement system.

ICEU is the operator of a Designated System for the purposes of the Financial Markets and Insolvency (Settlement Finality) Regulations 1999 (SI 1999/2979) ("Settlement Finality Regulations") in respect of "Transfer Orders" identified in the ICEU Clearing Rules. Part 12 of the ICEU Clearing Rules addresses when Payment Transfer Orders and Securities Transfer Orders become irrevocable.

The Settlement Finality Regulations afford ICEU certain protections against the operation of normal insolvency law in respect of, amongst other things, Transfer Orders and ICEU's default arrangements.

In addition, ICEU is a recognised central counterparty under Part VII of the Companies Act 1989, with the effect that certain proceedings of ICEU, including transfers of cash and securities that have become irrevocable, take precedence over a Clearing Member's insolvency proceedings.

ICEU does not automatically benefit from SFD protections in the different EU/EEA jurisdictions following Brexit and is now subject to the national laws of each country. ICEU has mapped the different applicable national requirements and has achieved required SFD recognitions in each of the relevant EU/EEA countries where such is possible (see above for further detail). ICEU will continue to assess the applicable local requirements and ensure that the same are complied with.

Any foreign judgment which sought to challenge the settlement finality provisions would be unenforceable in the UK against ICEU pursuant to section 183(2) of the Companies Act 1989.

ICEU obtains legal opinions from external counsel on the enforceability of its Clearing Rules in the UK (including with respect to the application of the Settlement Finality Regulations and Part VII of the Companies Act 1989) and all jurisdictions in which it has Clearing Members.

ICEU continues to take steps to check the adequacy of its legal framework for cross-border participation through the commissioning and updating of legal opinions in relevant jurisdictions.

There are no linkages with FMIs, either contractually or operationally, for cash products.

Key Consideration 2

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 PFMI explanatory note states: “The value date is the day on which the payment, transfer instruction, or other obligation is due and the associated funds and securities are typically available to the receiving participant.”

For cash settlements, ICEU will complete settlement on intended value date, subject to exceptions set out at Rules 110 (Extension or Waiver of Rules) and 112 (Force Majeure) of the ICEU Clearing Rules.

Transactions in securities settle at the applicable central securities depository on a delivery-versus-payment basis, as and when the securities become available to the seller.

See Principle 10 for settlement of physical commodities.

Cash-settled futures settle overnight in accordance with Rule 702, and the settlement forms part of the overnight reporting to members.

The applicable contract terms and ICEU’s Delivery Procedures set out the procedures and timescales for settlement of non-cash futures trades and options trades which do not deliver into futures trades. In particular, the Delivery Procedures cover the processes to be followed, and payment arrangements in respect of trades which settle after their intended settlement date. Where applicable, the relevant CSD or registry will report settlement to members. The Delivery Procedures set out the reporting arrangements in respect of commodities.

There is no batch processing of settlement instructions.

ICEU provides intraday settlement.

Key Consideration 3

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

Rule 1203 of the ICEU Clearing Rules defines the point at which each of the various types of Transfer Orders arising under the ICEU Clearing Rules becomes irrevocable.

Rule 1204 of the ICEU Clearing Rules only permits variations to or cancellations of Transfer Orders that are not irrevocable.

Prior to a Transfer Order becoming irrevocable under Rule 1203, Clearing Members may cancel or amend settlement instructions in the circumstances allowed under Rule 1204. This is usually when ICEU sends settlement instructions to its banking institution/custodian.

Revocations and amendments are only allowed prior to irrevocability, in the circumstances set out in Rule 1204.

This information is defined in Part 12 of the ICEU Clearing Rules.

PRINCIPLE 9: MONEY SETTLEMENT

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.

Key Consideration 1	An FMI should conduct its money settlements in central bank money, where practical and available, to avoid credit and liquidity risks
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The Clearing House operates the Assured Payment System (“APS”), an embedded payment system to transfer cash Margin, Default Fund contribution and to make and receive other payments. The APS consists of a network of settlement banks that facilitates the transfer of funds between the Clearing House and its Clearing Members. The Clearing House holds accounts at each of these settlement banks and the Clearing Members must hold accounts with any one of these banks. Once payments are made and received from each settlement bank, net balances are transferred to Concentration banks. ICEU uses Central Banks as concentration banks where possible. The APS is a payment system recognised by the Bank of England.

ICEU mainly accepts cash and securities as collateral. ICEU has access to Euro facilities via The European Central Bank (“ECB”) and uses ECB for Euro concentration as and when practicable. Because of the zero-rate cap policy for UK CCPs at ECB, EUR balance at ECB is mostly kept to a minimum. It is considered a safe and useful alternative, when we have large delivery settlements or year-end repo market constraints.

The Bank of England is used for GBP concentration. There is no central bank available to ICEU for USD.

Key Consideration 2	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.
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There is no central bank available to ICEU for USD. ICEU has access to Euro facilities via The European Central Bank (“ECB”) and uses ECB for Euro concentration as and when practicable. Because of the zero-rate cap policy for UK CCPs at ECB, EUR balance at ECB is mostly kept to a minimum. It is considered a safe and useful alternative, when we have large delivery settlements or year-end repo market constraints.

The Bank of England is used for GBP concentration. The ICEU Clearing Rules surrounding extended Clearing Members’ liability ensures that losses stemming from the failure of a payment bank would remain with the members who choose to use that bank to make and receive payments. This responsibility of the Clearing Members ceases upon transfer of funds to the concentration bank. ICEU performs immediate intraday sweeps from the settlement banks to the concentration banks.

In order to become an APS bank, a set of requirements need to be met, as per the “ICE Clear Europe APS Banks Requirements”. These include, inter alia, the following:

- Criteria for credit worthiness including the requirement that the APS Bank must have a Standard & Poor Short-Term “A-1” and Long-Term ratings of “A” or better (or the equivalent from other approved agencies, as confirmed by the Clearing House);
- Must be a signatory and adhere to the terms of the Payment Services Agreement;
- Must act upon any Instructions received from the Clearing House (including without limitation any Instructions received using the SWIFT BIC Codes and/or the applicable security procedures);
- Must be able to support SWIFT messages for communication with the Clearing House and Clearing Members;
- Must put in place formal contingency arrangements in the event of SWIFT communication problem through the transmission and acknowledgement of instructions by fax;
- Must accept payment instructions for same-day payment in line with the Clearing House’s currency cut off times; and
- Meet any additional requirements which may be introduced by the Clearing House from time-to-time.

The Counterparty Credit Risk Procedures contains the credit worthiness criteria. ICEU reviews the Counterparty Credit Risk Procedures as part of the annual documentation review cycle, the Board Risk Committee reviews the annual review. In the assessment of the APS Bank, credit and liquidity risks are monitored daily.

Key Consideration 3	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
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	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.
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At point of the onboarding, a due diligence is performed on each APS bank and each APS bank is part of the annual due diligence risk assessment (DDRA).

ICEU complies with the Bank’s Outsourcing & Third Party Risk Management (TPRM) Policy. For key banks, i.e. those that also provide concentration bank services, Treasury perform monthly meetings to review service provision. The APS bank is expected to meet on-going requirements represented in the due diligence for the continuation of the relationship.

In addition, each APS bank is subjected to daily checks by the Credit Risk Team to ensure compliance with the applicable requirements from a credit risk perspective. Similarly, the Treasury department monitors the operational performance of each AFI on a daily basis. Non-performance or delays on the part of APS banks are reported, evaluated and discussed. Concerns about the creditworthiness or operational support can lead to exclusion of the APS bank.

In case the APS bank does not comply with ICEU’s requirements or decides to stop providing any APS services to Clearing Members, ICEU and/or the APS bank can terminate the APS Payment Service Agreement, subject to the termination provisions in the APS Payment Service Agreement to ensure an orderly transfer of the Clearing Members to one of the other APS providers.

To guard against an intraday failure of a commercial bank, which might affect the payment flows between the Clearing House and Clearing Members, ICEU’s Clearing Rules make clear that a Clearing Member will continue to be liable for any amount due under the ICEU Clearing Rules and no payment obligation of a Clearing Member shall be treated as having been satisfied or discharged unless and until relevant funds are received on the Clearing House concentration account.

ICEU seeks to limit credit exposure posed by commercial bank activities by minimising the transfer window between the time funds are received from Clearing Members on the APS account and the time funds are transferred to the investment agents via the concentration account. Overnight exposures to commercial banks are monitored in line with the unsecured credit limits.

Each commercial bank is required to complete payments and provide confirmations via SWIFT in accordance with the methodology and timelines stated in the APS Payment Service Agreement. ICEU also undertakes financial due diligence on its AFIs, while the Treasury department monitors performance of key AFIs with monthly calls held to discuss performance. ICEU has also established investment agent contingency plans (Roadmaps) in the event that one of the service providers should cease to provide custody and related services. See Principle 16 for more information.

ICEU’s APS network consists of a network of 11 banks. The banks that currently participate in the APS (collectively “APS Banks”) can be found in the ‘Treasury and Banking’ section of the ICEU website: <https://www.ice.com/clear-europe/treasury-and-banking>

The Credit Risk Team conducts daily financial monitoring and control on the Financial Service Providers in accordance with the ICEU Counterparty Credit Risk Policy.

The objective of stress and scenario testing is to assess the capability of ICEU not just to cover the potential liquidity needs using scenarios required by the various regulatory authorities, but also those caused by extreme but plausible scenarios related to the liquidity available to ICEU.

Various stress test scenarios have been defined, including the failure of ICEU’s largest settlement bank. Liquidity Stress Testing has default scenarios to assess the stresses from outsourcing its investment activities.

Key Consideration 4	If an FMI conducts money settlements on its own books, it should minimise and strictly control its credit and liquidity risks.
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N/A for ICEU.

Key Consideration 5	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.
<p>The Payment Services Agreements between ICEU and the APS Banks state that fund transfers are final and irrevocable once a confirmation of credit swift message has been given by the payment bank.</p> <p>Intraday finality is supported; once sent, the payment instruction is effective once the confirmation is received. The transaction is final and cannot be reversed.</p> <p>ICEU monitors all settlement flows within APS accounts. Cash is moved immediately from the APS accounts into the concentration banks.</p> <p>The Payment Services Agreement stipulates that payments are effected and confirmed by SWIFT message and, following receipt of relevant SWIFT confirmation, become irrevocable. Payments are made by Clearing Members, consistent with the ICEU Clearing Rules, to satisfy contractual obligations in respect of Margin and Guaranty Fund payments.</p> <p>Any funds received in ICEU's APS banks are immediately transferred to the concentration bank accounts intraday. This process is completed as soon as funds arrive at an APS bank.</p>	

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.

Key Consideration 1	An FMI's rules should clearly state its obligations with respect to the delivery of physical instruments or commodities.
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ICEU clears spot and derivatives transactions executed on investment exchanges within the ICE group, with each exchange specifying the contractual terms for the products it admits to trading.

The underlying products which may be physically settled are:

- Equity securities;
- Debt securities;
- Commodities (principally energy & agricultural); and
- Emission/Climate products.

(Freight & Interest Rate products are only cash settled.)

The obligations of ICEU, the Buyers and the Sellers are set out in the contract terms and any applicable administrative procedures, as specified and published by the listing ICE exchange.

Part 7 (Settlement and Delivery of Futures) of the ICEU Rules sets out the overall rules as applied to the settlement and delivery of futures, both in terms of cash settlement as well as physical settlement.

Further, ICEU's Delivery Procedures contain additional provisions, setting out the obligations of ICEU as well as the Sellers and the Buyers pertaining to the cleared contracts, with a focus on the specific rights, obligations and delivery timelines for each physically delivered contract.

There is extensive review, assessment and testing conducted with ICEU Clearing Members and participants, both when a new physically delivered contract is introduced and on an ongoing basis. A review of a Clearing Member's operating arrangements is conducted prior to on-boarding and operational performance statistics are maintained at the Clearing Member level to highlight any service and delivery problems (two-way).

In the days and hours leading to a contract expiry and as part of the pre-expiry processes, the ICEU Operations team monitors open positions and endeavours to contact Clearing Members to check and ensure that they wish to take futures contract to physical delivery, and/ or that they have the ability to make or take physical delivery of the underlying, either directly or through other persons (such as Transferors / Transferees). However, ultimately it is each Clearing Member's responsibility to ensure that it has an understanding of the terms of the contract traded, the obligations arising therein and the applicable procedures for effecting physical delivery.

Key Consideration 2	An FMI should identify, monitor, and manage the risks and costs associated with the storage and delivery of physical instruments or commodities.
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Paragraph 3.10.5. of the PFMI Principles states:

“In some instances, an FMI serving a commodity market can reduce its risks associated with the physical storage and delivery of commodities by matching participants that have delivery obligations with those due to receive the commodities, thereby removing itself from direct involvement in the storage and delivery process. In such instances, the legal obligations for delivery should be clearly expressed in the rules, including default rules, and any related agreements. In particular, an FMI should be clear whether the receiving participant should seek compensation from the FMI or the delivering participant in the event of a loss. Additionally, an FMI holding margin should not release the margin of the matched participants until it confirms that both have fulfilled their respective obligations. An FMI should also monitor its participants’ performance and, to the extent practicable, ensure that its participants have the necessary systems and resources to be able to fulfil their physical delivery obligations.”

In acting as CCP, the principal risks faced by ICEU are non-delivery by the Seller and/ or non-payment by the Buyer.

ICEU uses DvP at CSDs for the settlement of equity or bond transactions resulting from the exercise of Options or the expiry of Futures at ICE Futures Europe. If the DvP instructions are matched, either both legs of the transaction will settle simultaneously or neither will settle.

For non DvP contracts, ICEU debits the buyer for the value of the goods to be delivered (via a buyer security or an invoice) before the delivery takes place. It only credits the Seller (via an account sale) once ICEU can confirm that the delivery has taken place. Buyer security and account sales are calculated by reference to the relevant Exchange Delivery Settlement Price (“EDSP”).

The arrangements, when taken with ICEU’s default rules thus mitigate the risks of non-payment and non-delivery.

ICEU ensures that the relevant exchange’s contract rules for cleared products, together with the Clearing Rules and the Delivery Procedures, specify the obligations of the parties in respect of delayed and failed settlements: losses incurred by ICEU will be recoverable from the Clearing Member responsible for the delay or failure.

Operational risks associated with storage and delivery are identified and monitored through operational risk monitoring and self-assessment (governed by the Operational Risk and Resilience Policy) - see Principle 17 for more information.

The ICEU Operations team manages the settlement and delivery process from exercise / expiry to completion, in particular:

- Monitoring of position holder’s pre-expiry and pre-matching post-expiry;
- Expiry allocation and margining of deliverable positions post expiry;
- Communication with Nomination Agents, Registries, delivery terminals and CSD Agents; and
- Alternative delivery procedures and/or timings permitted under the Exchange Contract Rules, ICEU Rules and ICEU Delivery Procedures, including cash settlement.

Where Buyers and Sellers need to be paired, the matching delivery arrangements are documented in the publicly available Delivery Procedures.

The Delivery Procedures define deadlines and requirements for delivery preferences. Clearing Members have a deadline for submitting delivery preferences, and where received, those preferences are taken into consideration by the delivery matching algorithm.

As stated above, the ICEU Operations team endeavors to engage with Clearing Members that are holding positions prior to the expiry of the contract to ensure whether such Clearing Member wishes to take the position to delivery. Accordingly,

there is a pre-expiry engagement that aims to reduce any risks of a Clearing Member inadvertently allowing a position to go into delivery. However, ultimately, it is such Clearing Member's responsibility to ensure it is aware of the futures contract traded and any post expiry / delivery obligations associated with the position.

If a Clearing Member holds to expiry a position in a contract that they are unable to physically deliver or accept delivery of, ICEU will contact the parties concerned with the aim of reaching an amicable solution on the specific delivery. Where applicable, the contract terms, the ICEU Rules and ICEU Delivery Procedures contain an alternative delivery procedure (ADP) that allows the Clearing Members concerned to bring the delivery matter to a satisfactory.

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.

Key Consideration 1

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.

Rule 901 of the ICEU Clearing Rules details the events which may, if so declared by the Clearing House, constitute an "Event of Default", which includes both financial defaults and operational defaults. Declaration of a default is discretionary, and the President will be responsible for exercising that discretion (unless unavailable or incapacitated, in which case the decision will be made by the ERC Default Committee, which is a committee of the ICEU Executive Risk Committee).

A full list of such events is set out in Rule 901. Financial defaults include a Monetary Default (which includes failure by a Clearing Member to pay in full any Margin, Guaranty Fund Contribution or any other amounts due to the Clearing House or required under Market Rules), Financial Indebtedness) not being paid when due or within any originally applicable grace period, and an Insolvency or Unprotected Resolution Step (in relation to a Clearing Member or any of its Group Companies).

With regards to operational defaults, i.e. defaults that occur when a participant is not able to meet its obligations due to an operational problem, a Clearing Member's failure to meet its obligations due to a Force Majeure Event (as defined under the Clearing Rules) may not constitute grounds for an Event of Default. For example, a Delivery Default (which constitutes grounds for declaring a default under Rule 901(a)(iii)) would only arise if the failure to deliver or transfer to the Clearing House any Deliverable does not constitute a Force Majeure Event affecting the relevant Clearing Member.

Details of how ICEU would address and manage key aspects of a participant default can be found in the ICEU Clearing Rules available here:

https://www.theice.com/publicdocs/clear_europe/rulebooks/rules/Clearing_Rules.pdf), in particular:

- Part 9 (and Rule 1604 for FCM/BD Clearing Members), which sets out (among other things) actions that can be taken by ICEU in the event of an Event of Default;
- Part 11, which contains provisions regarding the use and replenishment of Guaranty Fund Contributions that may occur in relation to an Event of Default;
- Section 6 of the Standard Terms (set out in Exhibit 2 to the Clearing Rules), which contains provisions relating to the porting process for Customers of Non-FCM/BD Clearing Members; and
- Auction Terms for F&O Default Auctions (available here: https://www.ice.com/publicdocs/clear_europe/rulebooks/procedures/Auction_Terms_FandO_Default_Auctions.pdf), which addresses the way in which auctions may be conducted following the declaration of an Event of Default.

Rule 908 of the ICEU Clearing Rules in particular sets out the different types of financial resources available to ICEU (e.g. Guaranty Fund Contributions and Clearing House Contributions) to cover financial losses and contain liquidity pressures arising from an Event of Default. With regards to default insurance, ICE has arranged for default insurance of up to \$100 million that can be used to cover losses (subject to provisions in Parts 9 and 11 of the ICEU Clearing Rules).

In addition, the following elements help to ensure ICEU's rules and procedures will enable the prompt use of financial resources:

- ICEU's liquidity risk management framework (comprised of the Liquidity and Investment Management Policy and the Liquidity Management Procedures) describes ICEU's sources and management of its liquid resources. ICEU investment management procedure includes a regular monitoring of assets, currencies and counterparty concentration in its investment portfolio.
- ICEU liquidity stress test framework takes only those financial resources into account which can be utilised by Treasury immediately for raising liquidity to cover any potential liquidity needs arising from default. ICEU maintains market access to be able to raise liquidity on a same day basis under a stress event via prearranged dealer and broker relationships and multi-currency committed repo facility.
- In accordance with Rule 908 of the ICEU Clearing Rules, ICEU is able to promptly apply Guaranty Fund Contributions (which it collects and maintains pursuant to Part 11 of the ICEU Clearing Rules) and any Assessment Contributions received by ICEU pursuant to Rule 909. Upon a call for Assessment Contributions under Rule 909, Clearing Members become immediately liable to pay Assessment Contributions to the Clearing House.
- ICEU obtains opinions from external legal counsel on the enforceability of its Clearing Rules in the UK and all jurisdictions in which it has Clearing Members, which confirms the legal basis on which ICEU can use the collateral it holds.

Rule 908 of the ICEU Clearing Rules also sets out the order in which financial resources can be used, broadly summarised as follows. Please note that this diagram is intended for illustrative purposes only and may not represent how the default waterfall works in all cases. A full description of the operation of ICEU's default waterfall is set out in Rule 908 of the ICEU Clearing Rules.



With regards to replenishments by Clearing Members of financial resources, Clearing Members are required to make required replenishment Guaranty Fund Contributions in accordance with Rule 1102. In addition, ICEU may exercise its powers of assessment in accordance with Rule 909, which allows ICEU to call Clearing Members for Assessment Contributions with regards to any shortfalls, losses or liabilities to ICEU that are not met following the application of Guaranty Fund Contributions.

With regards to ICEU's own funds, replenishment would be carried out in accordance with the Capital Replenishment Plan. Please see Response to Principle 15, Key Consideration 5 for further details.

Key Consideration 2	An FMI should be well prepared to implement its default rules and procedures, including any appropriate discretionary procedures provided for in its rules.
<p>The ICEU Board has delegated the power to declare and manage an Event of Default to the President of ICEU (and the ERC Default Committee if the President is unavailable or incapacitated). The Default Management Policy and supporting Default Management Procedures and other documents (together, the “Policies”) include an aide memoire of essential tasks to be considered by senior management and departments of ICEU in managing of an Event of Default, including actions to be taken during the pre-default declaration stage, at the point of declaration of an Event of Default, during risk management of the defaulter’s portfolio, as part of porting process and for a liquidation (including via a default auction). Such tasks include information sharing with relevant regulators, including the Bank of England, and ensuring that external notifications with stakeholders such as other ICE group entities and market participants take place throughout the entire process as necessary as well.</p> <p>However, the Policies maintain a measure of flexibility as they are intended to provide a structure and guidance, rather than being designed to be prescriptive. This is because ICEU recognises that the way in which each Event of Default is managed may differ depending on the nature and circumstances of the default.</p> <p>ICEU tests and reviews its default procedures at least quarterly. This includes a full annual review of the Default Management Policy and Default Management Procedures, which is presented to the Executive Risk Committee. Simulation exercises (“Default Test”) are also performed at least annually, with results discussed at the Executive Risk Committee and Board committees.</p>	
Key Consideration 3	An FMI should publicly disclose key aspects of its default rules and procedures.
<p>Further information on ICEU’s default rules and procedures can be found in:</p> <ul style="list-style-type: none"> - the ICEU Risk Management website, available at: https://www.theice.com/clear-europe/risk-management - ICEU’s EMIR Disclosure Statement, which provides information relating to segregation and portability of assets and accounts (available at: https://www.theice.com/publicdocs/clear_europe/ICEU_EMIR_Disclosure_Statement.pdf) in relation to an Event of Default. 	
Key Consideration 4	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.

ICEU tests and reviews its default procedures at least quarterly, including a full annual review of the Default Management Policy and Default Management Procedures presented to the Executive Risk Committee.

Simulation exercises ("Default Test") are also performed at least annually, with results discussed at executive and board committees.

The annual Clearing Member Default Test involves all appropriate ICEU departments and includes an assessment of the following:

- ICEU Risk, Treasury and Operations team responsibilities;
- Trading facilities, including equipment and systems, e.g. Default Management System;
- Broker awareness of their responsibilities in the event of ICEU implementing its default procedures, including confirming that broker accounts are open and available for trading;
- Relevance and content of the Policies;
- Clearing Members' obligation to participate, in a default auction in accordance with any Minimum Bid Requirement determined by ICEU, as required under the Auction Terms for F&O Default Auctions.

The timing of a Default Test may be altered at times of market stress to help ensure default procedures are current should a default occur.

Default Tests are aimed at ensuring that Clearing Members, clients (where applicable), and other relevant parties, including any related service providers, are duly informed and are aware of the procedures involved in a default scenario.

Following each exercise, ICEU will review the Policies to ensure they are fit for purpose and, where necessary, amend the Policies.

Default Test results are shared with the Product Risk Committee, Executive Risk Committee, and Board (or its delegated committee). Feedback is also shared with Clearing Members and clients regarding the aspects of the Default Test for which they participated. Upon request they are also available to the relevant regulatory authorities.

The implementation of ICEU's participants' resolution regime has not been tested by ICEU or any of ICEU's regulators through exercises involving ICEU to date.

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.

Key Consideration 1

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.

ICEU's client segregation arrangements are designed to provide a framework under which ICEU and its Clearing Members can comply with their regulatory requirements in relevant jurisdictions, including the obligation to provide clients with a choice between "omnibus client segregation" and "individual client segregation" under UK EMIR / EU EMIR, indirect clearing accounts under UK MiFIR / EU MiFIR, and accounts to meet the requirements of Section 4d(a), (b) and (f) of the U.S. Commodity Exchange Act. The general account structure segregates customers' positions and related collateral from those of the Clearing Members themselves. This is achieved through use of separately identifiable accounts for house (proprietary business) and customers (client business). The protection between customers in the event of customer default varies according to the customer segregation model the customer elects to enter into with the Clearing Member and which of the position accounts is used by the Clearing Member to hold that customer's business.

The Clearing House also regularly receives CASS letters from its Clearing Members, which is another way that ICEU is made aware of the presence of client money. CASS letters give both ICEU and its Clearing Member an opportunity to document that such money is designated as client money in the required way and segregated and held in the appropriate type of account, as required by the Clearing Member and/or their customer(s).

With regards to ICEU's portability arrangements, upon an Event of Default being declared in respect of a Clearing Member, ICEU has committed in its Rules to trigger the procedures for porting as set out in Rule 904. As set out in that Rule, ICEU will not be obliged to effect a transfer unless certain conditions are met, e.g. each Customer is not itself also a defaulter, each Customer meets the conditions set out in 904(c) (which mainly relates to risk concerns), and that a Transferee Clearing Member has consented to the transfer in writing.

The process for requesting porting by a Customer is set out in Section 6 of the Customer-CM F&O Transactions Standard Terms, which are set out in Exhibit 2 of the ICEU Clearing Rules, for Customers of Non-FCM/BD Clearing Members. This requires Customers to submit a Porting Notice within four hours of publication of the Default Notice in a default Circular, which will announce the declaration of an Event of Default by ICEU, to in order to be assured of being acted upon (subject to meeting the conditions for porting, as described above). The Porting Notice is available here: https://www.ice.com/publicdocs/clear_europe/ICEU_Default_Porting_Notice.pdf. Rule 1604 addresses porting for customers of FCM/BD Clearing Members.

Further details on the various types of Customer Accounts offered by ICEU, along with their characteristics relating to the level of segregation or risk mutualization, can be found in the ICEU EMIR Disclosure Statement, available here: https://www.theice.com/publicdocs/clear_europe/ICEU_EMIR_Disclosure_Statement.pdf.

To ensure the effectiveness of its customer segregation and portability arrangements, ICEU has obtained external counsel's opinion on the legal enforceability of its rules including arrangements to protect and transfer the positions and collateral of a Clearing Member's customers in every jurisdiction where it has Clearing Members. Main legal implications of the respective

levels of segregation offered, including information on the insolvency law applicable in relevant jurisdictions, are set out in sections 8 to 13 of the ICEU EMIR Disclosure.

Key Consideration 2	A CCP should employ an account structure that enables it readily to identify positions of a participant’s customers and to segregate related collateral. A CCP should maintain customer positions and collateral in individual customer accounts or in omnibus customer accounts.
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ICEU segregates Clearing Members’ proprietary and customers’ positions and collateral by offering proprietary accounts, which contain records only of the positions entered into for such Clearing Member for its own account, together with assets provided as margin on that account, and a series of Customer Accounts, which offers various forms of segregation and portability to clients of Clearing Members. Further details on the Proprietary Account and various types of Customer Accounts offered by ICEU can be found in section 3 of the ICEU EMIR Disclosure Statement.

Collateral held by ICEU (or its custodians) covers initial margin in respect of each customer account to collateralise the position in that account and also any additional margin requirements including, but not limited to, ‘concentration risk charge’. Variation margin payments (which are cash only) are however settlement payments. Where cash excess is held by ICEU, it may be directed to cover variation margin requirements.

Other than for individually segregated accounts, Clearing Members are required under the ICEU Clearing Rules to provide accurate records relating to individual customers to ICEU (Rule 401(g)). For individually segregated accounts, ICEU maintains its own records of relevant customers’ positions and Margin requirements. Margin collected from its Clearing Members can be called on a net or gross basis depending on the account type. The extent to which a customer’s collateral is exposed to “fellow customer risk” depends on the account type the customer has opted for (such as omnibus or individual segregation).

Key Consideration 3	A CCP should structure its portability arrangements in a way that makes it highly likely that the positions and collateral of a defaulting participant’s customers will be transferred to one or more other participants.
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Please see above as to the portability arrangements under each account model.

ICEU has taken legal advice to ensure enforceability of its Clearing Rules and Procedures in all Clearing Member jurisdictions, which includes advice on the enforceability of its portability arrangements. In addition, ICEU maintains a set of internal operational procedures which ensure a smooth operational process in the case of porting the positions and collateral of a defaulting Clearing member’s customers to one or more other Clearing Members. The porting process set out in Rule 904 is tested as part of the annual Default Test to help ensure that Customers and Clearing Members are familiar with the process. Please refer to Principle 13 for further details.

As set out in Rule 904(g), prior consent of the Clearing Member is required for porting and such consent will be evidenced by the Clearing Member countersigning the Porting Notice or otherwise indicating its agreement in writing. An exception may be made where porting is mandated under Applicable Law, for example, in circumstances where under US law the insolvency trustee or receiver attempts to arrange with the Clearing House the porting of such positions and related Margin to a Transferee Clearing Member, in accordance with Applicable Law. Further details are set out section 12 of the ICEU EMIR Disclosure.

Key Consideration 4	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
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	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.
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ICEU's segregation and portability arrangements are set out in the ICEU Clearing Rules, which are publicly available. Information on ICEU's customer segregation and portability arrangements is also set out in the ICEU EMIR Disclosure, which is also publicly available and summarises the provisions in the ICEU Clearing Rules regarding this topic and includes a description of the different levels of segregation offered by ICEU and main legal implications of the respective levels of segregation offered.

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.

Key Consideration 1	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.
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The Clearing House identifies business risks via the following assessment methods:

- Enterprise Risk Register Annual Assessment: This includes business risk considerations to identify, assess and mitigate risk of ‘Failure to deliver competitive and cost-effective clearing services or meet stakeholder needs’.
- Emerging Business Risks: Its purpose is to identify, assess and respond to significant emerging risks.
- Business Risk Scenarios: Scenario analysis is performed as part of the capital adequacy process. Business risk scenarios are developed each year, or more frequently as required if for instance a new risk scenario emerges or there is a situation whereby the assumptions made to existing scenarios are required to be updated (focused on macro business risks rather than specific legal or operational type risks), in line with ICEU’s risk identification and emerging risk processes. Scenarios that are deemed plausible are modelled based on the current year budget (or forecast if actual results are expected to be adverse against budget). The annual process is conducted in conformance with Article 5 of UK EMIR / EMIR RTS 152/2013.

As part of its wider risk management processes, ICEU has established a number of mechanisms to monitor and manage its business risks and ensure that its capital is adequate to cover losses which may arise from an identified business risk that materialises and does not form part of the covered activities (i.e. default losses under the default waterfall). Furthermore, ongoing risk assessment of general business risk is monitored and reported through the ICEU Risk Register, ICEU Emerging Business risks process and Business Risk Scenarios (as described above).

On an ongoing basis, ICEU ensures that it has sufficient liquid financial resources to meet its ongoing payment obligations. Financial resources held for capital adequacy purposes are held in highly liquid form in accordance with the Investment Management Procedures which meet the investment requirements of UK EMIR and EMIR to qualify as eligible capital. These financial resources are held separate and distinct from the financial resources ICEU uses to meet its ongoing payment obligations.

The Investment Management Procedures set out the permitted investments and related concentration limits for ICEU when investing or securing ICEU’s regulatory capital which, by virtue of the applicable UK EMIR / EMIR requirements, contain constraints in respect of exposure to market risk and credit risk that ensures the investments are of a high credit and liquid nature.

Furthermore, the Board and Audit Committee oversee business performance on a regular basis. Where capital is a relevant mitigating action, the potential impact of these scenarios is taken into account when calculating capital required. This is undertaken for each scenario and for plausible combinations of scenarios. A capital replenishment framework is also in place.

In addition to the risk assessments already mentioned, ICEU accounting policies and financial statements have been prepared in accordance with applicable law and United Kingdom Accounting Standards including Financial Reporting

Standard 102. The financial statements are also prepared and reported under US GAAP principles given ICEU's ultimate parent. ICEU maintains a system of internal control sufficient to provide reasonable assurance that:

- Transactions are executed in accordance with management's general or specific authorisation;
- Transactions are recorded as necessary to (1) permit preparation of financial statements in conformity with UK GAAP or any other criteria applicable to such statements, and (2) maintain accountability for assets;
- Access to assets is permitted only in accordance with management's general or specific authorisation; and

The recorded accountability for assets is compared with the existing assets at reasonable intervals and appropriate action is taken with respect to any differences.

Internal and external audits are conducted annually.

ICEU's financial resources are monitored through Risk Appetite Metrics, which are reviewed on an annual basis.

Key Consideration 2	An FMI should hold liquid net assets funded by equity (such as common stock, disclosed reserves, or other retained earnings) so that it can continue operations and services as a going concern if it incurs general business losses. The amount of liquid net assets funded by equity an FMI should hold should be determined by its general business risk profile and the length of time required to achieve a recovery or orderly wind-down, as appropriate, of its critical operations and services if such action is taken.
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ICEU's capital resources funded by its liquid net assets as required by its UK EMIR and EMIR regulatory capital requirements include issued and fully paid ordinary share capital, retained earnings and reserves of ICEU (including, if any, independently reviewed interim profits and excluding ICEU's pre-funded and ring-fenced contribution to the Guaranty Fund).

The Clearing House believes the UK EMIR and EMIR regulatory capital requirements are expansive and comprehensive, and compliance with these regulatory capital standards is a priority for the Clearing House. ICEU therefore maintains capital resources in excess of its capital resources requirements. The Clearing House faces daily risks that cannot be reasonably quantified or forecast but which may impact the capital held to meet the capital requirements under UK EMIR and EMIR and has therefore allocated additional capital and resources as a voluntary buffer in excess of those requirements.

The requirements include capital elements for Business risks and Operational and Legal risks, which are set at minimum levels based on financial activity of the Clearing House and are reviewed against the outcomes of extreme but plausible business risk scenarios assessed as part of the Clearing House's ongoing risk and capital management.

All capital requirement calculations are consistent with the requirements set out in UK EMIR and EMIR.

ICEU has analysed the steps and costs involved in winding down the business and determined that it is expected to be completed within six months. The operating costs are expected to decrease during this period. However, ICEU conservatively includes the full, normal operating costs for the whole wind-down period.

Therefore, wind down or restructuring capital is calculated as one month's total gross expenses (excluding depreciation) multiplied by six (the number of months ICEU has determined it would take to wind down or restructure its activities).

Should circumstances change, ICEU may revise the estimate accordingly.

Key Consideration 3	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
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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.

ICEU has developed separate Recovery and Wind-down plans.

ICEU's Recovery Plan includes the triggers for recovery and the tools and options available to ICEU in order to cover losses beyond ICEU's pre-funded resources and return ICEU to normal operations.

ICEU's Recovery Plan covers both default losses and non-default losses.

ICEU's Wind Down Plan is described in detail in the Wind Down Plan ("WDP"). Under the WDP the following events triggering a wind down are considered:

- ICEU's Recovery Plan has failed to cover its losses and it cannot remain viable as a going concern; or
- ICEU decides for business reasons that it no longer wishes to operate as a CCP in its chosen markets, and therefore may need to conduct an orderly wind down of its business.

The WDP considers the following scenarios that could trigger a wind down decision:

- Non-insolvency scenario;
- Insolvency scenario not linked to a Clearing Member default; or
- Insolvency scenario linked to a Clearing Member default.

Central to the WDP is the decision by the ICEU Board prior to the execution of the wind down plan. Significant analysis, consultation and planning are necessary prior to that decision. There will always be extensive consultation with Clearing Members, regulators, exchanges and other clearing houses prior to any final decisions.

In determining wind down, for each clearing service, the WDP identifies two options: either to transfer that clearing service to another clearing house (transfer option); or to terminate the clearing service (termination option).

The WDP concludes that an orderly wind down would be completed within a six month period, or sooner. ICEU has used the floor of six months in its calculation for the amount of capital to be set aside for an orderly wind-down. The assumptions used in the WDP are reviewed at least annually and should a revised estimate for the time taken to wind down be determined, the amount of capital and liquid net assets set aside for this purpose would be revised accordingly (subject to a six month minimum at all times).

These resources, together with the capital required to cover the general business risks (see above), are separate and in addition to the resources ICEU commits to cover participant default or other risks covered under the financial resource principles.

These resources are clearly and separately identified within ICEU's systems and are invested/secured separately to other resources.

The resources designated to cover business risks, inclusive of the amount required to cover a wind down, operational and legal risk and credit, counterparty credit and market risk are separate from, and in addition to, the resources ICEU has committed to cover participant default or other risks covered under the financial resource principles (the own resources contribution to the default waterfall). The liquid net assets required to be held funded by these resources are invested in accordance with the Liquidity and Investment Management Policy, which forms part of the risk management framework.

This policy is designed to minimise ICEU’s exposure to potential loss of principle arising from credit or market risk. In compliance with EMIR, liquid financial resources are typically held in highly liquid government securities.

ICEU’s capital resources comprise of ordinary share capital and eligible retained earnings. A dedicated amount is ring fenced for ICEU’s own resources contribution to the guaranty fund (“Skin-In-The-Game”), currently USD 197m. This amount is not included within the calculation of capital resources available to meet business risks or to achieve a recovery or wind down.

The Clearing House calculates and holds regulatory capital as set out by UK EMIR and EMIR regulatory capital requirements. These requirements include capital elements for Business risks and Operational and Legal risks.

Key Consideration 4	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.
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ICEU’s liquid assets, funded by its equity, are invested in US Treasury bills with time to maturity not exceeding 13 months. ICEU has regular access to various brokers and dealers to be able convert these highly liquid US T-bills into cash in adverse market conditions.

Liquid net assets held to cover capital requirements are invested in highly liquid financial instruments with minimal credit and market risk capable of being liquidated rapidly with minimum adverse price effect. ICEU holds investments in sovereign obligations with time to maturity not exceeding 13 months.

ICEU regularly assesses the quality and liquidity of its liquid net assets funded by equity in the following ways:

- Daily monitoring that assets have been invested according to the Liquidity and Investment Management Policy and are therefore of the right quality and liquidity;
- A buffer is included in the capital requirements to protect against adverse market conditions; and
- Capital requirements include extreme but plausible changes to operating expenses.

Key Consideration 5	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.
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ICEU has developed a Capital Replenishment Plan to raise additional equity which has been approved by the Board of Directors.

The main features of the Capital Replenishment Plan are:

- Options for replenishing capital before additional equity is needed from existing resources or ongoing earnings
- Raising equity from ICEU’s parent company
- Raising equity from other third parties

The Plan includes the governance and decision-making processes associated with raising additional capital or equity.

The Plan is reviewed annually, at a minimum.

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.

Key Consideration 1

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.

Custodians are selected according to specified criteria, including service competency, regulatory compliance, technical sophistication, domicile, and strategic relationships. Custodians must also be approved as Financial Services Providers by the ICEU Credit Risk team, in line with the applicable ICEU credit risk management procedures. ICEU will also only choose custodians that are established within the industry. These providers are subject to regular due diligence review.

Based on ICEU’s due diligence, service providers are understood to have robust accounting practices, safekeeping procedures, and internal controls that ensure the full segregation and protection of financial instruments and enable ICEU to have prompt access to those instruments when required. These entities are classified as Financial Service Providers (FSPs) and are covered under strict eligibility requirements including credit worthiness based on their accounting disclosures. All service providers are in approved jurisdictions that have strong regulatory regimes in place.

For monitoring purposes there are regular meetings between ICEU and FMIs to review the service levels and discuss day to day operational issues. These and custodian banks are highly regulated entities.

Service Organisation Control (“SOC”) reports are reviewed and questions are addressed by the ICE TPRM team.

Key Consideration 2

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

Where possible, ICEU operates accounts in its name with each custodian. Financial instruments posted as Margin, default fund contributions or other financial resources are received by ICEU with full title or (in the case of US FCMs) pledged.

ICEU has legal agreements with custodians which confirm the enforceability of its interest in collateral held. Accounts set up at the seven different custodians used (JP Morgan, State Street, BNP Paribas, Bank of New York Mellon, Clearstream, Euroclear and Citibank) enable separation of ICEU collateral positions from collateral positions of other clients. This separation guarantees the unconditioned availability of the collateral belonging to ICEU and is independent of any claims made against each custodian.

US FCM customer account assets belonging to Clearing Members deposited by ICEU with custodians are held in separate accounts so that the assets are separately identifiable as belonging to the Clearing Member from those of ICEU and the custodians. ICEU's books and records are maintained at a Clearing Member and account level.

ICEU has the right to access the financial instruments through issuing instructions for the movement of assets held by custodians on demand in accordance with relevant market settlement deadlines. ICEU tests these arrangements annually.

ICEU has received legal advice confirming that financial instruments deposited at credit institutions are protected under the relevant jurisdictions and that the ICEU Clearing Rules protect ICEU in insolvency proceedings from any losses.

Key Consideration 3	An FMI should evaluate and understand its exposures to its custodian banks, taking into account the full scope of its relationships with each.
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ICEU uses multiple custodian banks, diversifying where collateral is held. ICEU utilises seven major custodian relationships: (JP Morgan, State Street, BNP Paribas, Bank of New York Mellon, Clearstream, Euroclear and Citibank) Custodians fulfill different roles across the management of member collateral and investment activity. They are also diversified by region. Each custodian has at least one back-up so there is no dependency on one key provider.

Custodian exposure is tracked daily and reviewed monthly by Treasury and Risk teams.

The liquidity risk management framework includes stress test scenarios regarding market infrastructure custodians.

Key Consideration 4	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.
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ICEU risk management framework consists of the Board Risk Appetite and the associated policies (in this case Liquidity and Investment Management Policy, Liquidity Management Procedures). The specific Investment risk requirements are outlined in the Board Risk Appetite, where the thresholds are set in the form of Risk Appetite Metric (RAMs).

Investments are made according to guidelines laid out by the Investment Management Procedures, which takes into account investment risks such as counterparty, credit, market and concentration. As such, the cash portfolio is primarily secured to government markets (repo, bills) and central banks. Funds collected to cover the Margin requirements and the contribution to the Guaranty Fund, are invested via the investment agents and ICEU’s self-directed investment programme (SDIP). As of the date of this disclosure statement, ICEU has three investment agents.

ICEU’s investment strategy is closely aligned with its risk management practices across different ICEU risk departments (Credit Risk, Compliance, Risk Oversight) as described below:

Investment/Market Risk is controlled through strict investment policies, daily monitoring, and keeping most of the cash portfolio in reverse repo to minimize market risk

Credit Risk is managed by limiting investments to highly rated institutions, enforcing strict counterparty limits, and performing daily checks on ratings and collateral

Operational Risk is mitigated through use of top-tier custodians, regular position reconciliations, and robust controls with segregation of duties

On a regular basis, at least monthly, the investment strategy and risks are reviewed with key stakeholders in the management team including the Risk Oversight and Credit Risk teams.

ICEU ensures that its investments are secured by high-quality obligors as follows:

- The Investment Management Procedures set a list of eligible collateral for reverse repos that is restricted to high quality assets with specified issuers and/or credit ratings;
- The Investment Management Procedures set a list of eligible outright investments, which is restricted to high quality assets issued by specified issues and/or credit ratings;
- The Investment Management Procedures specifies, concentration limits within the portfolio and maximum maturity of investment purchases;

- The Investment Agents are contractually bound to invest according to these criteria;
- ICEU checks the actual investments each day against the criteria from the Investment Management Procedures and escalates any deviations.

ICEU monitors on a daily basis the amount of cash that is fully secured to ensure more than 95% of such cash, calculated over an average period of one calendar month, is fully collateralised. On a daily basis, the Treasury department reviews the Treasury & Investment Report which compares investments made by the Investment Agents against guidelines in the Investment Management Procedures. Any breaches to the Investment Management Procedures are reported to the Executive Risk Committee and regulators and all effort is made to cure the breaches as soon as practically possible.

ICEU's Investment Management Procedures sets strict limits for the various investments allowed within the program. Central Bank deposits are the only exception. When practical, ICEU will use these facilities for their liquidity and ultra-low risk profile.

All other investment products will face restrictions based upon counterparty credit worthiness, concentration by issuer or specific investment (issue). Both external and internal credit limits are used. Maximum maturity limits (tenor) further restrict investments.

For EUR denominated investments only, no limit for French/German issues, 15% of the total EUR balance for bonds issued by Belgium and the Netherlands. No issuer concentration limits are applicable for investments in UK or US sovereign obligations.

Financial instruments issued by a Clearing Member, or any entity that is part of the same group as the Clearing Member, may not be accepted as investments or collateral for investments.

ICEU strives to maintain high levels of liquidity. The Investment Management Procedures set out counterparty and portfolio concentration limits. The Procedures also places restrictions on the assets that are permitted, restricting investments to low credit risk, high quality liquid assets with short maturities to limit duration and price volatility.

Portfolio exposures are monitored daily against established limits.

The Investment Management Procedures also sets out the criteria for reverse repo arrangements, allowing only high quality, liquid collateral and applying haircuts to protect the value of the collateral. Reverse repo counterparties concentration risks are calculated on a counterparty family level, with limits set according to counterparty credit ratings.

ICEU executes, on an annual basis, a test with its brokers, and repo counterparties, assessing the liquidation for a value of at least the size of its requirement in the Liquidity Stress Testing scenarios, on a same day basis in hypothetical stressed market conditions.

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.

Key Consideration 1	An FMI should establish a robust operational risk-management framework with appropriate systems, policies, procedures, and controls to identify, monitor, and manage operational risks.
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ICEU’s operational risk and resilience process is designed to ensure that operational risks are identified, assessed, monitored, responded to and reported in a consistent manner. The output of this process includes top-down evaluations linking to ICEU’s business objectives and bottom-up operational risk assessments. This process is detailed in the Operational Risk and Resilience Policy (“ORRP”) and the operational risk self-assessment process identifies controls for testing on a periodic basis.

ICEU’s ORRP sets out the Operational Risk and Resilience management framework. It states the methodology for the identification and assessment of operational risk and operational resilience and provides guidance on the selection and governance of risk responses and monitoring.

The operational risk self-assessment process is designed to formally assess the effectiveness of risk responses that are designed to mitigate identified operational risks to pre-defined tolerances. It is a ‘bottom-up’ approach which consists of:

- A risk assessment (identification of risks associated with business processes);
- Control assessment (assessment of the key and non-key controls designed to mitigate identified risks, followed by development, if necessary, of remedial action plans); and
- Testing schedules and programme, including enhanced risk-based control monitoring to target highest operational risk related controls

Operational risks are formally assessed by Risk Owners based on impact and likelihood to obtain a risk score/rating (i.e. Very Low to Very High).

Overall responsibility for oversight and facilitation of the operational risk and resilience management framework belongs to the Risk Oversight Department (“ROD”). It is maintained by the ROD and overseen by the ERC, which meets periodically.

The ERC advises on all key aspects of risk management and supports proposals for review by the Board advisory committees and the Board (see Principle 2 for more information). This includes identifying plausible sources of operational risks and in conjunction with the Board, setting the risk appetite. Furthermore, the ERC and BRC review the Risk Register Dashboard of operational risks and track all remediations relating to ‘Medium’ or above Residual risks.

ROD uses SNOW (“Service Now”) to facilitate the ongoing monitoring of the risk register which includes objectives, risks (both inherent and residual), controls and the operational risk self-assessment, controls and testing process.

Operational risk is an event occurring due to inadequate or failed internal operational controls, people, systems or external events which if not contained or left untreated could give rise to increased risk exposure, reputational damage or regulatory fines.

Sources of operational risk include:

- Failure to maintain adequate resources and failure to safeguard resources.
- Failure to comply with regulatory requirements, implement effective contracts and legal agreements and maintain appropriate employment practices.

- Failure to design, implement and monitor clearing operations and processes.
- Failure to secure CCP data, systems and premises.
- Failure to design and operate clearing technology services reliably.
- Failure to deliver competitive and cost-effective clearing services or meet stakeholder needs.

ICEU has identified the following single points of failures (i.e. if a system/service/process fails to work correctly, it may lead to the failure of the entire system):

- Technology systems and service providers - ICEU relies on a number of proprietary systems (e.g. front-end trade registration/management and clearing systems, collateral and custody management systems, clearing risk systems) to undertake its core business operations. Majority of these systems are provided by ICE Inc. ICEU has put in place Inter-Company Agreements outlining scope of services and level of services expected to ensure systems and service continuity is maintained to an acceptable level.
- External Financial service providers - ICEU is dependent upon the continuing operations of a number of financial institutions, including the following: the exchanges that provide settlement prices upon which ICEU and Clearing Members are dependent; the providers of messaging services such as SWIFT; CSDs such as Euroclear and Clearstream, where collateral is held²; and the payment and settlement systems operated by central banks and/or commercial banks for the settling of respective currencies.

In the event systems or providers become unavailable, unreliable, or inaccessible (due to technology outages, security breaches, data corruption/loss) leading to an operational failure, ICEU has put in place contingency plans to minimise the impact on core operations. These include the following:

- Disaster Recovery and Business Continuity Framework – See Principle 17, Key Consideration 6
- Business Continuity and Disaster Recovery Plans

ICEU's internal controls designed to mitigate operational risk are tested in accordance with Risk & Control Self-Assessment ("RCSA") process, in accordance with the Operational Risk and Resilience Policy.

The ICE Incident Management processes apply to any event which disrupts or could disrupt a service and prevent ICEU from meeting its operational reliability objectives. All incidents and errors are recorded in a ticketing system. The tickets are assigned a priority level between priority one (critical) and priority five (informational). The priority is determined using a matrix of Urgency and Impact with defined criteria. The priority rating determines the time within which the incident or error should be resolved.

Risk Monitoring and Reporting

The top-down risk analysis and bottom-up operational risk register are subject to an annual review to ensure that they remain fit for purpose, up to date and incorporate all key vs. non-key control assessments and expanded risk data considerations.

Dynamic risk assessments are performed to reflect material operational risk changes - e.g. due to Operational Risk Incidents, Regulatory Findings, Risk & Control Self-Assessment etc. These are approved by the ERC and presented to the BRC on an ad-hoc dynamic basis in addition to the one-off annual reviews.

Control Validation results are overseen by ROD and reported to the BRC and ERC.

Material operational incidents are reported to the BRC on a routine basis with additional text and analysis for priority 3, 2 and 1 incidents. 2LOD 'Operational Incident Reviews' completed on material Priority 3 incidents or higher.

² Euroclear and Clearstream form part of the market infrastructure and are highly regulated. In the event of a failure of their operations, ICEU Rules stipulate that the Clearing House can postpone its payment and withdrawal obligations.

All priority 1 incident reports are escalated to Senior Management and the Board immediately.

Remediation plans in response to Control validation and incidents are tracked and monitored by ROD and the relevant departments. Risk Appetite Metrics and Management Thresholds with respect to Operational Risk are monitored with breaches escalated to Executive Risk Committee, Board Risk Committee and Board where applicable. Delayed or incomplete remediation that gives rise to unacceptable or increased risk are also escalated to the Executive Risk Committee and the Board Risk Committee.

Additionally, 2LOD participate in 'New Product Reviews' to explicitly assess operational risk impact on Risk Register and Controls.

The technology systems and service providers referred to above are operated under agreed control frameworks and to within agreed service levels. As part of the ICEU Master Outsourcing Agreements, core service providers are required to have robust and tested resilience and recovery arrangements in place to ensure systems and service continuity is maintained to an acceptable level.

Operational procedures are maintained by each business department. department Heads are responsible for ensuring that internal procedures remain up-to-date and relevant and are formally reviewed at least once per year. The review process includes checks designed to assess the implementation of the procedures.

All ICEU department Heads are responsible for ensuring that their staff members have an awareness of operational risk and the relevant policies and procedures. They also ensure that staff members are trained in specific responsibilities set out in the procedures.

As noted in 17.1.3, the ICE Incident Management processes apply to any event which disrupts or could disrupt a service and prevent ICEU from meeting its operational reliability objectives.

Operational Risk and Resilience Policy also takes into account the following internationally recognised standards/regulations:

- CPMI-IOSCO 'Principles for Financial Market Infrastructures' ("PFMIs") - Principle 17 'Operational Risk';
- CFTC Core Principle I for DCOs; and
- EMIR Article 10 - 'Disclosure' of the EMIR RTS.

The Cyber Security Strategy and Information Security Programme adopts NIST standards.

The ORRP is reviewed and approved in accordance with the ICEU's Documentation Governance Schedule which sets out the frequency of reviews and the governance steps required for any changes to documentation.

ICEU has documented policies that address hiring, training, retention and development of staff.

Hiring/Recruitment:

Resourcing requirements to support ICEU's business strategy and operational requirements are reviewed on an on-going basis. The key sources of resourcing include internal progressions (i.e. promotions), external recruitment, internal transfers and group resources.

Potential employees are subjected to rigorous assessments (e.g. interviews, competency-based questionnaires) and pre-screening (see fraud section below) to ensure qualified and talented staff are hired for ICEU positions.

Training/Development:

By setting and regularly reviewing employee progress against their performance goals, the ICEU management team have the ability to:

- Address training and development needs in a timely manner to ensure employees have the right knowledge and expertise to meet their performance targets.
- Review and address any areas which may be understaffed, have skill shortages, or where there is additional resource capability required.

Retention, Staff turnover and Key Man Risk:

Staff reward and retention plays an important part in effectively managing resources in ICEU. Employee compensation is reviewed on an annual basis to ensure that ICEU remains competitive as an employer and that ICEU retains the talent it needs to support the execution of its business strategy. The Human Resources department works closely with Senior management to support this process.

Staff turnover rates are monitored to ensure that problem areas (high turnover in particular departments or at particular staff levels) are addressed appropriately.

The performance management processes contribute towards identification of key talent, succession management and key person risk within ICEU.

Fraud Prevention:

ICE Corporate Compliance team updates and maintains the Global Code of Business Conduct, Global Insider Trading Policy, Global Anti-Bribery Policy, Global Business Gifts, Meals & Entertainment Policy, Global Anti-Money Laundering and Sanctions Policy, and Global Reporting and Anti-Fraud Policy.

The Global Reporting and Anti-Fraud Policy outlines guidance on types of fraud, ways to identify potential fraud, escalation and reporting procedures, violations and disciplinary actions.

The compliance training material is provided to all new employees upon hire. The purpose of the training is to educate new employees on ICEU business, internal policies and procedures, and the regulatory environment in which it operates.

All new hires are subject to credit, criminal and background checks prior to starting work at ICEU. The screening process is outsourced to Vero Screening. Upon successful completion of the screening process, offers are made subject to the successful (i.e. no material issues that cannot be resolved) completion of the screening process. This screening is repeated every three years for all key personnel.

Experience and CVs are verified via reference confirmation and academic qualifications are verified with the relevant educational institute.

ICEU mitigates the risk that changes and major projects inadvertently affect the smooth functioning of the system by comprehensively analyzing the changes to ICEU's operating model across all departments and the affected systems.

Major Projects

When ICEU is undertaking a major project it uses a Detailed Change Analysis template to ensure that all key changes to ICEU's risks and operating model are identified, assessed and mitigated. This analysis is presented to the ERC and other relevant governance committees to ensure that these risks and their mitigants are visible to the relevant executives and Board members and approved before proceeding with the project.

Technology Changes

All technology changes follow prioritization, testing and change control processes. These ensure that systems are not changed without thorough testing of the impact of the change and sign off from the system and business owners.

Testing includes unit, system, integration and regression testing including with external parties (e.g. Clearing Members and IT Vendors) as appropriate.

System design is governed by ICE’s “Software Development Life Cycle Policy” and “Corporate Information Security Policy” which define the mandatory and best-practice software development methodology and security practices. These policies are reviewed and approved by the Group-wide OOC on at least an annual basis.

Key Consideration 2	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.
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The ICEU Board assumes final responsibility and accountability for managing ICEU’s risks. The Board defines, determines and documents its risk tolerance via risk appetite statements and monitors adherence via the Risk Appetite Metrics (RAM).

The Board and Senior Management ensure that ICEU’s policies, procedures and controls are consistent with the Board’s risk appetite. Day-to-day management of risk is the responsibility of all staff, and the identification and management of risks requires active engagement and involvement of staff at all levels.

The ERC and the BRC Committee advises the Board regarding operational risk matters.

Roles and responsibilities in relation to operational risk are defined within the Risk Identification Framework, Risk Appetite Framework and corresponding terms of references of the Audit Committee, the Board Risk Committee, the ERC, and the Model Oversight Committee.

The Board has adopted a ‘Three Lines’ model with definitions included below

First line: The business units and support functions managing day to day risks. All departments except for Risk Oversight Department (Second Line) and Internal Audit (Third Line).

Second Line: Oversight of the risk framework consolidated reporting provided by Risk Oversight Department (ROD) / Enterprise Risk Management (ERM)

Third Line: ICE’s Internal audit function and external auditors providing independent assurance.

Control Owners within first line management are responsible for the adequacy and performance of their controls.

The ERC and BRC oversee operational risk.

ICEU Heads of department are responsible for ensuring that their staff members have an awareness of operational risks and the associated policies and procedures. They also ensure that staff members are trained in specific responsibilities set out in the ORRP.

The activities of the ERC and the ROD are subject to independent periodic review by the Internal Audit department.

The ORRP is subject to discussion by the ERC, BRC and subsequent approval by the Board at least on an annual basis, unless differently agreed by the relevant committee, or in the event of a material change.

ICEU’s participants are required to adhere to the testing arrangements laid out in the ICEU Disaster Recovery and Business Continuity Plan. On an annual basis, ICEU operations are run out of the DR environment for a defined period, which mandates participants’ participation.

ICE’s Internal Audit department provides ICEU with an independent source of assurance on financial, operational and compliance controls. Included in its mandate, the Internal Audit department reviews the ICE Information security program and the Business Continuity/Disaster Recovery program.

The operational risk and resilience framework is not subject to external audit. However, where aspects of the operational risk and resilience framework are relevant to financial reporting they will be considered as part of the overall audit risk assessment of ICEU by the external auditor and tested accordingly e.g., the annual Sarbanes Oxley (SOX) audit.

Key Consideration 3

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

The objective of ICEU is to provide a safe and efficient clearing service. The operational reliability objectives of ICEU's systems and processes are set out in the Risk Appetite Framework, which provides quantitative and qualitative definitions of risk appetite and tolerance covering core services provided by ICEU. This includes, for example:

- Interruption of service provided to participants through key systems – the appetite for interruption is zero. Any breaches of this are reported and managed as incidents with varying degrees of severity;
- Deadlines for the delivery of key outputs that must be made available by a certain time during the End of Day run. Any failures to meet these deadlines are reported to management and the BRC and managed as incidents with varying degrees of severity;
- Financial losses due to data and processing errors and inadequate investment of collateral, etc.; and
- Disaster recovery and business continuity objectives, with targets that critical services can be recovered within 2 hours.

Policies, procedures and systems are in place for ICEU to meet these objectives and ensure a high degree of operational reliability. This includes, for example, the timely reporting of performance indicators against these objectives.

ICE's documented incident management processes apply to any ICEU event which disrupts or could disrupt a service. ICEU uses ServiceNow as its incident management and service desk tool which is used to manage incidents/breaches and to allocate priorities in accordance with the priority level identified. Priority levels are:

- P1 – Critical: total loss of the ability to clear, settle, trade or update data/reports;
- P2 – High: partial loss of the ability to clear, settle, trade or update data/reports;
- P3 – Moderate: delay or disruption to some users ability to clear, settle, trade or update data/reports;
- P4 – Low: no loss of the ability to clear, settle, trade or update data/reports; or
- P5 – Informational: potential issue.

These events are reported to the ICE Operations Centre (Systems Operations teams) by users or detected by an event management tool.

All incidents are classified based on five priority levels in accordance with the documented "Priority Matrix and Service Impact" guidelines. All incidents are required to be captured ServiceNow tool, with priority 1 - 2 incidents expected to be alerted to Executive Management and subsequently reviewed by the ICEU Board.

Priority 3 incidents are required to be alerted to Operations Management and subsequently reviewed by the Audit Committee. Priority 4 - 5 incidents are escalated to Operational staff as necessary.

All Priority 3 and above incident reports are notified to the ERC and the BRC.

Key Consideration 4

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

ICEU puts performance testing at the core of its systems engineering and design. ICE IT Operations team (based in Atlanta) oversee capacity management, database administration, server management, IT asset management (including software licensing). They are responsible for monitoring applications and servers at ICEU with respect to system performance, capacity to ensure volume and operational requirements are met. All production, customer-facing, and ICEU back-office servers are actively monitored as part of ICE Operational Procedures.

ICE has a dedicated performance testing team (within IT Operations) that uses automated tools to simulate multiple times production loads, i.e. stressing production systems to cope with multiples of peak daily volume. In addition, the Research and Development team continually evaluate the performance (and maturity) of the next generation of hardware available.

ICEU’s performance testing ensures that it has the capacity to process at least twice the largest historical peak volume or load. When a new historical peak occurs, ICEU retests to ensure that its capacity remains at least twice the new peak.

Different tools are used to capture and report performance across all ICEU systems using a dedicated performance database. This includes the capturing and reporting of daily process times as well as hardware performance metrics. The performance data are used to produce monthly performance reports across all systems. The reports include trend analysis based on historical data on top of new product growth expectation and are provided to the COO.

Service agreements between ICEU and ICE are governed by formal Inter-Company Agreements.

ICEU systems are subject to periodic audits by ICE Internal Audit function, which includes capacity management.

Systems capacity is the object of a Board Risk Appetite Metric and regularly reviewed. In a situation where operational volumes would near capacity, ICEU would ensure that steps are taken to increase said capacity and that an increased volume is tested, ensuring that enough headroom is restored.

Situations where operational volumes would exceed capacity would be recorded as incidents and prioritised according to the severity level allocated and managed as part of the incident management process outlined in Principle 17 key Consideration 3.

Please note that ICEU’s Board Risk Appetite Metric and testing are based on testing to a stated capacity. ICEU typically has additional capacity beyond the tested levels.

Key Consideration 5	An FMI should have comprehensive physical and information security policies that address all potential vulnerabilities and threats.
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ICE Enterprise Risk Management team in coordination with ICEU Risk Oversight department conducts Physical Security ETRAs (Enterprise Technology Risk Assessment), which on annual basis assesses physical security and data centre environmental risk events, and reviews controls relevant to those risks.

ICEU has adopted the parent company’s (ICE) IT Risk Management and Information security programmes which includes IT security risk assessments, the Cybersecurity Strategy, Corporate Information Security Policy and associated procedures, threat and vulnerability testing regimes, and Corporate Physical Security Policy and associated procedures.

ICEU operates within the ICE Corporate Information Security Policy and Corporate Physical Security Policy covering physical and information security. The policies cover all information environments operated by ICEU or contracted with a third party by ICEU. ICEU protects its information resources through implementation of sound physical, environmental, and administrative security controls designed to reduce the risk of physical failure of infrastructure components, damage from natural or fabricated environmental hazards, and use by unauthorised personnel.

Physical Security and Facilities Engineering are responsible for the implementation of physical and environmental controls in ICE data centres and office locations, while the Information Security department makes the use of threat intelligence for continuous monitoring of physical and cyber threats.

ICE's Corporate Physical Security Policy also sets out guidelines, security standards and control expectations for data centers within its subsidiaries, including ICEU.

Service agreements between ICEU and ICE are governed by formal Master Outsourcing Agreements.

Physical security and Information security are subjected to tests undertaken both by Internal Audit and independent external expert resources. A rigorous Service Organisation Control ("SOC") audit is performed annually to produce independent verification and testing of ICE's controls for external parties and auditors that rely on ICE. The scope of this report is evaluated each year and tailored in response to customer feedback and business development.

ICE Physical Security Policy takes guidance from the US department of Homeland Security Interagency Security Committee (ISC) practices in building ICE's physical security model. As an FI designated with critical national infrastructure status in UK finance sector, ICEU also takes guidance from UK Centre for Protection of National Infrastructure (CPNI) in building physical security controls.

ICE's CSS is a group-wide strategy designed to maintain the highest possible levels of confidentiality, integrity, availability, and performance for all systems of ICE and its subsidiaries. It sets out high level functions of managing cyber security including the development and implementation of safeguards and control activities to ensure the following:

- Identification of cyber risks and threats,
- Protection of ICE systems, information assets and infrastructure,
- Detection of cyber incidents and events, and
- Respond and recover from a cyber-security event.

ICEU's Corporate Information Security Policy is designed so that strategies and goals relating to Information Security 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.

ICEU has also introduced specific frameworks to address particular areas, including for example:

- The Information Security Risk Assessment – sets out a lifecycle approach for identifying and assessing information security risk and implementing relevant controls. Assessments are done on an on-going basis and on-demand, whenever the oversight body, ICE's OOC, perceives that there is a heightened information security risk, for example following a major project or system change;
- Cybersecurity monitoring and detection – policies and procedures to ensure that systems, server, user and network activity is adequately monitored; and
- Cybersecurity incident management – processes and systems to identify, report, prioritise and address reported or discovered cybersecurity incidents.

Specific functions intended to fulfil information security are organised within two broad teams: Information Security Assurance (covering Governance, Risk & Compliance ("GRC"), Application Security ("AppSec") and the Red Team)), and Cybersecurity (a.k.a. the "Blue Team"). The teams report to the ICE Chief Information Security Officer ("CISO") who reports to the ICE President/COO - please refer to section 2 of the Cyber Resilience Annex for more information. In the three lines of defence risk management model, Cybersecurity team is aligned with the 1st line of defence, while Information Security Assurance team is aligned with 2nd line of defence.

Information security at ICEU is overseen by the Business Information Security Officer, Trading & Clearing, who reports directly to ICE Chief Information Security Officer (“CISO”), as part of ICE Information Security Management team, and has direct interaction with Cybersecurity and Information Security Assurance teams.

Responsibilities of Information Security department range from technical implementation of security mechanisms to interfacing with clients and documenting policies and procedures. The Information Security department also defines and enforces acceptable operating standards. These standards range from the processes used by the helpdesk to recover forgotten customer passwords to defining specific configuration parameters for servers.

Compliance auditing to ensure that organisational units are operating in a manner consistent with these requirements is also the responsibility of the Information Security department. Disciplinary matters resulting from violations of Information Security requirements are handled by local managers working in conjunction with the Human Resources department.

ICE’s OOC has been charged with governing ICE's cybersecurity, operational and technology programmes to ensure there are adequate processes and controls in place to manage technology risks and threats. The OOC meets on a quarterly basis. ICEU has two representatives on this Committee at Group level (i.e. President and COO), while the CRO and the London based Business Information Security Officer, Trading & Clearing attend as observers.

OOC’s purpose is to assist the ICE Board of Directors and the Management and Board of Directors of each ICE regulated business units in fulfilling their oversight responsibilities with respect to:

- Providing guidance to the Cybersecurity Governance, Operations Governance and Technology Governance Committees;
- Approving cybersecurity, operations, and technology policies; and
- Reviewing reports on implementation of and compliance with the policies.

Pursuant to the OOC Charter, each Committee member is expected to be technology literate and be able to read and understand fundamental cybersecurity and other technical metrics and reports. It is also noted that OOC maintains open communication with the ICE Board, independent auditors, Internal Audit department, external Legal Counsel and any other person responsible for or reflective of the cybersecurity, operational and technology programmes.

The OOC is chaired by the COO of ICE.

In addition, the Cybersecurity Governance Committee (“CyberGov”) is an advisory committee to the OOC which meets quarterly and is tasked with oversight of ICE's information security program, including the areas of policy creation, maintenance, and compliance; vulnerability assessments and tests; threat intelligence; and projects and initiatives. CyberGov is chaired by the ICE CISO, and the London-based Business Information Security Officer, Trading & Clearing is also a member of the committee.

At the ICEU level, cyber risks are governed through the Executive Risk Committee (ERC), which is chaired by the President of ICEU, and has participation from all heads of business lines within ICEU. The London-based Business Information Security Officer, Trading & Clearing serves as member of the ERC and reports on cyber risks on quarterly basis. The Board Risk Committee receives quarterly updates on cybersecurity risk, while ICEU Board reviews implementation of the Cybersecurity Strategy at least on annual basis.

ICE’s Cybersecurity Strategy has adopted the NIST Cybersecurity Framework to organise specific functions, while risk assessment procedures are based on NIST Special Publication “800-30: Risk Management Guide for Information Technology Systems”.

Key Consideration 6	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
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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 overriding objectives of ICEU's BCP and DR Framework are to ensure:

- Timely recovery of operations and fulfilment of clearing obligations, including in the event of a whole-scale or major disruption; and
- Effective coordination among affected parties during a BC/DR event.

As part of the BCP/DR Framework, ICEU has established BC and DR programmes (which are supported by annual Business Impact Analysis) that are evidenced through BC and DR policies, crisis communication and management plans, BC action plans and Pandemic plans. These programmes and plans are designed to preserve ICEU's functions, the timely recovery of operations and systems and the fulfilment of ICEU's obligations as a CCP. Oversight over BC and DR programmes are provided by the Operations Oversight Committee that reports to the ICE Board of Directors.

ICEU Business Continuity and Disaster Recovery plans include the requirement to conduct exercises regularly to test the Business Continuity and Disaster Recovery arrangements, which involve staff in the ICE Group through outsourcing arrangements. ICEU also participates in industry-wide exercises in this area. ICEU has revised its BC/DR Framework to consider disruptions to third party service providers and has documented exit strategies for each current third-party outsourcing arrangement.

There is extensive review, audit and testing conducted with ICEU Clearing Members and participants, both when a new service is introduced and on an ongoing basis. A review of a Clearing Member's operating arrangements is conducted prior to onboarding and operational performance statistics are maintained at the Clearing Member level to highlight any service and delivery problems (two-way).

ICEU's Audit Committee, Board Risk Committee and Board of Directors approve the BC/DR Programme. BC/DR test and monitoring results are also reviewed by the Board on an annual basis.

Independent reviews of DR and BC are conducted by Internal Audit which reports to the ICEU Audit Committee and the Board.

ICEU's DR plans provide recovery strategies, technical and procedural guidance, recovery metrics/objectives (Recovery Time Objective - RTO, Recovery Point Objective - RPO), DR roles and responsibilities to enable the resumption of critical systems (e.g. clearing systems, clearing risk and treasury systems), databases and operations and complete settlement by the end of the day.

The DR plans and programmes are designed to enable ICEU to recover all key processes and critical systems at the time of disruption within two (2) hours. Recovery within these timeframes is tested annually.

The Clearing Application Programming Interface ("API") incorporates strategies to enable third parties (i.e. Clearing Members) to establish the last successful transaction and re-transmit any uncollected transactions. Transaction reconciliations are also performed and validated in DR testing.

The Disaster Recovery Strategy employed ICEU is a warm site strategy. The production site (C6i), located at the ICE Data Centre in Chicago, is replicated in all aspects of hardware, software, firewall and network equipment at the recovery site located in Mahwah (M4i). The recovery site is a mirror image of the C6i site. Operating system, database and some application software are up and running (in idle state) at the recovery location. The recovery system is continuously updated with transaction information by the production system using file transfers and database to database replication.

Complete and accurate backups, stored in an approved off-site storage facility, are essential to the success of the application Disaster Recovery Plan. An incremental back-up of all database file systems is performed daily and a full backup is performed weekly. This data is retained off-site for an appropriate amount of time (daily, weekly, or monthly), depending on the specific need of this application. This will ensure that there will be the most recent and the previous version available, while that oldest could be in transit. Data saved to tape resides in the secure facility managed by a third party vendor.

When a disaster occurs, the recovery site databases will be restored using the replicated transaction logs, the system and network will be tested and verified, DNS (“Domain Name Server”) resolution will be modified, and the system will be made available to the customers.

Documented within ICEU’s BCP/DR Framework is the Crisis Communications and Management Plan. Its objectives are as follows:

- Contain a given situation;
- Ensure that further adverse consequences are minimised by taking relevant action at the appropriate time;
- Provide Clearing Members, regulators and the wider market with timely and accurate information upon which they are able to make informed decisions; and
- Ultimately, as far as possible, preserve market stability.

Achieving these objectives will be especially important should these events occur in stressed market conditions.

The Crisis Communications and Management Plan provides a structure for managing communication with Clearing Members of ICEU at a time when ICEU is suffering severe financial stress and/or operational losses. The Crisis Communications and Management Plan:

- Identifies crisis communication triggers – internally, who sends the initial trigger message, who receives it and what content is required;
- Requires ICEU to liaise with other stakeholders - e.g. appropriate exchanges;
- Refers to guidelines and procedures for communicating with Clearing Members at times of crisis (protocol, calls, etc.); and
- Provides an overall Crisis Management communications structure during pre-crisis, during recovery and post incident.

For office-based disruptions (unavailability of people or offices) ICEU has the ability to use multiple secondary sites. These actions are documented in the BCP:

- Re-allocate specific duties to staff based in other ICE affiliates located in different geographic regions;
- Allow London-based staff to have flexible, secure remote capability via VPN from any location with an internet connection (e.g. from home); and
- Relocate key ICEU staff to a secondary business site (in Essex), which is located close enough to London to be accessible for staff, but far enough away for it to have a different risk profile to central London. The Essex site is to be used as a production site for ICEU’s core business lines (Clearing Operations, Clearing Risk, and Treasury) and houses ICEU’s co-location facilities. These facilities are highly resilient buildings that leverage state-of-the-art infrastructure technology and redundancy; easily accessible; and remote from ICEU’s place of normal operations.

ICEU's Clearing System Disaster Recovery Plan addressing IT failures includes a warm recovery site in the US fully replicating the primary US site. The two sites are 1,260 kilometres apart, the primary data centre being in Chicago hosting all ICEU’s production servers, and the secondary site in Mahwah, providing real time redundancy for ICEU’s production environment and isolation from common geographic risks and continuity even if a wide-scale disruption is experienced in one area. The recovery team members are not located at the primary site.

The failover procedures and the BCP are tested regularly.

The secondary sites mentioned above are sufficiently distant from the primary site so that they have a different risk profile.

Given ICEU's high reliance on technology and infrastructure to deliver its services, it does not employ manual or paper based working procedures.

ICEU has highly resilient and state-of-the-art technology infrastructure and recovery arrangements to ensure its operations and services are resumed effectively during crisis and disaster scenarios.

ICEU has designed its BCP and DR testing regimes to support incident management (initial evaluation and response), continuity (maintaining essential operations) and recovery (returning to business as usual) in a crisis event, which typically include operational events such as loss of site/facilities or technology outages.

As part of these regimes, ICEU conducts several annual BCP exercises to ensure its business can effectively respond to large scale disruptions and maintain continuity of its operations. DR testing (data center failover) is also completed at least four times per year to verify ICEU's ability to recover its technology operations and systems. At least one of the DR tests annually is timed to verify that ICEU's technology operations and systems can be recovered within its recovery time objective of two hours to minimise business impact. The following DR tests are conducted annually:

- DR Failover Rehearsal,
- DR Failover sustained period, and
- EOD Replication.

Any material issues identified during tests or exercises are immediately raised and escalated via the ICEU ticketing system, ServiceNow.

As mentioned previously, OOC oversees ICEU's BCP/DR programmes, including testing procedures and results.

The ERC and the BRC oversees BCP/DR testing and results and makes recommendations to the Board. BCP/DR documentation is revised as needed following each test, incident, significant change to any services provided by ICEU or systems used by ICEU.

When available, ICEU participates in both DR and BCP market wide exercises; Futures Industry Association ("FIA") annual DR test, Bank of England Sector Exercises and the Cross Market Business Continuity Group (CMBCG).

ICEU includes a week-long exercise each year where its systems are run from its secondary site - this ensures that participants and critical service providers are involved in the testing.

Key Consideration 7	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.
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As part of its wider risk identification and assessment processes ICEU has identified risks that it bears from key participants, other FMIs, and service and utility providers - see Principle 3 Key Consideration 1 for more information.

In addition, refer to Principle 4 (Credit Risk) for more information on how ICEU manages its risks posed by key participants.

ICEU has a major operational dependency on its parent (ICE Inc.) and IFEU to provide clearing and other systems as well as utilities and facilities. This key operational risk is central to the operational risk framework and is therefore given the

appropriate level of attention. All ICEU's outsourced services are governed by (internal) Master Outsourcing Agreements and (external) contractual arrangements.

The clearing systems, utilities and facilities outsourced to ICE Inc. and IFEU are subject to a number of independent reviews that provide assurance that these operations meet the same reliability and contingency requirements they would need to meet if they were provided internally. These include annual audits of compliance with the CFTC's Systems Safeguards as well as Service Organisation Control (SOC2) reports that provide assurance on the security, availability and confidentiality of the outsourced systems.

Information Security and Business Continuity matters are overseen via the OOC (see Key Consideration 5 above) which has ICEU staff as participants.

Otherwise, the key risks to ICEU operations posed by participants, other FMIs and service/utility providers are:

- Failure of SWIFT to recover sufficiently quickly to ensure that settlements and cash movements can be passed without market disruption;
- Failure of Euroclear Bank, Clearstream and DTCC to restore its systems to ensure accurate recording of transactions and positions; and
- Ability of JP Morgan, CitiBank and BNYM to manage ICEU's treasury activities in accordance with the Investment Management policy and to support the management of ICEU's liquidity risk.

Refer to Principle 3 Key Consideration 3 for more information on how risks posed by above entities and/or sources are managed.

ICEU's core operational activities including, clearing operations, clearing risk and treasury and banking services are performed in-house, with support from a number of IT service providers (including ICE Inc.) and other financial institutions (State Street, JP Morgan, CitiBank, BNYM, EuroClear and Clearstream).

All outsourced services are governed by formal outsourcing or contractual arrangements. Furthermore, ICEU undertakes necessary measures to ensure that service providers meet adequate reliability and contingency requirements, including the following:

- Enforcement of ICEU's policy and procedures on outsource service providers.
- Annual review of the outsource service providers' performance.
- Review of service providers' BCP and DR arrangements.
- Assessment of third party assurance/Service Organization Controls ("SOC") reporting to ensure service providers have robust and effective control environments.

ICEU does not currently provide interoperability with other clearing houses either within the ICE or with third party Clearing Houses. As such, ICEU poses limited risks on other FMIs.

When available, ICEU participates in both DR and BCP market wide exercises.

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

Key Consideration 1

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.

Rule 201 of the ICEU Clearing Rules, the Membership Policy and the Membership Procedures set out the membership onboarding criteria that applicant firms are required to meet in order to become Clearing Members of the CCP. The Clearing Member application process ensures that applicants evidence compliance and the on-going annual member return process ensures that relevant detail is regularly updated. The risk-related membership criteria (listed under Rule 201 of the ICEU Clearing Rules) are applied consistently to all applicants and existing Clearing Members.

The risk-related membership criteria (listed under Rule 201 of the ICEU Clearing Rules) are applied consistently to all applicants and existing Clearing Members.

Key Consideration 2

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

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

In addition to the abovementioned risk-based criteria, the ICEU Clearing Rules also refer to criteria that are not necessarily risk based but are required by the applicable laws or regulations. These include (but are not limited to):

- having in place all necessary regulatory authorisations, licences, permissions and approvals in the Clearing Member's country of origin, the UK and any other jurisdiction in which it conducts business;
- having officers, directors and Controllers each meeting the requirements for an 'approved person' (for individuals) or 'controller' (for partnerships, companies and other bodies corporate) under applicable FCA Rules and PRA Rules;
- having been subject to customer due diligence measures under the Money Laundering Regulations to ICEU's satisfaction; and
- not being subject to sanctions.

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

Relevant criteria are monitored on an on-going basis, as ICEU reviews its Clearing Member composition to ensure that it is comprised of entities of appropriate size, market coverage and business profile.

The ICEU Clearing Rules, inclusive of the information on the access criteria, are publicly available at:

<https://www.theice.com/clear-europe/regulation#rulebook>

Key Consideration 3

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.

ICEU use a variety of tools to monitor Clearing Members' compliance with its access criteria:

- Counterparty Credit Risk Management - daily monitoring of breaches/exceptions in Clearing Member performance measures, including:
 - Number of special Margin calls;
 - Guaranty fund, collateral and initial Margin levels;
 - Missed Margin payments/EOD cash calls;
 - Counterparty credit rating; and
 - Capital to Margin limits.
- Monitoring of Clearing Members' compliance with ICEU's Clearing Procedures and Delivery Procedures by ICEU Operations department;
- Watch List monitoring;
- Monitoring of the Counterparty Rating System ("CRS"), which aggregates key risk factors covering credit, market price, and liquidity risk;
- Review of monthly credit reports (at a minimum) with latest financial data submitted by Clearing Members;
- Annual credit reports provided to the Product Risk Committee which summarise a Clearing Member's audited annual financial statements; and
- Correspondence with relevant Clearing Member's management, legal counsel and regulators, as appropriate.

The participation requirements generally do not limit access on grounds other than compliance and risk. The requirements are based upon non-discriminatory objective criteria described above. In case of risk profile deterioration, the Clearing Membership Policy and the Counterparty Credit Risk Policy establish actions that the Clearing House may trigger.

ICEU has objective and transparent procedures for the suspension and orderly exit of Clearing Members as set out in Rules 208 and 209.

ICEU may only deny access to Clearing Members which do not meet the objective criteria listed in the abovementioned Rules.

Relevant procedures are detailed in the ICEU Clearing Rules and Procedures (please see Rules 208 and 209) which are publicly available at: <https://www.theice.com/clear-europe/regulation#rulebook>.

PRINCIPLE 19: TIERED PARTICIPATION ARRANGEMENTS

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

Key Consideration 1	An FMI should ensure that its rules, procedures, and agreements allow it to gather basic information about indirect participation in order to identify, monitor, and manage any material risks to the FMI arising from such tiered participation arrangements.
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ICEU primarily operates a principal-to-principal model of clearing participation, which means that there is no direct exposure to the default of a Clearing Member's client (unless that default precipitates the default of the Clearing Member itself).³

However, many Clearing Members provide intermediary services to clients. Such indirect participation is available in all ICEU's clearing services. All applicants to become a Clearing Member are subject to Membership due diligence both prior to becoming Clearing Members and on an on-going basis through the counterparty credit risk management, which includes the Counterparty Rating System. In all cases, the Application for Clearing Membership process establishes whether a Clearing Member is permitted to clear for its indirect participants through offering a client account. Some of ICEU's Clearing Members are only permitted to operate a house account.

ICEU does not have any formal tiered participation requirements such as Indirect Clearing models. However, as required by applicable regulation, ICEU provides a series of accounts to allow Clearing Members to segregate positions of indirect clients (i.e. clients of a direct client) from positions of the Clearing Member's direct clients.

ICEU requires Clearing Members who offer client clearing to hold segregated house and client accounts for positions and Margin and offers a choice of client segregated account structures. This model supports clearing of direct clients (a client of a Clearing Member) as well as indirect clients (a client of a client of Clearing Member) - together referred to in this self-assessment of PFMI compliance as "indirect participants".

ICEU segregates Clearing Members' proprietary and customers' positions and collateral by offering proprietary accounts, which contain records only of the positions entered into for such Clearing Member for its own account, together with assets provided as margin on that account, and a series of Customer Accounts, which offers various forms of segregation and portability to clients of Clearing Members. Further details on the Proprietary Account and various types of Customer Accounts offered by ICEU can be found in section 3 of the ICEU EMIR Disclosure Statement.

ICEU also offers a FCM model that is compliant with CFTC requirements for Clearing Members that have US based clients.

ICEU requires all Clearing Members to submit End of Day position information on all accounts via a GCM File. Where appropriate, this is used to calculate gross Margin. ICEU routinely reviews these reports, together with other reports required to be submitted to, for example, ICE Futures Europe and ICE Futures US, in order to monitor, amongst other things, the build-up of large positions by a single client across multiple Clearing Members or in the run-up to expiry of physically delivered contracts. ICEU also runs periodic checks on the validity of the standard identifiers of the clients, such as LEIs, and follows up with the relevant Clearing Member to correct the information, where relevant. Further, ICEU notes that, absent insolvency, the positions are the responsibility of Clearing Member. The management of a client default with positions across multiple Clearing Members will be the responsibility of those Clearing Members.

ICEU Clearing Rules permit it to collect information from Clearing Members about indirect participants, mainly via mandating the submission of the End of Day GCM File.

In addition, please also see ICEU's self-assessment against Principles 14 and 18 which sets out the relevant segregation models and approach to portability. Clearing Members are subject to Credit Risk Reviews on a cycle of four years, as part of which Clearing Members are required to provide information on their risk management arrangements.

³ Even with respect to FCM/BD Clearing Members, who act for the account of and of behalf of their customers, ICEU's obligations are owed to the FCM/BD Clearing Member, not directly to the customers, and the FCM/BD Clearing Member becomes liable to the Clearing House as if the relevant contracts were for the FCM/BD Clearing Member's own account (per Rule 1603(d)).

Clearing Members are required to ensure that documentation with indirect clients is in line with the ICEU Clearing Rules and Standard Terms.

Please also see ICEU’s self-assessment against Principle 14, Key Consideration 4, and 18, Key Consideration 2.

ICEU operates primarily a principal-to-principal model of clearing participation, which means that there is no direct exposure to the default of a Clearing Member’s client (unless that default precipitates the default of the Clearing Member itself). Risk analysis is therefore primarily focused on the Clearing Member.

Notwithstanding the above, ICEU has developed a set of information on tiered participation to be shared with the Board via risk metrics.

The material risks arising at ICEU from tiered participation are the default of a client, which disrupts or materially or adversely affects a Clearing Member. In the event of a Clearing Member default, ICEU could face risks should clients of a defaulting Clearing Member not be able to port or closed out.

ICEU mitigates risks by applying on a conservative approach the same risk methodology for clients and Clearing Member positions.

Please also see ICEU’s self-assessment against Principle 14, Key Consideration 4, and 18, Key Consideration 2.

ICEU may apply progressive Margin multipliers to mitigate any concentration risk of a portfolio at an account level.

Key Consideration 2	An FMI should identify material dependencies between direct and indirect participants that might affect the FMI.
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ICEU identifies material dependencies through monitoring of Clearing Members and the activity in each of its client accounts, be they in omnibus or segregated accounts. ICEU is able to show the proportion of house to client activity for its Clearing Members and, where clients are known, ICEU is also able to establish an account of the exposure to named clients in total, by clearing service and by Clearing Members.

ICEU applies Margin multipliers (or buffer Margin) where a client portfolio is overly concentrated.

ICEU monitors all Client Accounts on a continuous-time basis (i.e. real-time or daily, depending on the control) as part of its overall review of its Clearing Members. This includes, inter alia, intra-day Margin exposures, application of specific capital-to-Margin ratios on the customer account and application of concentration charges (as appropriate) on the customer account. A more detailed explanation of ICEU’s segregation and portability arrangements is provided at Principle 14 (Segregation and portability).

ICEU looks through to indirect participants in terms of position or market risk and collateralises the risk to the same confidence level as if it is brought by its direct participant. This approach is consistent with its credit risk management. Whilst the default probability is based on the direct participant, the market risk component takes full consideration of both direct and indirect participant positions. In summary, ICEU takes a very conservative approach to the risk and treats higher-order risks as if they represented a primary risk to the Clearing House.

Key Consideration 3	An FMI should identify indirect participants responsible for a significant proportion of transactions processed by the FMI and indirect participants whose transaction volumes or values are large relative to the capacity of the direct participants through which they access the FMI in order to manage the risks arising from these transactions.
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ICEU identifies indirect participants responsible for significant proportions of transactions by monitoring the activity of its Clearing Members and the activity in each of its client accounts. It is able to show the proportion of house to client activity for its Clearing Members and, where clients and indirect clients are known, ICEU is able to build a picture of the exposure to named clients in total, by clearing service and by Clearing Member.

ICEU's risk in the event of default by a Clearing Member is the position of the Clearing Member and its clients. Accordingly, ICEU's primary focus is on monitoring positions rather than volumes or values of transactions.

ICEU monitors daily reports of client positions and associated cash flows. ICEU applies Margin multipliers, where a participant's client portfolio is overly concentrated. Both ICEU and the ICE Exchanges to which it provides clearing services monitor trading activity and positions of indirect clients through, inter alia, Large Trader Reports and monitoring of positions ahead of physical delivery. Where appropriate, ICEU will require additional Margin to be posted in the form of:

- concentration charges
- stress loss charges
- capital-to-margin ratios
- shortfall margin
- buffer margin

ICEU calls Margin assuming the position risk posed by indirect participant is the first order risk to the Clearing House (or risk posed by direct participant). Credit risk component of the rating model is based solely on the direct participant. See Principle 4 for more information.

Key Consideration 4

An FMI should regularly review risks arising from tiered participation arrangements and should take mitigating action when appropriate.

ICEU reviews the risks arising from tiered participation arrangements through the production of daily client positions and associated cash flow reports. ICEU applies Margin multipliers, where a participant's client portfolio is overly concentrated.

ICEU monitors all Client Accounts as on a continuous-time basis (i.e. real-time or daily, depending on the control) as part of its overall review of its Clearing Members. This includes, inter alia, intra-day Margin exposures, inclusion in its Counterparty Rating System, application of specific capital-to-Margin ratios on the customer account and application of concentration charges (as appropriate) on the customer account. A more detailed explanation of ICEU's segregation and portability arrangements is provided at Principle 14 (Segregation and portability).

ICEU has taken legal opinions on the enforceability of its Clearing Rules in all jurisdictions where Clearing Members are based.

PRINCIPLE 20: FMI LINKS

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

Key Consideration 1	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.
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ICEU has links in place with certain CSDs. ICEU does not currently provide interoperability with other clearing houses or CCPs. Whilst ICEU does have in place operational support arrangements with certain other CCPs within the ICE group, it does not consider these to be “links” for purposes of Principle 20.

Each proposed new link is subject to an internal assessment with the following aspects being considered: the rationale and need for the proposal (whether business or regulatory); due diligence; risk analysis (including credit, liquidity, operational, custody, concentration and legal risks); the internal governance process to be followed and any regulatory approvals needed. The criteria against which the link is assessed are set out in the Counterparty Credit Risk Policy and Procedures.

Once a new FMI link is set up, and throughout the link’s existence, there is ongoing monitoring of the link tailored to the services being provided. For example, in certain cases, the monitoring of the link would take place on a daily basis as part of the settlement process, with the overall performance being reflected in risk metrics. Any non-performance that exceeds the applicable thresholds set within the relevant risk metrics is escalated to Senior Management for resolution. The underlying legal documentation is reviewed periodically on a case-by-case basis.

Further, ICEU’s Recovery Plan sets out the relevant information and steps to take in the event of severe financial stress and losses, building on the existing risk management tools, policies and procedures. The Recovery Plan takes into account the links with FMIs, with a focus where critical services and interdependencies are provided through such links.

The systemic risks posed by certain FMIs are further mitigated by ICEU’s settlement finality designation under the Financial Markets and Insolvency (Settlement Finality) Regulations 1999 (SFR), which enhances the systemic risk protection provided to Clearing Members in the event of a clearing counterparty default. Under SFR, payment instructions within ICEU’s system can be protected from administrators or liquidators of insolvent firms.

ICEU has in place links with certain CSDs. Links with CSDs are set up for the secured holding of securities transferred to ICEU as Margin by Clearing Members. Links with such CSDs are assessed in accordance with ICEU’s Finance Procedures and Counterparty Credit Risk Policy, with reference to the credit, liquidity, custody and operational risks that the link may raise. Part of the ongoing due diligence and monitoring may also involve visits to the service provider’s premises, an assessment of their organisational structure, financial stability, and their procedures for compliance and regulation, business continuity and critical payment processes.

In its Recovery Plan, ICEU has considered the impact of default loss and non-default loss as appropriate on certain exchanges and other elements of infrastructure. ICEU also recognises and regularly tests the dependency it has on the continued operation of elements of the financial infrastructure such as global payment and messaging systems.

As set out above, ICEU’s process for determining which FMIs to have link arrangements with, as well as the ongoing monitoring and due diligence for links, takes into account the other principles contained in this disclosure.

Key Consideration 2	A link should have a well-founded legal basis, in all relevant jurisdictions, that supports its design and provides adequate protection to the FMIs involved in the link.
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ICEU maintains links in the following jurisdictions: the UK, Luxembourg, Belgium and the US. All these arrangements are underpinned by a contractual framework which is reviewed on an ongoing basis by internal and external legal counsel. In addition to ensuring that there is clarity on the choice of law, any legal risks arising from operating in a different jurisdiction are identified by legal opinions and, to the extent possible, mitigated through the contractual framework.

Thorough legal due diligence alongside the contractual framework and internal policies ensure that the links as detailed above have a well-founded legal basis.	
Key Consideration 3	Linked CSDs should measure, monitor, and manage the credit and liquidity risks arising from each other. Any credit extensions between CSDs should be covered fully with high-quality collateral and be subject to limits.
N/A for ICEU.	
Key Consideration 4	Provisional transfers of securities between linked CSDs should be prohibited or, at a minimum, the retransfer of provisionally transferred securities should be prohibited prior to the transfer becoming final.
N/A for ICEU.	
Key Consideration 5	An investor CSD should only establish a link with an issuer CSD if the arrangement provides a high level of protection for the rights of the investor CSD's participants.
N/A for ICEU.	
Key Consideration 6	An investor CSD that uses an intermediary to operate a link with an issuer CSD should measure, monitor, and manage the additional risks (including custody, credit, legal, and operational risks) arising from the use of the intermediary).
N/A for ICEU	
Key Consideration 7	Before entering into a link with another CCP, a CCP should identify and manage the potential spill-over effects from the default of the linked CCP. If a link has three or more CCPs, each CCP should identify, assess, and manage the risks of the collective link arrangement.
N/A for ICEU.	
Key Consideration 8	Each CCP in a CCP link arrangement should be able to cover, at least on a daily basis, its current and potential future exposures to the linked CCP and its participants, if any, fully with a high degree of confidence without reducing the CCP's ability to fulfil its obligations to its own participants at any time.
N/A for ICEU	
Key Consideration 9	A TR should carefully assess the additional operational risks related to its links to ensure the scalability and reliability of IT and related resources.
N/A for ICEU.	

PRINCIPLE 21: EFFICIENCY AND EFFECTIVENESS

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

Key Consideration 1	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.
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The ICEU Clearing Rules and Procedures of ICEU are available to the public via the ICEU website. The ICEU Clearing Rules require ICEU to consult with Clearing Members for the majority of proposed new or amendments to existing ICEU Clearing Rules.

Both ICEU’s Client Risk Committee and Product Risk Committee include representatives of Clearing Members and their clients. Through these risk committees and other established working groups (e.g. Technology and Operations Group), ICEU seeks to meet the needs of its Clearing Members and the markets it serves in terms of products and services, clearing/settlement operations, risk management functions and technology.

ICEU has a formal process through its website to publicly disclose rule filings submitted to the CFTC, quantitative disclosures, certain policy and procedural changes, and service and product changes. ICEU has a well-established process for the review and approval of all new products to ensure the appropriate levels of approvals are achieved both in terms of internal and external governance.

ICEU also publicly discloses information regarding its organisational structure, corporate objectives, high level financial resources information (e.g. Guaranty Fund requirements, Margin), financial accounts and technology systems to provide transparency over its operations and services. See: <https://www.theice.com/clear-europe/regulation>.

The ICEU CRC and PRC includes Clearing Members, clients and independent non-executive director representation. The CRC advises the ICEU Board on any arrangements that may impact the risk management of ICEU, such as a significant change in its risk model, the default procedures, the criteria for accepting Clearing Members, the clearing of new classes of instruments or the outsourcing of functions.

The Product Risk Committee provides a platform to discuss and address participant requirements, considerations and concerns with regards to ICEU’s clearing and settlement services.

ICEU also has arrangements for informal engagement and consultation with Clearing Members, including bilateral discussions with Clearing Members, working groups - e.g. the Technology and Operations Working Group and the publication of proposed rules.

Key Consideration 2	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.
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ICEU’s documented corporate objectives and goals are described at:

https://www.ice.com/publicdocs/clear_europe/Organisational_Structure_Objectives_Strategy.pdf.

The operational reliability objectives of ICEU's systems and processes are set out in the Board Risk Appetite, which provides quantitative and qualitative definitions of risk appetite and tolerance covering core services provided by ICEU. See Principle 17, Key Consideration 3.

The Operational Risk and Resilience Framework defines areas of risk, overarching principles governing operational risk decisions, and risk reporting.

See Principle 2, Key Consideration 1 for more information relating to ICEU’s corporate objectives and performance management/reporting practices.

Through regular business, operational and risk management reviews, ICEU assesses its performance against its objectives on an ongoing basis.

The President reports to the Board on progress made by ICEU in achieving its business objectives. The Chief Risk Officer also submits information on the status of thresholds and risk indicators to the Board Risk Committee and Board at each regular committee meeting. The Risk Register is mapped to the ICEU corporate objectives. Additionally, the Executive Risk Committee, a committee comprised of ICEU Senior Management which is responsible for risk management and assisting the Chief Risk Officer in their role, where appropriate, considers and approves the business objectives of ICEU.

The Internal Audit department in London, with the support of the ICE Internal Audit department, provides ICEU with an independent source of assurance on financial, operational and compliance controls. Internal Audit staff tests control pursuant to its internal audit plan and based on an independent assessment of risks across ICEU. Issues identified are reported to the Audit Committee and progress is tracked via the audit remediation quarterly reporting.

**Key
Consideration 3**

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

Management information, including ICEU's financial performance (budget vs actual), capital requirements, cleared volumes, margin levels, operational incidents (including cyber incidents) and clearing platform/system performance (e.g. critical system uptime, EOD processing) are reviewed by the Board and its committees in accordance with the duties and responsibilities set out within the Terms of Reference.

Furthermore, processes and metrics used to evaluate ICEU's efficiency and effectiveness are addressed in the following Principles:

Business Performance – refer to Principle 2

Operational Efficiency – refer to Principle 17

Customer Service Delivery – refer to Principle 18

Governance- refer to Principles 2 and 3

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.

Key Consideration 1

An FMI should use, or at a minimum accommodate, internationally accepted communication procedures and standards.

ICEU uses SWIFT for messaging of payment transactions, Secure File Transfer Protocol (SFTP), WebSphere Messaging Queue ("MQ"), FIX API and FIXML to message clearing of transactions (including both new transactions and amendments to transactions). These messaging protocols are internationally accepted communication standards and procedures.

ISG (ICE SWIFT Gateway) functions as the interface between the internal clearing systems and the external industry-standard SWIFT (Society for Worldwide Interbank Financial Telecommunication) network.

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.

Key Consideration 1

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.

The ICEU Clearing Rules and Procedures are publicly available to Clearing Members and market participants via a link on the following webpage:

<https://www.ice.com/clear-europe/regulation>

The ICEU Clearing Rules and Procedures are to be interpreted in accordance with guidance and Circulars published by ICEU from time to time (pursuant to the definition of "Rules" in Rule 101).

ICEU Circulars can be found at:

<https://www.ice.com/clear-europe/circulars>

One of the aims of ICEU guidance and Circulars is to provide additional assistance to Clearing Members and market participants in explaining ICEU Clearing Rules and procedures and making their implications as clear as possible.

Pursuant to Rule 109, ICEU consults with its Clearing Members on all proposed rule changes by way of Circulars and undertakes prescribed regulatory filing and notification processes, all of which ensure comprehensive review and challenge of the clarity and comprehensive nature of the rules and procedures. The exception to the general principle of consulting on Rule changes is set out in Rule 109(b) which applies to specific circumstances.

The ICEU Clearing Rules comprehensively cover a number of material topics including:

- Part 2: Clearing Membership
- Part 3: Financial Requirements and Payments
- Part 4: Clearing Mechanism
- Part 5: Margin
- Part 6: Position Limits
- Part 7: Settlement and Delivery of Futures
- Part 8: Options
- Part 9: Default Rules
- Part 10: Disciplinary Proceedings
- Part 11: Guaranty Funds
- Part 12: Settlement finality Regulations and Companies Act 1989
- Part 16: FCM/ BD Clearing Member Provisions
- Part 17: Foreign Exchange
- Part 19: Sponsored Principals
- Part 23: Rules for Market transitions

In particular, Part 9 of the ICEU Clearing Rules and relevant Default Auction Procedures contains sections relating to actions to be taken following declaration of a Clearing Member Event of Default:

- Treatment of Contracts following a Clearing Member Event of Default and Hedging;
- Transfer of Contracts and Margin on a Clearing Member Event of Default;
- Termination and close out of Contracts on a Clearing Member Event of Default;
- Administrative matters concerning an Event of Default;
- Application of Assets upon an Event of Default;
- Powers of Assessment;
- Reduced Gains Distribution;
- Auctions;
- Cooling-off period and Clearing Member termination rights;
- Termination of membership;
- Non-Default Losses and Investment Losses; and
- Guaranty Fund Contributions and replenishment.

The Standard Terms Annex provides a contractual framework for actions to be taken regarding Customer Account contracts and margin following declaration of a Clearing Member Event of Default for non-FCM/BD Clearing Members and Customers) (see Principle 14 for details).

Key Consideration 2

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.

ICEU publicly discloses the general principles underlying its models and methodologies, the nature of tests performed with a summary of the test results and any corrective actions undertaken via this webpage: <https://www.ice.com/clear-europe/risk-management>

Relevant discretions, rights and obligations reserved to and imposed on ICEU, its Clearing Members and other market participants are clearly articulated in the ICEU Clearing Rules and Procedures which are publicly available at:

https://www.ice.com/publicdocs/clear_europe/rulebooks/rules/Clearing_Rules.pdf (please also see Rule 102(p)).

ICEU’s regulatory disclosures are publicly available to Clearing Members and other market participants via this webpage: <https://www.ice.com/clear-europe/regulation>

These disclosures, in conjunction with the ICEU rules and procedures and information in respect of ICEU models and methodologies allow participants to assess the risks they would incur by participating in clearing with ICEU.

Key Consideration 3

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.

ICEU ensures that documentation such as ICEU Clearing Rules, Procedures and regulatory disclosures is publicly available at:

<https://www.ice.com/clear-europe/regulation> ICEU operates on the basis that its Clearing Members are sophisticated market participants co-operating fully with ICEU and meeting relevant legal, risk and operational obligations and requirements in accordance with the ICEU Clearing Rules, Procedures and applicable laws and regulations. Therefore, ICEU understands that its Clearing Members predominantly co-ordinate their own training programmes.

Clearing Members are also under an obligation under the ICEU Clearing Rules to ensure that they have adequate systems and controls in place in order to ensure that their Representatives are adequately trained (Rule 202(a)(xiv)(D)).

That said, any market participant with a WebICE trader ID can access the 'Trader Dashboard', which contains a range of videos and documents regarding the trading functionality. From time to time, specific product pages on the ICE website may also publish recorded webinars, which market participants can access for free. These resources are supplementary however, to Clearing Members' own training programmes.

Key Consideration 4

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 costs of using the clearing services and any changes to these costs are documented via Circulars which are published on the website at <https://www.ice.com/clear-europe/circulars>.

ICEU provides all the details of its clearing services (including technology and communication procedures) publicly on the ICEU section of the ICE website <https://www.ice.com/clear-europe/client-clearing>

The information that is publicly displayed at the above sections of the ICE website will allow comparisons to be made to the extent that other FMIs offer similar services.

Key Consideration 5

An FMI should complete regularly and disclose publicly responses to the CPSS-IOSCO disclosure framework for financial market infrastructures. An FMI also should, at a minimum, disclose basic data on transaction volumes and values.

It is ICEU's policy to review regularly (at least annually) its responses to the "CPSS-IOSCO Disclosure Framework for Financial Market Infrastructures", with consideration to changes to its products/services, business/organisation structure, policy, processes and control environment, systems and technology and the regulatory environment.

A link to ICEU's public disclosure of responses to the "CPSS-IOSCO Disclosure Framework" document is available on this webpage:

The latest published link is available here:

https://www.ice.com/publicdocs/clear_europe/ICE_Clear_Europe_Disclosure_Framework.pdf

ICEU discloses data on transaction volumes and values for the clearing services that it offers here: <https://www.ice.com/report-center>.

Price information is also made available. ICEU publishes the end of day prices that are used by the CCP for the purposes of undertaking settlement of Clearing Member positions at the end of each day. This data is available to Clearing Members and to their customers in a variety of forms and through a number of channels, including trade and position statements, IRM (ICE Risk Model), price files and third-party quote vendors. This data is available through both secured channels (e.g. when disclosed as part of a Clearing Member Position Statement) and public channels.

ICE Market Data via the ICE Website:

<https://www.ice.com/fixed-income-data-services> IRM (ICE Risk Model) via the ICE Website:

<https://www.ice.com/clear-europe/risk-management> IRM (ICE Risk Model) User Guide is available via the ICE website:

https://www.ice.com/publicdocs/clear_europe/ice_risk_model_tool_user_guide.pdf

ICEU has a dedicated section of theice.com website devoted to its operations: <https://www.ice.com/clear-europe>

This includes sections on:

- Clearing Risk (including details of margin methodology and relevant margin rates, Product and Board Risk Committee details, risk waterfalls, guaranty funds, back testing and default management);
- Membership (details of membership criteria and Clearing Members), Circulars that have been issued by ICEU, Operations (including Banking and Billing procedures and relevant delivery forms);
- Technology (including details of various ICEU systems);
- Treasury & Banking (details of consolidation banks, APS, investment activities, acceptable collateral and haircuts); and
- Client Clearing and Cleared Products.

It also contains a Regulation section containing the ICEU Clearing Rules and Procedures, relevant rule filings, regulatory disclosures and quantitative disclosures).