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Cboe Clear U.S., LLC: Principles for Financial Market Infrastructures Disclosure

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Table of Contents

Table of Contents

Table of Contents 2
1. Executive Summary 3
2. Overview of Cboe Clear U.S., LLC ("CCUS" or the "Clearinghouse") 4
2.1. General Background on the FMI 4
2.2. Legal and Regulatory Framework 5
3. Principle-by-Principle Summary Narrative Disclosure 7
3.1. Principle 1: Legal Basis 7
3.2. Principle 2: Governance 12
3.3. Principle 3: Framework for the Comprehensive Management of Risks 22
3.4. Principle 4: Credit Risk 31
3.5. Principle 5: Collateral 40
3.6. Principle 6: Margin 44
3.7. Principle 7: Liquidity Risk 57
3.8. Principle 8: Settlement Finality 71
3.9. Principle 9: Money Settlements 74
3.10. Principle 10: Physical Deliveries 78
3.11. Principle 11: Central Securities Depositories 79
3.12. Principle 12: Exchange-of-value Settlement Systems 79
3.13. Principle 13: Participant-default Rules and Procedures 80
3.14. Principle 14: Segregation and Portability 88
3.15. Principle 15: General Business Risk 94
3.16. Principle 16: Custody and Investment Risks 98
3.17. Principle 17: Operational Risk 102
3.18. Principle 18: Access and Participation Requirements 117
3.19. Principle 19: Tiered Participation Arrangements 122
3.20. Principle 20: FMI Links 127
3.21. Principle 21: Efficiency and Effectiveness 131
3.22. Principle 22: Communication Procedures and Standards 134
3.23. Principle 23: Disclosure of rules, key procedures, and market data 136
4. List of Publicly Available Resources 140

1. Executive Summary

The date of this disclosure is June 15, 2026.
This disclosure can also be found at CCUS Regulation.
For further information, please contact Cboe Clear U.S. Operations at clearus.operations@cboe.com.

Cboe Clear U.S., LLC ("**CCUS**" or the "**Clearinghouse**") is a Delaware limited liability company and a wholly-owned subsidiary of Cboe Global Markets, Inc. ("**CGM**"), a publicly-traded Delaware corporation. CGM and CCUS support the work of the Committee on Payments and Market Infrastructures ("**CPMI**") and the International Organization of Securities Commissions ("**IOSCO**") to encourage the clear and comprehensive disclosures set forth in the Principles for Financial Market Infrastructures: Disclosure Framework and Assessment Methodology (the "**Disclosure Framework**" or the "**Disclosures**").[1] CCUS operates a clearing house which provides clearing and settlement services for a broad range of derivatives products executed on or through a participating exchange for its Clearing Members. CCUS is registered with the Commodity Futures Trading Commission ("**CFTC**") of the United States ("**U.S.**") as a derivatives clearing organization ("**DCO**").

CCUS provides clearing and settlement services to a broad range of market participants. The participants that face CCUS directly access the Clearinghouse's services and assume responsibility for their own positions and, where applicable, those of their customers, as clearing members ("**Clearing Members**"). The core clearing services that CCUS provides its Clearing Members and market participants are the:

- Operation of the Clearinghouse systems and data integral to its ongoing operations;
- Acceptance of executed trades for clearing;
- Management of market, credit, liquidity and other risks; and
- Processing of settlement and collateral.

The Clearinghouse utilizes a range of risk management practices to prudently manage the risks to which it is exposed, including market, credit, liquidity and operational risks. These practices are designed to support the safety and resilience of the Clearinghouse and the markets it serves. Some of the key elements of CCUS's risk management framework include:

- Ongoing monitoring of risk exposures, including intraday risk monitoring;
- Management of counterparty credit and liquidity risks;
- Daily settlement of mark-to-market obligations through the exchange of variation margin;
- Collection and management of initial margin; and
- Maintenance of a financial safeguards framework designed to address potential losses arising from participant default.

These risk management practices are described in greater detail in the Principles that follow.

Summary of major changes since the last update of the disclosure

This is CCUS's initial set of Disclosures published on its website.

[1] See the Committee on Payment and Settlement Systems and Board of the International Organization of Securities Commissions, *Principles for Financial Market Infrastructures: Disclosure Framework and Assessment Methodology* (Dec. 2012).

2. Overview of Cboe Clear U.S., LLC ("CCUS" or the "Clearinghouse")

2.1. General Background on the FMI

CCUS clears derivatives trades, and other margined-eligible products approved for clearing by the Clearinghouse, executed on or through a participating exchange for its Clearing Members. CCUS carries out its risk management responsibilities independently from its commercial operations and from those of CGM. As a DCO, CCUS is committed to advancing the public interest by fostering markets that are safe, fair, and efficient. CGM's ownership of multiple equities, options, and futures exchanges enhances the overall effectiveness of risk management. In particular, having a related futures exchange enables CCUS to oversee risk comprehensively throughout the entire lifecycle of a trade, using coordinated pre-trade and post-trade tools and controls.

CCUS recognizes its role in supporting the safety and soundness of the markets for which it provides clearing services. In this capacity, the Clearinghouse maintains transparent and well-articulated risk management standards that enable Clearing Members and their customers to assess the risks associated with their clearing activities. These standards are supported by publicly available rules, policies and disclosures. As market conditions and participants' needs evolve, the Clearinghouse adapts its services and risk management practices accordingly. CCUS applies robust risk management standards to the transactions it clears, designed to support effective risk mitigation across the products and markets the Clearinghouse serves.

The Clearinghouse operates as a central counterparty, interposing itself between counterparties to cleared transactions and thereby assuming the role of buyer to each seller and seller to each buyer. This structure is designed to reduce counterparty risk and promote market stability. Clearing members are the direct participants of the Clearinghouse and may, where applicable, provide clearing services to their customers. CCUS's model reflects the role of Clearing Members as intermediaries, registered with the CFTC as futures commission merchants ("**FCMs**"), responsible for managing customer relationships and associated risk, while remaining accountable to the Clearinghouse for all obligations arising from clearing transactions. A list of the Clearinghouse's Clearing Members can be found on the CCUS website.[2]

Consistent with its core clearing activities, CCUS's primary responsibility to market participants is the reliable and timely provision of trade processing and settlement services. The Clearinghouse operates on a continuous basis and maintains round-the-clock monitoring of its systems to support uninterrupted service delivery. Dedicated operational functions oversee key components of the clearing process, with staffing structured to provide coverage and oversight of systems performance and critical processes.

The Clearinghouse monitors operational performance against defined performance standards and employs real-time tools to track system activity, including the flow of inbound and outbound data and messages. These risk management tools include novation and netting; collection and management of collateral (initial margin) to support each position or portfolio of positions; collection and disbursement of funds to mark positions to market at least twice each business day; final settlement according to a contract's specifications; and, if necessary, management of a Clearing Member default. Other risk management tools provide visibility into transaction volumes, processing rates, and system capacity, enabling the identification and timely

[2] See https://www.cboe.com/solutions/clearing/us/membership.

escalation of potential issues. The Clearinghouse also monitors specific types of activity that may affect operational performance or risk exposure, such as large-scale transfers between Clearing Members, as these activities can impact their risk profiles. Ongoing coordination with relevant internal functions supports situational awareness, particularly during periods of heightened activity or volatility.

CCUS actively monitors its counterparty relationships and has a robust financial safeguards waterfall plan, which includes multiple layers of protection against market participant losses in the event of a Clearing Member default. The default waterfall plan is based on CCUS's methodologies for margining and stress testing to size CCUS's default financial resources requirement, as well as the application of policies for collateral acceptance and management and liquidity risk management. CCUS's default waterfall is designed to limit the risk of exposure to potential losses from a Clearing Member default and may be activated in the event a Clearing Member is declared in default pursuant to CCUS rules ("**CCUS Rulebook**" or the "**Rules**"). CCUS's financial safeguards waterfall is designed to ensure that sufficient resources are in place to manage multiple Clearing Member default events under extreme but plausible market conditions.

General Organization of CCUS

CCUS's governance arrangements are based on its registration with the CFTC as a DCO and under Delaware state limited liability company law. CCUS's governance structure is defined in both its Limited Liability Company Agreement and the CCUS Rulebook. The Board holds primary oversight responsibility for CCUS, with its central objective — along with that of CCUS — being to promote the safety and efficiency of the Clearinghouse and to contribute to the overall stability of the broader financial system, while also taking into account the legitimate interests of key market stakeholders. To support this mission, the Board has established the Risk Management Committee, which is specifically tasked with focusing on CCUS's risk management activities, and additional committees such as the Default Management Committee, Risk Advisory Working Group, Credit Risk Committee and Margin and Stress Testing Committee. CCUS shows its accountability to key stakeholders through its formalized and well-documented governance framework. The Board, Risk Management Committee, Default Management Committee, and Risk Advisory Working Group all include representation from market participants, giving those participants a direct role in ensuring the committees address their legitimate interests.

CCUS is subject to oversight by the CFTC, which ensures that CCUS adheres to its governance framework, including the requirements defined by the CFTC under Part 39 of the CFTC Regulations, specifically CFTC Regulation §39.24(a)(1), which mandates that CCUS's governance arrangements expressly uphold the public interest considerations of clearing members, their customers, and other relevant stakeholders.

2.2. Legal and Regulatory Framework

CCUS is a Delaware limited liability company and a wholly-owned subsidiary of CGM. CCUS is registered as a DCO and the Clearinghouse's primary regulator is the CFTC. CCUS operates under a U.S. legal framework comprised of the Commodity Exchange Act ("**CEA**"), including the core principles for DCOs ("**DCO Core Principles**"), corresponding CFTC regulations under Part 39, and the U.S. Bankruptcy Code. This framework is well-developed, reliable, and provides strong legal certainty regarding CCUS's authority to carry out clearing and settlement functions and to enforce its rules. CCUS reflects these legal requirements in its Rulebook and policies by ensuring that its Rules are aligned with the underlying U.S. legal standards. Together, the CCUS Rulebook and applicable CFTC regulations establish a clear, transparent, and well-founded-legal structure governing CCUS's activities.

The CFTC serves as the U.S. federal regulator responsible for administering the CEA and overseeing the U.S. commodity derivatives markets. The DCO Core Principles set forth in the CEA provide the foundational framework governing how a DCO must operate. In addition to the Core Principles, the CFTC has adopted regulations, particularly Part 39 of the CFTC's regulations, and other guidance that provides additional detail regarding a DCO's obligations under the DCO Core Principles. Under the CEA's DCO Core Principles, all DCOs must adopt and enforce rules that comply with the DCO Core Principles and applicable CFTC regulations. As a Subpart C DCO, CCUS is required to comply not only with Subpart C but also with Subparts A and B of Part 39. The CFTC designed these regulations to align with the standards set out in the Principles for Financial Market Infrastructure ("**PFMIs**"). As a result, adherence to Part 39 of the CFTC's regulations also reflects CCUS's broader compliance with the PFMI framework. U.S. law also sets forth a clear framework for managing a Clearing Member default and a DCO failure in the Bankruptcy Code and Part 190 of CFTC regulations, as discussed further in the Disclosures.

System Design and Operations

CCUS's Risk Management function spans credit, market, and liquidity risk; model development and methodology; pricing and valuations; and default management processes. Risk Management designs and maintains the risk models used to calculate initial margin and guaranty fund requirements and continuously monitors market participants' exposures on a 24-hour per day, seven days per week basis, marking positions to real time pricing and assessing counterparty credit quality and risk. Risk Management also implements CCUS's liquidity risk framework and oversees financial resources to meet settlement obligations.

Risk Management systems pull in necessary transaction data for the calculation of settlement variation margin obligations and initial margin requirements. CCUS uses multiple methods to manage current and potential future exposures. Among these are mark-to-market settlement cycles at least twice daily – a midday and end of day settlement cycle – which cover the settlement of initial and variation margin requirements. End-of-day mark-to-market settlement obligations are calculated each business day using settlement prices. The financial settlement systems create variation and initial margin call settlement instructions, after the risk management calculations have been completed, for review and approval by CCUS. Once approved, these settlement instructions are submitted to CCUS's settlement banks for direct debit and credit to Clearing Members' bank accounts and reports are generated for Clearing Members. CCUS has an established timeline for the movement of funds for intraday and end-of-day settlements cycles each business day for initial margin and variation margin requirements, as summarized below:

- CCUS calculates midday initial and variation margin at approximately 12:00 PM Central Time ("**CT**") each business day and requires midday margin deficits, including initial and variation margin requirements, be satisfied by 2:00 PM CT the same business day.
- CCUS calculates end-of-day initial and variation margin at approximately 4:00 PM CT each business day and requires end-of-day margin deficits, including initial and variation requirements, be satisfied by 8:00 AM CT the following business day.

CCUS schedules settlement cycles in accordance with documented procedures that account for applicable holidays and non-business days. Settlement timing and any schedule changes are communicated to Clearing Members through approved channels, including advance clearing notices. CCUS also publishes a Holiday Calendar on its website to promote transparency and operational clarity.

3. Principle-by-Principle Summary Narrative Disclosure

3.1. Principle 1: Legal Basis

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

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.

CCUS clears derivatives trades executed on or through a participating exchange for its Clearing Members. Upon acceptance of a contract for clearing by CCUS, pursuant to CCUS Rule 402(a)(i), the contract is novated and CCUS is substituted as the legal counterparty to the buyer and seller of the contract, succeeding to all rights and assuming all obligations of the Clearing Member's party to the contract. Once a trade is accepted for clearing, CCUS:

- Collects and manages collateral (initial margin) to support each position or portfolio of positions;
- Collects and disburses funds to mark positions to market at least twice each business day;
- Settles positions by netting or final settlement according to a contract's specifications; and
- If necessary, would manage a Clearing Member default.

Currently, CCUS conducts clearing and settlement activities solely in the United States.

The Commodity Exchange Act ("**CEA**") and Commodity Futures Trading Commission ("**CFTC**") regulations require that these activities and other significant aspects of a derivatives clearing organization's ("**DCO**") operations and risk management practices have a legal framework that is well-founded, transparent and enforceable.[3]

The legal basis for the material aspects of CCUS's activities focuses on the credit, liquidity, and depository risks that CCUS faces in conducting its clearing and settlement services as they relate to the activities of CCUS Clearing Members, settlement banks and collateral custodians. The legal basis for CCUS's clearing and settlement activities is also considered in the context of a Clearing Member default.

The CCUS Rulebook is legally binding and establishes a basis for CCUS's activities, including terms and conditions governing the relationship between CCUS and its Clearing Members. In addition, CCUS Rule 303 provides that any person initiating or executing a transaction to be cleared by CCUS, and any person for whose benefit such a transaction has been initiated or executed, expressly consents to the jurisdiction of CCUS and agrees to be bound by and comply with CCUS Rules in relation to such transactions.

Beyond its contractual arrangements with Clearing Members set out in the CCUS Rulebook, CCUS also depends on its legal agreements with Clearing Members and a series of contractual legal agreements with third party entities such as settlement banks and collateral custodians. These agreements, including cash settlement arrangements and custody contracts that support CCUS's clearing and settlement functions, are governed by U.S. state law. Collectively, they help

[3] DCO Core Principle R provides that each DCO "shall have a well-founded, transparent, and enforceable legal framework for each aspect of the activities" of the DCO. Commission Regulation §39.27(b) similarly provides that a DCO "shall operate pursuant to a legal framework that addresses each aspect of the activities of the derivatives clearing organization", including "significant aspects of the derivatives clearing organization's operations, risk management procedures, and related requirements."

ensure, among other protections, settlement finality and the availability of collateral in both normal market conditions and during periods of stress, including events involving a Clearing Member default.

The legal basis for the finality of settlements includes CFTC Regulation §39.14(d) and CCUS Rules 404(d) and 403(e), in addition to contractual agreements with settlement banks and collateral custodians that are described in CCUS's disclosures for Key Consideration 1 of Principle 8.

U.S. Legal Framework

CCUS operates under a U.S. legal framework comprised of the CEA, corresponding CFTC regulations, and the U.S. Bankruptcy Code. This framework is well-developed, reliable, and provides strong legal certainty regarding CCUS's authority to carry out clearing and settlement functions and to enforce its rules. CCUS reflects these legal requirements in its Rulebook and policies by ensuring that its rules are aligned with the underlying U.S. legal standards. Together, the CCUS Rulebook and applicable CFTC regulations establish a clear, transparent, and well-founded legal structure governing CCUS's activities, consistent with CFTC Regulation §39.27(b) and DCO Core Principle R.[4]

The CFTC serves as the U.S. federal regulator responsible for administering the CEA and overseeing the U.S. commodity derivatives markets. CCUS, as a registered DCO under the CEA, is subject to the CFTC's regulatory oversight. The DCO Core Principles set forth in the CEA provide the foundational framework governing how a DCO must operate. In addition to the DCO Core Principles, the CFTC has adopted regulations, particularly Part 39 of the CFTC's regulations, and other guidance that provides additional detail regarding a DCO's obligations under the DCO Core Principles.

Under the CEA's DCO Core Principles, all DCOs must adopt and enforce rules that comply with the Core Principles and applicable CFTC regulations. As a Subpart C DCO, CCUS is required to comply not only with Subpart C but also with Subparts A and B of Part 39. The CFTC designed these regulations to align with the standards set out in the Principles for Financial Market Infrastructure ("**PFMIs**"). As a result, adherence to Part 39 of the CFTC's regulations also reflects CCUS's broader compliance with the PFMI framework.

U.S. law also sets forth a clear framework for managing a Clearing Member default and a DCO failure in the Bankruptcy Code and Part 190 of CFTC regulations, as discussed further below.

Key Consideration 2:

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

[4] CFTC Regulation §39.14(d) provides that: "A derivatives clearing organization shall ensure that settlements are final when effected by ensuring that it has entered into legal agreements that state that settlement fund transfers are irrevocable and unconditional no later than when the derivatives clearing organization's accounts are debited or credited; provided, however, a derivatives clearing organization's legal agreements with its settlement banks may provide for the correction of errors."

The legal framework governing CCUS's clearing and settlement operations as a CFTC-regulated DCO, along with the CCUS Rulebook—which is binding on all Clearing Members—are clear, comprehensible, and readily accessible to relevant stakeholders, including Clearing Members and the public. The CEA and applicable CFTC regulations can be accessed on the CFTC's website and through other publicly available resources. CCUS's Rulebook, together with its supporting policies and procedures, outlines how CCUS meets, and requires its Clearing Members to meet, the DCO Core Principles under the CEA and the associated Part 39 CFTC regulations, as well as other relevant statutory and regulatory obligations. The Rulebook is publicly available on the CCUS website.[5]

As a registered DCO, CCUS must maintain rules that align with the DCO Core Principles and all applicable CFTC regulations. To evaluate compliance with these requirements, the CFTC conducts regulatory examinations of CCUS. During these reviews, the CFTC assesses CCUS's rules and procedures for consistency with governing laws and regulatory standards. As part of this process, the CFTC also examines CCUS's risk management tools to ensure they conform to the applicable CFTC regulations.

CCUS's internal frameworks and policies, which are based on the requirements of the DCO Core Principles, relevant CFTC regulations, and the CCUS Rulebook, are subject to annual internal review and approval. This annual review serves to confirm that CCUS's rules, policies and procedures continue to be consistent with the relevant legal framework.

Changes to CCUS's Rules

CCUS files changes to its Rulebook and internal policies with the CFTC pursuant to Part 40 of the CFTC regulations. These filings are available to the public on the CCUS and the CFTC websites. CCUS generally files such changes pursuant to CFTC Regulation § 40.6, which provides for a 10-day review period during which the CFTC may issue a stay of the certification or extend the review period if the CFTC requires additional time to evaluate the rule filing.

CCUS issues Clearing Notices for new rules and policies and changes to existing rules and policies that could affect its Clearing Members on its website.[6]

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.

The CCUS Rulebook, in conjunction with the CEA and related CFTC regulations, provides the legal basis for CCUS's clearing and settlement activities. CCUS articulates the legal basis for any changes to its activities through the CFTC's public rule filing process by providing in its filings of new or amended rules or policies the required explanation of the legal basis for any such changes.

CCUS also articulates the legal basis for its activities to relevant authorities, Clearing Members and other market stakeholders, and the general public:

[5] See https://cdn.cboe.com/resources/membership/Cboe-Clear-US-Rulebook.pdf.

[6] See https://www.cboe.com/solutions/clearing/us/notices/ccus-clearing.

- Relevant authorities – CCUS communicates the legal basis for its activities to the CFTC in the Chief Compliance Officer Annual Report required by CFTC Regulation §39.10(c)(3) and during CFTC examinations.

- Clearing Members and other market stakeholders – CCUS conducts regular one-on-one meetings with Clearing Members that generally include conversations of the authority under which CCUS undertakes its activities; and the regular convening of the CCUS Risk Advisory Working Group.

- General public – the CCUS Rulebook, Clearing Notices, and other information that describes CCUS's clearing and settlement activities are publicly available on CCUS's website.[7]

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.

As noted in Key Consideration 1, CCUS's activities are generally governed by U.S. law, primarily the CEA and relevant CFTC regulations promulgated thereunder. CCUS's activities are also governed by the CCUS Rulebook (construed in accordance with Illinois law), its Limited Liability Company Agreement, and legal agreements with Clearing Members, settlement banks, and collateral custodians. CCUS's legal agreements with Clearing Members, settlement banks and collateral custodians are generally governed by U.S. state law. CCUS has a high level of certainty that its rules and procedures related to its core activities are enforceable, as its rules and procedures are enforced on a daily basis through the regular performance of its core clearing and settlement activities.

With respect to CCUS's ability to resolve a Clearing Member default, including closing out or liquidating open positions, liquidating collateral and/or liquidating or transferring customer positions and collateral, CCUS's practices are governed by the CCUS Rulebook and the U.S. legal framework for addressing a Clearing Member default, which includes the U.S. Bankruptcy Code and Part 190 of CFTC Regulations. This legal framework is tested and well-established and provides CCUS with a high level of certainty that it has the ability to efficiently and effectively manage a Clearing Member default under its Rules.

CCUS enforces and acts in accordance with its Rules with a high level of certainty that its Rules will not be stayed, voided, or any actions taken under the Rules reversed. It is well-settled under U.S. Law that a DCO's rules are enforceable against its clearing members and any person subject to the DCO's jurisdiction. CCUS is not aware of any court in any relevant jurisdiction that has held that its actions under its Rules, procedures or agreements could be voided, reversed or be subject to stays. Additionally, it is well-established that any state law claims that could affect the operations of a DCO are preempted by federal law under the CEA, ensuring that any claims against CCUS's activities must be pursued in federal court under the comprehensive federal legal framework of the CEA and providing further certainty regarding actions taken by CCUS.

Legal Framework for Managing a Clearing Member Default

U.S. law, in particular the U.S. Bankruptcy Code and Part 190 of CFTC Regulations, sets forth

[7] See https://www.cboe.com/solutions/clearing/us.

a clear framework for the management of a Clearing Member default event. Under the U.S. Bankruptcy Code, certain DCO activities are protected from an automatic bankruptcy, allowing a DCO to manage a defaulting clearing member according to the DCO's rules. Specifically, the U.S. Bankruptcy Code provides safe harbors to allow DCOs to exercise certain contractual rights in the face of a default, including the offset, payment, or transfer of obligations. CCUS Rule 502 provides CCUS the ability to exercise these rights in the event of a default. These safe harbors are well-established and tested and provide a high level of certainty that CCUS Rules related to the safe harbors will be enforced in the event of a default.

In addition, Part 190 of CFTC Regulations sets forth a well-established framework for the liquidation of a commodity broker in the event of insolvency. Both the U.S. Bankruptcy Code and Part 190 of CFTC Regulations include provisions that protect a DCO's right to immediately enforce its interest in the collateral it holds to margin positions and to guarantee performance of its Clearing Members' obligations. Further, the manner in which CCUS holds collateral is intended to ensure the enforceability of CCUS's security interest in the collateral.

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.

CCUS is not aware of any potential conflict of laws across relevant jurisdictions in respect of its rules. If CCUS becomes aware of any conflict of law, CCUS will develop rules and procedures to mitigate any such risk.

3.2. 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.

CCUS is a Delaware limited liability company and a wholly-owned subsidiary of Cboe Global Markets, Inc. ("**CGM**"), a publicly-traded Delaware corporation.

CCUS establishes and oversees its risk appetite through CGM's Enterprise Risk Management ("**ERM**") framework, which defines the risk taxonomy and requires CCUS-specific risk appetite statements. CCUS documents the level and type of risk CCUS is willing to accept in a Risk Appetite Chart that is reviewed by the Board annually. CCUS monitors residual risk against established tolerances set forth in the Risk Appetite Chart with the quarterly presentation of Risk Tolerance Charts to the Board by the Chief Risk Officer ("**CRO**"), highlighting risks that exceed CCUS's risk appetite or risk tolerance along with plans for risk mitigation.

In accordance with CFTC Regulation §39.24(a)(1), CCUS's governance arrangements place a high priority on the safety and efficiency of the DCO by requiring that all material risk issues are addressed by the Risk Management Committee and the Board. CCUS is dedicated to upholding the integrity of the contracts it clears and to contributing to the stability of the broader financial system. Consistent with CFTC Regulation §39.24(a)(1), the Board takes into account the stability of the broader financial system and other relevant public interest considerations in its decision-making and governance processes regarding CCUS. This mandate is set forth in CCUS Rule 201(b):

"*Cboe Clear U.S. has the power and authority to operate and regulate its clearing and settlement facilities to ensure that such facilities are not used for any improper purpose and to establish and enforce Rules and procedures to reduce systemic risk and facilitate the orderly clearing of Contracts through Cboe Clear U.S. by Clearing Members. These Rules are intended to support the stability of the broader financial system and relevant public interest considerations of clearing members, their customers, and other relevant stakeholders.*"

CCUS carries out its risk management responsibilities independently from its commercial operations and from those of CGM. As a DCO, CCUS is committed to advancing the public interest by fostering markets that are safe, fair, and efficient. CGM's ownership of multiple equities, options, and futures exchanges enhances the overall effectiveness of risk management. In particular, having a related futures exchange enables CCUS to oversee risk comprehensively throughout the entire lifecycle of a trade, using coordinated pre-trade and post-trade tools and controls.

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.

CCUS's governance arrangements are based on its registration with the CFTC as a DCO and Delaware limited liability company law.

CCUS's governance structure is defined in both its Limited Liability Company Agreement ("**LLC Agreement**") and the CCUS Rulebook. Under the LLC Agreement, the CCUS Board provides oversight over the management and operations of the company. The Board consists of between three and eight directors and must include at least two market participants as well as at least two individuals who are not executives, officers, or employees of CCUS or its affiliates.

The Board maintains primary oversight of the governance of CCUS. The Board oversees the CCUS Chief Risk Officer ("**CRO**") by receiving direct reports from the CRO. The CRO is directly available to the Board. As part of fulfilling its oversight and governance responsibilities, the Board has established a Risk Management Committee to serve as advisory committee to the Board with regard to any matters that could materially affect the risk profile of CCUS. The Risk Management Committee reports directly to the Board on matters that could materially affect the risk profile of CCUS in its capacity as a DCO.

The Risk Management Committee has established two additional committees to assist in fulfilling its responsibilities. The Default Management Committee is responsible for overseeing CCUS's default management process and its default management drills. The Risk Advisory Working Group ("**RWG**") is a committee comprised of Clearing Members and their customers that is responsible for providing independent and informed risk-based input from the perspective of market participants to the Risk Management Committee regarding matters that could materially affect the risk profile of the Clearinghouse.

Each of these committees operate under written charters that outline their respective duties. In addition, CCUS maintains three internal governance committees composed solely of CCUS personnel that are responsible for offering specialized expertise and oversight on particular areas of risk management. The internal governance committees work closely with CCUS Senior Management and are made up of senior level staff with knowledge of specific risk domains. Each committee is composed of the CCUS CRO and senior employees selected for their subject matter expertise.

Accountability of CCUS's Governing Bodies to Clearing Members, Customers, and Other Relevant Stakeholders

CCUS shows its accountability to key stakeholders through its formalized and well-documented governance framework. The Board, Risk Management Committee, Default Management Committee, and Risk Advisory Working Group all include representation from market participants, giving those participants a direct role in ensuring the committees address their legitimate interests. Under their respective charters, both the Risk Management Committee and the Risk Advisory Working Group must include at least two clearing member representatives and at least two representatives of customers of clearing members. The Default Management Committee is required to include at least one market participant.

CCUS is subject to oversight by the CFTC, which ensures that CCUS adheres to its governance framework, including the requirements of CFTC Regulation §39.24(a)(1). As noted above, this regulation mandates that CCUS's governance arrangements expressly uphold the public interest considerations of clearing members, their customers, and other relevant stakeholders.

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.

As described in Key Consideration 2, the Board holds primary oversight responsibility for CCUS, with its central objective, along with that of CCUS, being to promote the safety and efficiency of the Clearinghouse and to contribute to the overall stability of the broader financial system, while also taking into account the legitimate interests of key market stakeholders. To support this mission, the Board has established the Risk Management Committee, which is specifically tasked with focusing on CCUS's risk management activities.

In carrying out their oversight duties, the Board and Risk Management Committee engage regularly with the President of CCUS to monitor, among other matters, CCUS's progress in meeting its key strategic and operational objectives. The Risk Management Committee also interacts frequently with CCUS Senior Management as part of its supervisory functions. The Risk Management Committee reviews and approves any material changes to CCUS's risk management framework. If the Risk Management Committee concludes that a proposed change may materially alter the Clearinghouse's risk profile, it must present a recommendation to the Board for further consideration and approval.

The Board conducts a self-evaluation of its own performance at least annually. As part of this process, the Board's independent Directors have an opportunity to evaluate and discuss the Board's performance in sessions held without management present.

Risk Management Committee

The Risk Management Committee is comprised of at least one Public Director from the Board, a minimum of two representatives from clearing members, and at least two representatives of customers of clearing members. Working in close coordination with the Board, the Risk Management Committee provides guidance on the Clearinghouse's risk management oversight, including evaluating the effectiveness of CCUS's overall risk management framework.

As part of its mandate, the Risk Management Committee advises the Board on any matter that could materially affect CCUS's risk profile as a DCO. These matters include, but are not limited to:

- significant modifications to CCUS's risk models, default-management procedures, financial resources, and credit-risk management practices, as well as substantial updates to related policies governing the development, testing, and calculation of those elements;
- major changes to clearing-member participation standards and eligibility requirements;
- the introduction of new products whose margin, liquidity, pricing, default-management, or other risk characteristics differ meaningfully from those of products currently cleared by CCUS;
- material revisions to CCUS's risk-monitoring methodologies;
- regulatory proposals that may raise novel issues or regulatory risks prior to implementation, including advising the Board on the potential regulatory impact of such changes; and
- any other significant risk management concerns, including those related to policy matters, financial safeguards, financial surveillance, or membership issues

Other Committees

Default Management Committee

The Default Management Committee ("**DMC**") is established by the Risk Management Committee to help manage risks to the Clearinghouse and its non-defaulting Clearing Members when a Clearing Member defaults, is at risk of defaulting, or when a nondefault loss arises. The DMC is chaired by the Clearinghouse's Chief Risk Officer ("**CRO**") and includes additional senior management representatives, along with one member who represents either a clearing member or a non-clearing exchange participant that is a customer of a Clearing Member. The DMC's responsibilities include:

- Providing strategic direction for default preparedness;
- Meeting during a Clearing Member default or imminent default to assist with all aspects of default management, including reviewing and approving actions to manage and mitigate risks associated with the positions of one or more defaulting Clearing Members;
- Meeting in the event of a non-default loss to review and approve how the Guaranty Fund will be applied and how such losses will be allocated between the Clearinghouse and its Clearing Members;
- Contributing to the annual testing of the Clearinghouse Default Management Plan; and
- Providing an annual report on its activities to the Risk Management Committee.

Risk Advisory Working Group

The Risk Advisory Working Group ("**RWG**") is formed by the Risk Management Committee in accordance with CFTC Regulation §39.24(b)(12) to supply the Risk Management Committee with risk-focused perspectives from a diverse range of market participants on issues that may materially influence the Clearinghouse's risk profile. The RWG must include at least two clearing member representatives and at least two representatives of customers of clearing members. This composition ensures the group possesses the industry expertise needed to provide independent, knowledgeable input on matters referred to it.

Members of the RWG are appointed by the Risk Management Committee, with attention given to representing a broad cross section of market stakeholders and incorporating a variety of operational and risk management backgrounds. Under its charter, RWG participants must act in a manner that supports the Clearinghouse's safety and efficiency and contributes to the stability of the broader financial system. The RWG meets at least twice annually, and more often if necessary, and prepares a written summary of each meeting for the Risk Management Committee.

Managing Potential Conflicts of Interest

Integrity is a core value for CGM and CCUS. The Board's structure, composition, and governing policies are designed to ensure CCUS fulfills its regulatory responsibilities as a DCO and enables the Board to supervise CCUS in a way that prioritizes the Clearinghouse's safety, efficiency, and broader financial-system stability.

CCUS maintains a comprehensive framework for identifying and addressing potential conflicts of interest, which include:

- CGM's Code of Business Conduct and Ethics, which outlines conflict of interest standards applicable to all CCUS directors, officers, and associates.
- CCUS Rule 206, which provides specific procedures for managing conflicts of interest.

- Conflict of interest and confidentiality requirements applicable to members of the Risk Management Committee, RWG, and DMC, with the DMC's charter including additional provisions tailored to its responsibilities.
- Inclusion on the Board of individuals designated as "public" directors, as defined under CFTC regulations.

The Code of Business Conduct and Ethics ensures that directors, officers, and employees maintain the highest ethical standards and act in the best interests of CGM and its subsidiaries, including CCUS. CGM has also adopted a Conflicts of Interest Policy applicable to all employees. The policy addresses guidelines and requirements that associates must follow to avoid conflicts of interest, and the appearance of conflicts of interest, which may arise between personal and business interests. Employees must annually certify that they have received, understand, and will comply with both the Code of Business Conduct and the Conflicts of Interest Policy.

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 Board consists of suitable individuals having appropriate skills and experience with diverse professional backgrounds who collectively bring a broad range of experience, expertise and perspectives, together with a demonstrated reputation for integrity. In identifying and nominating candidates, the Board and supporting committees consider applicable regulatory requirements, including those of the CFTC, as well as relevant corporate governance standards. Directors are selected based on characteristics essential to effective Board performance. These include, among other factors:

- Integrity, objectivity, sound judgment and leadership;
- Relevant expertise and experience necessary to provide effective oversight and guidance to senior management;
- The ability to exercise independent judgment and conduct analytical inquiry;
- The ability to collaborate effectively and contribute constructively to Board discussions and deliberations;
- A commitment to supporting the safety, soundness and long-term resilience of the Clearinghouse;
- An understanding of the Clearinghouse's business, strategy and risk profile; and
- The willingness and ability to devote sufficient time and attention to Board responsibilities, including service on Board committees as appropriate.

The Board includes market participants and individuals who are not executives, officers or employees of CCUS in accordance with CFTC Regulation §39.26. Having multi-stakeholder representation on the Board and the direct engagement of market participants in CCUS's governance promotes transparency of its governance arrangements by taking into account the interests of Clearing Members and their customers.

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.

CCUS's Senior Management Team is comprised of individuals that possess the necessary skills and experience in the derivatives industry generally and specifically in the area for which they maintain responsibilities. Further, members of the Senior Management of CCUS, like all CGM employees, pursuant to the Code of Business Conduct and Ethics, are expected to demonstrate the highest level of integrity in performing their roles.

To ensure leaders are qualified for their roles, every member of CCUS's Senior Management has many years of experience in the derivatives industry or a closely related discipline relevant to the function they supervise. Most members also hold an advanced degree or professional designation that supports the technical and managerial competencies required for their positions, helping ensure that CCUS maintains a skilled and knowledgeable leadership team.

CGM's recruitment and performance management processes, which apply to CCUS employees, reinforce these standards. CCUS benefits from a dedicated recruiting process and thorough candidate screening, as well as regular performance evaluations. Together, these practices help ensure that the individuals responsible for CCUS's operational and risk management activities possess the experience, capabilities, and integrity required for their roles.

Each member of CCUS's Senior Management undergoes an annual performance assessment based on predefined goals established at the beginning of the year. These goals align with broader CGM priorities and CCUS's strategic objectives, creating a consistent framework for accountability and performance measurement. This process helps confirm that leaders are meeting expectations and effectively executing their responsibilities.

The Senior Management of CCUS leads the following functions of the Clearinghouse:

- **Clearing Operations**
  The Clearing Operations function manages the day-to-day workings of the Clearinghouse, including key activities throughout the clearing and settlement cycles. It serves as the primary point of contact for clearing members on clearing related matters and works closely with other CCUS departments. Clearing Operations also oversees responsibilities related to collateral processing, cash movements, position reconciliation, and other core operational workflows.

- **Compliance**
  The Compliance function administers and enforces the policies and procedures designed to ensure CCUS's adherence to the DCO Core Principles and all other regulatory requirements applicable to its clearing services. Compliance oversees regulatory examinations of CCUS and plays a vital role in monitoring developments in the regulatory landscape. The Compliance function also engages with key stakeholders to support the adoption of appropriate regulatory standards and risk management practices.

- **Risk Management**
  CCUS's Risk Management function spans credit, market, and liquidity risk; model development and methodology; pricing and valuations; and default management processes. Risk Management designs and maintains the risk models used to calculate initial margin and Guaranty Fund requirements. It continuously monitors market participants' exposures on a 24/7 basis, marking positions to real time pricing and assessing counterparty credit quality and risk. Risk Management also implements CCUS's liquidity risk framework and oversees financial resources to meet settlement obligations.

- **Product Management**
  The Product team is responsible for driving feature development, the design and implementation of new initiatives, creating functional requirements, and managing delivery schedules.

Internal Governance Committees

CCUS's Senior Management is responsible for ensuring the effective and orderly functioning of the Clearinghouse. In carrying out these duties, members of Senior Management either lead or actively participate in CCUS's internal governance committees. These committees are comprised of senior level personnel and staff who have subject matter expertise- relevant to the issues under discussion.

CCUS maintains the following internal governance committees:

- **Credit Risk Committee**
  The Credit Risk Committee operates under a formal written charter. It is responsible for overseeing CCUS's management of counterparty credit risk, collateral practices, investment activities, and liquidity risk. In fulfilling this role, the committee reviews CCUS's internal counterparty credit ratings, assessments of liquidity risk and available liquidity resources, and the Clearinghouse's collateral acceptance framework, along with any proposed changes to these practices. If such changes constitute material modifications to CCUS's risk management program, the committee escalates them to the Risk Management Committee for consideration. The Credit Risk Committee is chaired by the CRO and meets on at least a quarterly basis or more frequently in periods of heightened volatility.

- **Margin and Stress Testing Committee**
  The Margin and Stress Testing Committee functions in accordance with its formal charter. It is charged with internally overseeing the monitoring and ongoing refinement of CCUS's margin and stress testing methodologies. As part of its role, the committee evaluates sensitivity analyses, reviews backtesting results for margin models, and considers proposed changes to stress testing programs. When updates to margin or stress testing practices constitute material modifications to CCUS's risk management framework, the committee escalates those matters to the Risk Management Committee and, when appropriate, to the Board. The committee is also responsible for supervising the independent validation of all risk models. The Margin and Stress Testing Committee is chaired by the CRO and meets on a monthly basis or more frequently in periods of heightened volatility.

- **CGM Security Council**
  The CGM Security Council ("**CSC**") functions in accordance with its formal charter and is responsible for the management of information and other security risks at CGM, including at CCUS. The CSC communicates information related to ongoing efforts to implement CGM's enterprise-level information security program and the program's effectiveness, including descriptions of any material changes to the information security program, vulnerabilities, relevant events and remediation statistics, security awareness training delivery, and IT risk register status. The CSC assesses, monitors, and assigns the implementation of information security policies, standards, and procedures in concert with CGM's enterprise-wide policies. The CSC is chaired by the Chief Information Security Officer and meets on a monthly basis or more frequently in periods of heightened volatility.

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.

CCUS maintains a comprehensive Risk Management Framework that outlines the rules, policies, procedures, and methodologies it relies on to meet its rigorous risk management standards. These components align with CCUS's regulatory obligations, including CFTC Regulation §39.13(b), which requires every DCO to establish and implement a written risk management framework. The Risk Management Framework is further supported by additional, more detailed policies and procedures that address the specific risks to which CCUS is exposed through its clearing activities.

Under applicable CFTC regulations, the CRO is responsible for implementing the Risk Management Framework, which must be reviewed and approved by the Risk Management Committee at least annually. The Risk Management Committee also evaluates and approves any substantive modifications to the Risk Management Framework. If such changes may materially affect the Clearinghouse's risk profile, the Risk Management Committee submits a recommendation to the Board for the Board's review and final approval. The Board also provides oversight of enterprise-level risks applicable to CCUS with the measurement, monitoring, and managing of operational risk through the CGM Enterprise Risk Framework. The Risk Management Committee also oversees CCUS's broader risk management practices.

Any material adjustments to CCUS's risk management practices are incorporated into the Risk Management Framework. As noted above, changes—including revisions to CCUS's risk models—that could significantly affect the Clearinghouse's risk profile require Risk Management Committee and Board approval. In addition to this approval process, the Board receives regular updates on CCUS's risk management activities through reports from the CRO and the Chair of the Risk Management Committee at Board meetings. This ongoing oversight, combined with Board approval for material changes, ensures an effective governance structure that supports the Clearinghouse's ability to update and enhance its risk management practices as needed.

Overview of CCUS's Risk Management Framework

The Risk Management Framework, supported by its related policies and procedures, sets out CCUS's approach to addressing the various risks to which the Clearinghouse is exposed, including, but not limited to:

- Credit risk;
- Liquidity risk;
- Valuation risk;
- Custody risk;
- Market risk and Investment Risk;
- Concentration and Liquidation Risk; and
- Model risk.

The CFTC has issued risk management regulations for DCOs that align with the PFMIs as well as the requirements of the Dodd Frank Act and the CEA. These rules form the foundation for CCUS's approach to risk management.

In accordance with CFTC Regulation §39.13(b), CCUS has developed its risk management practices—outlined in its Risk Management Framework—to identify, mitigate, and manage risk proactively. The Risk Management Framework describes these practices. While the Board holds ultimate responsibility for overseeing CCUS's risk management program, day-to-day execution rests with CCUS Senior Management, which supports the Clearinghouse's CRO in implementing the Risk Management Framework. CCUS conducts its risk management activities independently from the commercial operations of CGM.

As part of the Risk Management Framework, the CCUS Rulebook grants the Board emergency authority to act swiftly when circumstances arise that jeopardize, or could jeopardize, the fair and orderly settlement process or the integrity of any contract. Under CCUS Rule 207, the Board—or, when time does not permit convening the Board, an Officer of the Clearinghouse acting with the approval and consultation of the Chief Compliance Officer—may institute temporary emergency rules and procedures. This authority reinforces CCUS's governance structure by supporting the safety and efficiency of the Clearinghouse and contributes to the stability of the broader financial system.

Internal Audit Function

The CGM Enterprise Risk Management Policy applies to CCUS and establishes three lines of defense to manage enterprise risk: governance, management and independent assurance. The first line of defense owns the risks and is responsible for managing the risks effectively within the risk appetite. The second line of defense is comprised of the risk and oversight functions, responsible for providing independent challenge and oversight regarding risk management. The third line of defense is the Internal Audit function and is responsible for providing independent and objective assurance on the effectiveness of the overall risk management framework-associated policies and activities across both first- and second-line functions.

CGM's Internal Audit Function, referred to as the third line of defense, provides independent, risk-based assurance, advice, and insight to evaluate and enhance the effectiveness of governance, risk management, and internal control processes across CGM and its subsidiaries, including CCUS. The CGM Audit Committee is responsible for overseeing the Internal Audit Function, including its scope and performance, which helps to safeguard the independence and objectivity of internal audit. Internal audit coverage for CCUS is determined based on risk and regulatory considerations and may include audit work performed directly by CGM's Internal Audit Function and, where appropriate, through the use of external service providers under internal audit oversight. Internal audit communicates significant audit results related to CCUS to the CCUS Board or its designated committee, as appropriate, to support governance oversight.

Given the regulatory expectations and requirements for CCUS, while subject to the CGM Enterprise Risk Management Policy, CCUS maintains a unique risk appetite statement and risk register tailored to CCUS's regulated business models as described in Principle 3.

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.

CCUS incorporates the perspectives of market participants through both the Risk Management Committee and the presence of market participant representatives on its Board. As described above, the Risk Management Committee is chaired by a Public Director of the Board and includes two representatives from Clearing Members as well as two representatives who are customers of Clearing Members. This structure allows CCUS to draw on the risk management expertise of its market participants and use that input to shape CCUS's overall Risk Management Framework.

In addition, the RWG provides a dedicated venue for soliciting risk-based perspectives from market participants on issues that may materially influence the Clearinghouse's risk profile. CCUS also receives input from Clearing Members on clearing topics at meetings of the Cboe Futures Exchange Trading Advisory Committee. In addition to these formal channels, CCUS engages with market participants through informal, direct conversations to receive feedback on significant proposed changes to its risk management practices.

In accordance with CFTC Regulation §39.24(a)(3), CCUS communicates major decisions of the Board and other decision-making bodies to relevant stakeholders and to the public when such decisions have broader market implications. Decisions that could materially affect the risk profile of CCUS are generally made publicly available through rule filings submitted under CFTC Regulation §40.6. CCUS disseminates these decisions through Clearing Notices and Rule Submissions to the CFTC, all of which are accessible on the CCUS website.[8]

[8] See http://www.cboe.com/solutions/clearing/us/notices/ccus-clearing.

3.3. 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.

CCUS maintains a Risk Management Framework, which includes the risk management policies, procedures, and controls approved by the Board, that clearly identify and document the range of risks to which the Clearinghouse is exposed, addresses the monitoring and management of the entirety of those risks, and provides a mechanism for internal audit. The Risk Management Framework is reviewed and approved on at least an annual basis by the Risk Management Committee and the Board. CCUS additionally maintains other policies, procedures, and controls that support the Risk Management Framework and relevant risks in more detail.

The Risk Management Framework addresses the risks to which the Clearinghouse is exposed, including, but are not limited to:

- Credit Risk
- Liquidity Risk
- Valuation Risk
- Custody Risk
- Market and Investment Risk
- Concentration and Liquidation Risk
- Model Risk

CCUS uses a variety of risk management tools to manage these risks in both normal and extreme market conditions, described below and throughout these Disclosures.

The purpose of the Risk Management Framework is to identify, measure, and manage the risks associated with acting as a Clearinghouse. CCUS assesses the effectiveness of the Risk Management Framework and risk management practices through their daily use and with the annual review and approval of the Risk Management Framework.

CCUS actively monitors its counterparty relationships and has a robust default waterfall plan, which includes multiple layers of protection against market participant losses in the event of a Clearing Member default. The default waterfall plan is based on CCUS's methodologies for margining and stress testing to size CCUS's default financial resources requirement, as well as the application of policies for collateral acceptance and management and liquidity risk management. CCUS's default waterfall is designed to limit the risk of exposure to potential losses from a Clearing Member default and may be activated in the event a Clearing Member is declared in default pursuant to CCUS Rules.

CCUS has put in place safeguards to mitigate the risk of a Clearing Member default by ensuring the financial integrity of its Clearing Members, including adopting appropriate admission and continuing participant requirements for its Clearing Members and imposing reporting requirements related to the financial integrity of the Clearing Member. CCUS has also adopted controls that support the maintenance of adequate default financial resources and provide robust risk management, including daily risk monitoring, ongoing evaluations of model soundness, and operational risk management.

CCUS's risk monitoring practices include the monitoring of Clearing Members' credit exposures throughout the day. Additionally, CCUS conducts heightened monitoring for large traders that carry sizeable exposures. CCUS's systems also allow CCUS to aggregate these customers' exposures across Clearing Members.

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.

CCUS promotes transparency in its risk management practices by making its PFMI Disclosure, Quantitative PFMI Disclosure, and the CCUS Rulebook publicly available on its website.[9] Clearing Members and their customers are also informed of new or revised risk management processes that may affect their operations through Clearing Notices posted online.[10] This level of transparency enables participants to better understand and manage the risks associated with clearing through CCUS.

The CCUS Rulebook establishes the standards to which CCUS and its Clearing Members are held. Pursuant to CCUS Rule 304, Clearing Members are required to maintain written risk management policies and procedures that ensure the Clearing Member is "able to perform certain basic risk and operational functions at all times." CCUS Rule 304 provides that these policies and procedures must address, at a minimum:

- Monitoring the credit risks of accepting trades of its Customers;
- Monitoring the risks associated with proprietary trading;
- Limiting the impact of significant market moves through the use of tools such as stress testing or position limits;
- Maintaining the ability to monitor account activity on an intraday and overnight basis;
- Ensuring order entry systems, including third party systems connected to any exchange, include the ability to set automated credit controls or position limits or requiring a firm employee to enter orders; and
- Defining sources of liquidity for increased settlement obligations.

CCUS equips its Clearing Members with the resources needed to manage the risks inherent in their CCUS clearing activity. This includes providing regular reports covering requirements, settlement variation margin obligations, collateral holdings and applicable haircuts, and Guaranty Fund contributions. CCUS also offers a range of tools that allow both Clearing Members and their customers to estimate their initial margin needs in advance. The daily collection of initial margin and the exchange of settlement variation margin creates strong incentives for participants to actively monitor and manage their exposures.

Each layer of CCUS's default waterfall is similarly structured to encourage prudent risk management. The waterfall creates incentives for both defaulting and non-defaulting Clearing Members through the order in which resources are applied: the defaulting Clearing Member's margin, followed by its Guaranty Fund contribution; CCUS's corporate contribution; the

[9] See https://cdn.cboe.com/resources/membership/Cboe-Clear-US-Rulebook.pdf and CCUS Regulation.

[10] See http://www.cboe.com/solutions/clearing/us/notices/ccus-clearing.

Guaranty Fund contributions of non-defaulting Clearing Members; and, if necessary, capped assessments on non-defaulting Clearing Members for additional resources.

Guaranty Fund requirements also reinforce these incentives by mandating a Minimum Guaranty Fund Deposit from each Clearing Member. These resources are used to absorb losses resulting from a Clearing Member default once the defaulting member's margin and Guaranty Fund deposits are depleted.

CCUS further underscores its confidence in its own risk management framework by contributing meaningful corporate resources to the default waterfall—currently $25 million. While a CCP must have "skin in the game," an overly large CCP contribution could weaken Clearing Members' incentives to manage their risks by reducing the likelihood that their mutualized resources would be used to cover losses. CCUS's capped assessment powers are likewise designed to promote recovery actions rather than push the Clearinghouse toward wind-down.

Moreover, when CCUS determines that a Clearing Member's risk management practices are insufficient, it requires the member to remediate those deficiencies and may initiate disciplinary measures. This oversight authority helps ensure Clearing Members maintain sound risk management practices. For example, CCUS may impose protective measures on a Clearing Member—such as requiring additional margin or more frequent reporting—if the member's practices do not meet CCUS standards.

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.

In line with CFTC Regulation §39.13(f), CCUS mitigates the risk of losses arising from a Clearing Member default by enforcing rules and policies designed to ensure that its Clearing Members remain financially sound and possess the necessary operational capacity to perform their obligations. CCUS Rule 309 establishes minimum financial standards that Clearing Members must satisfy.

As a DCO, CCUS serves as a central counterparty between its Clearing Members in the clearing and settlement process, relying on a range of service providers—including collateral custodians and commercial banks—to facilitate key operational functions such as the exchange of settlement variation and the movement or release of collateral. To oversee the counterparty risks inherent in its role as a CCP, CCUS has implemented detailed policies governing the review and monitoring of its relationships with Clearing Members, settlement banks, and collateral custodians. These policies are designed to ensure that all such counterparties meet stringent creditworthiness and operational criteria, thereby safeguarding CCUS against credit and counterparty exposures.

CCUS's Relationships with Clearing Members

CCUS performs an initial financial review of Clearing Members during onboarding and continues to perform periodic reviews after membership is granted. The Clearinghouse reviews FCM Clearing Members' FOCUS II or 1FR-FCM filings monthly and their audited financial statements for material changes on an annual basis. CCUS's ongoing monitoring

of Clearing Members and settlement banks to which it has exposure is intended to ensure that the level of oversight and monitoring applied corresponds appropriately to each counterparty's respective risk profile and that they continue to satisfy CCUS's standards for counterparty credit quality. CCUS also tracks its exposures on a comprehensive basis—both across all of its relationships with a counterparty and at the individual counterparty level. CCUS has implemented participation standards intended to reasonably ensure that approved Clearing Members are capable of meeting their obligations to the Clearinghouse. As part of the admission process, CCUS conducts an initial evaluation to confirm that each applicant satisfies the Clearinghouse's financial resource, risk management, and operational eligibility criteria. CCUS also undertakes ongoing supervision of Clearing Members to verify their continued compliance with these financial, risk management, and operational requirements. When a Clearing Member fails to meet any of these obligations, CCUS follows established escalation procedures to address the issue appropriately.

As set out in the Risk Management Framework, CCUS conducts a credit assessment of its Clearing Members at least annually to identify any material risks it bears from its counterparties. CCUS assesses the credit risk of each Clearing Member through a combination of using quantitative and qualitative metrics. Quantitative metrics may include profitability, leverage, liquidity and asset quality, as well as capitalization metrics. Qualitative metrics may include an assessment of a counterparties' business profile, operational capacity, management and governance, and risk management practices.

The Risk Management team also uses alert mechanisms to flag notable movements in external credit ratings and other factors. In addition, CCUS monitors its Clearing Members for material news developments and updates to their financial condition or disclosures. Any noteworthy items are promptly reported out to senior members of the Risk Management team and addressed as appropriate. CCUS's ongoing monitoring allows it to identify Clearing Members that may be subject to heightened monitoring and/or restrictions on Clearing Members' clearing privileges.

Clearing Member Daily Risk Monitoring

The Clearinghouse marks-to-market each Clearing Member's open positions, by house and customer origins multiple times per day. The Clearinghouse's risk monitoring process includes the calculation and monitoring of:

- (Net or Gross) Open positions by product and contract
- Open Trade Equity
- Net Stress Exposure
- Forecasted Net Settlement (Excess/Deficit)

In accordance with CFTC §39.13(h)(1), CCUS assigns a Net Stress Exposure Threshold to each Clearing Member by origin to measure Clearing Members' intraday and aggregate trading activity. CCUS monitors each Clearing Member's Net Stress Exposure by origin throughout each business day, escalating any breach of internal thresholds and imposing protective measures as appropriate. The Clearinghouse sets thresholds and early warning levels for each metric for each FCM Clearing Member to identify large variations in Clearing Members' capital and prefunded resources on deposit at CCUS. These thresholds are reevaluated upon observed changes in activity levels as early warning levels are exceeded or to the extent there is a planned change communicated to CCUS by a Clearing Member. When an early warning level threshold is exceeded, Risk Management staff investigates and escalates as appropriate.

Clearing Member Reviews and Examinations

CCUS performs comprehensive assessments of its Clearing Members at onboarding and periodically thereafter. In accordance with CFTC Regulation §39.13(h)(5)(ii), CCUS reviews Clearing Members' risk management policies, procedures, and practices. CCUS Rule 304 requires Clearing Members to have current written risk management policies and procedures that the Risk Management team determines to be sufficient, as well as an Anti-Money Laundering program. For Clearing Members engaged in proprietary trading, the Risk Management team conducts additional evaluations to gain insight into the trading strategies employed and to assess the processes and systems used to monitor and control the related risks, ensuring they appear appropriate relative to the risk profile described. The Clearinghouse's risk review of Clearing Members' risk management includes the review of the Clearing Members' policies and procedures related to credit risk, market risk, stress testing, liquidity risk, and daily settlements and reconciliations with clearinghouses and/or clearing firms.

In addition to reviews by the Clearinghouse, Clearing Members are subject to risk-based examinations by their designated self-regulatory organization ("**DSRO**"). DSRO examinations are risk-based examinations focused primarily on a Clearing Members' financial standing and adherence to customer protection requirements, including segregation requirements.

CCUS's Relationships with Counterparty Banks

CCUS conducts a comprehensive review of each potential settlement bank against standards set forth in the CCUS Bank Counterparty Participation Requirements Policy in determining whether to onboard a settlement bank to facilitate cash settlements and serve as custodians of Clearing Member funds. CCUS also carries out quarterly or semi-annual credit assessments (depending on the frequency of updated financial statements being filed) of its settlement and custodian banks. CCUS's ongoing monitoring of settlement banks is intended to ensure that the level of oversight and monitoring applied corresponds is appropriate and that the settlement bank continues to satisfy CCUS's standards for settlement bank credit quality.

Effectiveness of CCUS's Risk Management Tools

CCUS maintains and uses a suite of effective risk management tools to manage the exposures it faces. The effectiveness of CCUS's risk management policies, procedures, and systems is assessed in part through an annual review and approval process for CCUS's Risk Management Framework.

CCUS continually evaluates the performance of its risk models through daily activities such as model validation, sensitivity analyses, and routine backtesting and stress testing. Proposed updates or modifications to these models are assessed by an internal committee composed of senior members of the Risk Management team and, when appropriate, by independent specialists whose involvement depends on the significance of the proposed change. In addition, the CFTC periodically examines CCUS's broader risk management framework.

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.

CCUS has identified a range of stress events that could jeopardize its ability to deliver essential clearing functions. Its Recovery Plan is structured to ensure that CCUS can continue meeting its obligations and maintain critical clearing services even under severe financial or operational strain. In accordance with CFTC Regulation §39.39(b), CCUS's Recovery and Wind-Down Plans address extreme yet plausible scenarios involving uncovered credit losses or liquidity shortfalls, as well as separate scenarios tied to operational or general business risks and any additional threats to CCUS's continued viability.

The Recovery Plan addresses interconnections and interdependencies among CCUS and its affiliates, internal and external service providers, and other stakeholders, including critical relationships with its parent company and key service providers, and analyzes how these relationships may impact recovery effectiveness.

CCUS views recovery as a significantly more desirable outcome than a wind-down, as continued operations help preserve broader financial market stability. For this reason, CCUS has structured its default management processes, default waterfall, and Recovery Plan to prioritize achieving recovery rather than moving toward wind-down. CCUS observes that a situation requiring activation of the Recovery Plan is unlikely given the conservative methodology CCUS uses to size its pre-funded default financial resources minimizes the chance that such measures would be needed.

CCUS Recovery Plan

The Recovery Plan affords CCUS tools to address Clearing Member Defaults with concentrated positions that cannot be liquidated or transferred quickly, liquidity shortfalls from physically-settled products and non-cash collateral, and general business risk, operational risk, and non-default losses.

Clearing Member Default Scenarios Where Concentrated Positions Cannot be Liquidated or Transferred Quickly

This scenario contemplates the default of one or more Clearing Members whose portfolios contain highly concentrated positions in certain products or markets that cannot be promptly liquidated through auction or transferred to other non-defaulting Clearing Members. Such concentration may stem from limited market liquidity, a lack of interested buyers or transferees among remaining Clearing Members, or periods of significant market volatility. In these circumstances, although the Default Waterfall—designed to shield Clearing Members and their customers from the effects of a Clearing Member default—may be triggered, the inability to efficiently close out or transfer these positions prolongs CCUS's exposure to market risk and may result in losses that surpass the prefunded resources available.

A disorderly market, where positions are more difficult or impossible to close-out, results in greater consumption of default waterfall resources. CCUS maintains sufficient prefunded

financial resources to cover the losses resulting from the default of its two largest Clearing Members. In the face of multiple simultaneous Clearing Member defaults, the Default Waterfall may become exhausted and assessments may be imposed on non-defaulting Clearing Members, up to the prescribed limits.

The sources of funds comprising CCUS's Default Waterfall proceeds would be used in the following order:

- Defaulted Clearing Member's initial margin
- Defaulting Clearing Member's Guaranty Fund contribution
- Corporate Contribution
- Non-defaulting Clearing Members' Guaranty Fund contributions
- Clearing Member Assessments

CCUS's assessment powers are set forth in the CCUS Default Management Plan. Each non-defaulting Clearing Member will be subject to an assessment that is directly proportional to the Clearing Members' total Guaranty Fund deposit requirement up to an amount that does not exceed (i) a total of three times such Clearing Member's total Guaranty Fund deposit requirement at the time of the default with respect to losses that are attributed to the default of a single Clearing Member, and (ii) a total of six times such Clearing Member's total Guaranty Fund deposit requirement at the time of the default with respect to losses that are attributed to the default of multiple Clearing Members during a cooling off period.

In addition to its assessment powers, CCUS is required under CFTC Regulation §39.39 to maintain supplementary tools within its Recovery Plan and Rules to address situations involving uncovered credit losses or liquidity shortfalls. These additional recovery mechanisms available to CCUS include voluntary tear-ups, sanctioned partial tear-ups, variation margin gains haircuts, and sanctioned full tear-ups.

If position close-out efforts prove difficult or insufficient to manage risk, the Clearinghouse may issue a notice providing an opportunity for Clearing Members to participate in a Voluntary Tear-Up of positions opposite the defaulting member's remaining positions. If voluntary participation is insufficient and positions remain open creating ongoing market risk exposure, the DMC may recommend, and the Board (in consultation with the Risk Management Committee) may approve, a Sanctioned Partial Tear-Up. This would forcibly terminate a portion of positions held by non-defaulting Clearing Members and non-defaulting customers of the defaulting Clearing Member, allocated proportionately relative to the size of positions opposite the defaulting member's remaining open positions.

If the portfolio cannot be completely liquidated or transferred and losses continue to mount after other recovery tools have been exhausted, the DMC may recommend, and the Board may approve, Variation Margin Gains Haircuts to reduce variation margin payments owed to Clearing Members with profitable positions, using those funds to cover ongoing Default Losses.

If the defaulting member's positions cannot be completely liquidated or transferred and other recovery tools have proven insufficient, the Board may approve a Sanctioned Full Tear-Up, involving the forced termination of all open positions in one or more products. If the Default Loss is not satisfied after a Sanctioned Full Tear-Up, or at any prior point, the Board deems it prudent, recovery efforts will be terminated and wind-down procedures will begin. CCUS believes the tools for addressing the Clearing Member default scenarios described above would allow it to continue to operate.

Liquidity Shortfalls from Physically-Settled Products and Non-Cash Collateral

This scenario involves one or more Clearing Member defaults where the defaulting member(s) held positions in physically-settled products or posted non-cash collateral. In the event of a defaulting long position in a physically-settled product, the Clearinghouse would need to deliver sufficient dollars to the non-defaulting short position holder, which would represent the full notional value of the contract. Once physical delivery was taken by the Clearinghouse on behalf of the defaulted member(s) those assets would be sold to return the dollars to any lender from which they were borrowed. Similarly, if non-cash collateral deposited by the defaulting member(s) needed to be liquidated those assets would either be posted as collateral for a loan and if the cash obtained from the loan were used to fund losses, the lender would be instructed to liquidate the collateral to repay the loan.

The scenarios in which a liquidity shortfall could occur would include the following. (1) one or more Clearing Members is in default under CCUS rules; (2) the defaulting member(s) held positions in physically-delivered products and/or deposited non-cash collateral with the Clearinghouse; and (3) the Clearinghouse's liquidity facilities, including its parent company, were unable to lend the Clearinghouse sufficient liquidity so it could meet the liquidity demands to manage the default(s). The Clearinghouse's management of its liquidity risk would include ensuring, in accordance with its policies, that its liquidity resources are sufficient to cover the single largest liquidity risk exposure across all Clearing Members in extreme but plausible market conditions, where affiliated Clearing Members would be treated as a single Clearing Member for this purpose.

If after all liquidity resources were exhausted and there were still unmet obligations of the defaulted member(s) the Clearinghouse could not meet, and other recovery tools have been exhausted, the Board may approve a Sanctioned Full Tear-Up, involving the forced termination of all open positions in one or more products. If the Default Loss is not satisfied after a Sanctioned Full Tear-Up, or at any prior point, the Board deems it prudent, recovery efforts will be terminated and wind-down procedures will begin.

General Business Risk, Operational Risk and Non-Default Losses

The primary recovery tool for CCUS in the event a scenario related to a general business risk, operational risk or other non-default loss (e.g., poor business results, investment loss, legal liability) triggers the use of CCUS's Recovery Plan, is to request a capital infusion from CGM. CCUS believes that requesting a capital infusion from CGM would allow it to continue to maintain its viability and provide its critical operations and services to the marketplace in the event of a scenario related to general business risk, operational risk or other non-default loss.

Wind-Down Plan

CCUS's Wind-Down Plan addresses procedures to effect the permanent cessation, sale, or transfer of one or more services.

Consistent with CFTC Regulation §39.11(a), CCUS maintains sufficient financial resources to cover at least twelve months of operating expenses, calculated on a rolling basis. As outlined in the Wind-Down Plan, these resources are intended to ensure that CCUS can fund its expected operating costs for no less than one year should it become necessary to wind down one or more of its services. Further, in accordance with CFTC Regulation §39.11(e), at least six months of these resources are held in unencumbered, highly liquid assets. These funds are intended to support CCUS's ability to continue delivering its critical operations and services

while executing an orderly wind-down.

Governance of Recovery and Wind-Down Plans

CCUS's Recovery and Wind-Down Plans are approved by the Board. The Boards reviews and approves any material changes to the Recovery and Wind-Down Plans after their initial approval by the Board.

3.4. Principle 4: Credit Risk

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

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.

CCUS's approach to managing credit exposures, including its counterparty monitoring processes and margining practices, is outlined in its Risk Management Framework. As noted previously, this Risk Management Framework undergoes review and approval by the Risk Management Committee at least once each year. Any substantive modifications to CCUS's risk management practices require formal approval from the Risk Management Committee and Board before the Risk Management Framework can be updated. CCUS also continually assesses the effectiveness of its risk management practices, incorporating insights from daily operations, evolving market conditions, emerging industry standards, and new product launches, among other factors.

Alongside the Risk Management Framework, CCUS maintains a dedicated Credit Risk Management Policy, which provides additional detail on the Clearinghouse's methodology for managing credit risk arising from Clearing Members. The Bank Counterparty Participation Requirements Policy outlines CCUS's approach to overseeing credit risk associated with settlement and custodian banks. The Acceptable Collateral Policy sets forth the Clearinghouse's procedures for managing potential credit risks related to potential new types of collateral deposits. The Credit Risk Management Policy, Bank Counterparty Participation Requirements Policy, and the Collateral Policy are reviewed and approved by the internal Credit Risk Committee and then the Risk Management Committee at least annually.

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.

In establishing its risk management policies, CCUS has identified the types of credit risk that may arise during the normal course of its clearing operations. These risks stem from CCUS's relationships with the various institutions involved in clearing and settlement, including Clearing Members, settlement banks, and collateral custodians. Among these, CCUS's most significant source of credit risk is the possibility that a Clearing Member fails to meet its financial obligations to the Clearinghouse.

CCUS uses a suite of tools to measure, monitor, and manage its credit exposures to Clearing Members, using real-time pricing and position data that is available around the clock. CCUS continually evaluates the sufficiency and effectiveness of these tools to ensure they remain appropriate for measuring the Clearinghouse's potential risks. Daily monitoring activities also provide ongoing feedback on how well these tools perform in identifying and managing credit-risk drivers.

To manage and restrict the accumulation of risk exposures, CCUS conducts mark-to-market settlement variation margin and initial margin settlement cycles multiple times each business day. All products cleared through CCUS undergo two settlement cycles during U.S. trading hours—a midday cycle and an end-of-day cycle. During periods of significant actual or anticipated market volatility, the Clearinghouse may conduct additional intraday settlement cycles or call for extra margin as needed. CCUS also maintains an Acceptable Collateral Policy that allows CCUS to limit the amount of certain types of collateral market participants can post to meet their obligations to CCUS. This policy is designed to mitigate liquidation risk and helps ensure that participants can meet their collateral obligations to CCUS. The Clearinghouse currently only accepts USD-cash as collateral for all products and services. This USD-cash only policy carries no credit, liquidity, and market risk, as the contracts cleared at CCUS are all settled in USD-cash.

Risk Monitoring Tools

CCUS's risk management systems are built to enable analysis of potential risks at multiple levels of detail, including at the settlement account level and at the margin account level. These tools also allow CCUS to identify potential concentration risks within Clearing Members' customer or house portfolios. Through CCUS's clearing systems, intraday price changes and trading activity are tracked continuously and in real time throughout the trading day. CCUS performs intraday mark-to-market calculations on Clearing Member and customer positions both during the day and overnight. The Risk Management team also monitors real-time profit and loss on real-time positions that are marked to real-time market prices. CCUS assesses the credit of the Clearing Member based on both quantitative and qualitative metrics. Quantitative metrics may include profitability, leverage, liquidity and asset quality, as well as capitalization metrics. Qualitative metrics may include an assessment of a counterparties' business profile, operating capacity, management and governance, and risk management practices.

To support the real-time risk monitoring of the exposures presented by Clearing Members to the Clearinghouse, the Clearinghouse maintains a Risk Management System that marks to market all Clearing Members' positions multiple times a day and calculates metrics related to risk and credit exposure. The metrics monitored by the Risk Management System include, but are not limited to:

- (Net or Gross) Open positions by product and contract
- Open Trade Equity
- Net Stress Exposure
- Forecasted Net Settlement (Excess/Deficit)

Thresholds and early warning levels for each metric are set for each Clearing Member so that large variations in individual Clearing Member's cleared portfolios are captured and any follow-up determined to be appropriate can be completed. Follow-up by the CCUS Risk Management department includes confirming the validity of the alert and once this is confirmed reaching out to the Clearing Member to identify the account(s) driving the change in exposure as well as what, if any, actions the Clearing Member will be taking to reduce the exposure. Depending on the Clearing Member's responses, thresholds may be updated and/or Protective Measures may be imposed until any outsized exposures are reduced. The thresholds and early warning levels are set based on the Clearing Members' capital and prefunded resources on deposit at CCUS to manage a Default. These thresholds and early warning levels are reevaluated upon observed changes in activity levels as early warning levels are exceeded or to the extent there is a planned change in activity communicated to CCUS by a Clearing Member.

The Clearinghouse has the authority to take action necessary to effectively manage the risk posed to the Clearinghouse by a Clearing Member, including, but not limited to:

- Imposing enhanced capital requirements;
- Imposing enhanced margin requirements;
- Prohibiting an increase or requiring a reduction in positions; and
- Liquidating or transferring positions.

CCUS also performs daily stress testing on Clearing Member portfolios and on large customer accounts to monitor and quantify its exposures. Stress test results are compared with various benchmarks, including initial margin requirements and Clearing Member capital. In addition, CCUS conducts both daily and monthly backtesting over multiple lookback periods to ensure that its margin models operate as intended.

As noted previously, CCUS carries out quarterly or semi-annual credit assessments (depending on the frequency of updated financial statements being filed) of its settlement and custodian banks to ensure that settlement and custodian banks continue to meet CCUS's capitalization, creditworthiness, and access to liquidity requirements CCUS also performs annual risk reviews of its Clearing Members, focusing primarily on Clearing Members' management of market and counterparty risk. The insights gained from these assessments inform CCUS's ongoing, day-to-day risk monitoring activities.

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 payment system or DNS SSS 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.

This Key Consideration is not applicable to CCUS because it is not a payment system or securities settlement system.

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 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.

CCUS uses multiple methods to manage current and potential future exposures. Among these are mark-to-market settlement cycles at least twice daily – a midday and end of day settlement cycle – which cover the settlement of initial and variation margin requirements. The Clearinghouse may conduct additional intraday settlement in times of extreme actual or anticipated market volatility.

For variation margin calculations, the Clearinghouse determines the midday (and any additional intraday) daily settlement price using the methodology specified in the Futures Theoretical Pricing Model, while the end-of-day settlement price for a Contract is supplied by the relevant Participating Exchange.

CCUS has stringent margin coverage standards, including the application of at least a two-business-day margin period of risk. To ensure sufficient coverage of potential future exposures, CCUS sets margin requirements to achieve at least a 99% portfolio-level coverage rate on an ex-post basis, using the minimum established margin period of risk for each product. CCUS also reviews Clearing Members' customer and house portfolios for concentration risk and other portfolio-level risks and may impose additional initial margin requirements when appropriate.

In accordance with CFTC Regulation §39.13(g)(8)(i), CCUS calculates and collects initial margin for Clearing Members' customer accounts on a gross basis. Maintenance margin for each customer omnibus account is collected at a level equal to the total maintenance margin that would be required if each individual customer were itself a Clearing Member. Additionally, under CCUS Rule 403 and CFTC Regulation §39.13(g)(8)(ii), Clearing Members must collect margin from their customers that is at least equal to the minimum initial margin requirements established by CCUS. The Clearinghouse requires its Clearing Members to collect initial margin of no less than 100 percent of the maintenance margin requirement for each product and portfolio, consistent with the risk profile of each customer account. Clearing Members are prohibited from permitting customers to withdraw funds unless, after the withdrawal, the customer's net liquidating value plus remaining margin meet the applicable initial margin requirements for all cleared products and other portfolios in the account. This restriction helps ensure that Clearing Members do not finance customers' initial margin obligations, a practice that could elevate risk and impair the ability to port customer accounts in the event of a Clearing Member default.

Beyond initial margin, CCUS has established a default waterfall framework, which incorporates CCUS's Guaranty Fund. CCUS's Guaranty Fund is comprised of pre-funded financial resources that exceed the total amount required to enable the Clearinghouse to fulfill its financial obligations to its Clearing Members notwithstanding simultaneous defaults by the two Clearing Members creating the largest financial exposure for the Clearinghouse in extreme but plausible market conditions ("**Cover 2**"). CCUS also incorporates an additional buffer into the sizing of its Default Financial Resources Requirement when sizing its Guaranty Fund—above the potential losses caused by the default of these Clearing Members—to help ensure continued compliance with the Cover 2 standard. The Guaranty Fund is calibrated to absorb tail-risk losses under extreme yet plausible market conditions, using both historical and hypothetical stress scenarios.

CCUS evaluates the sufficiency of its Guaranty Fund by performing daily stress tests on Clearing Member portfolios that are reviewed by senior management. Risk Management presents the results from the daily stress tests in the aggregate to the Margin and Stress Testing Committee at least monthly. CCUS recalibrates the size of its Guaranty Fund at

least once per month and may adjust it more frequently if warranted by market conditions, except during the cooling-off period that applies after a Clearing Member default. Risk Management monitors changes in potential stress shortfalls relative to the total Guaranty Fund size that could jeopardize compliance with the Cover 2 standard on a daily basis. If such risk is identified, Risk Management will escalate this to the Margin and Stress Testing Committee and provide a recommendation as to whether CCUS should resize the Guaranty Fund. Notably, a Cover 2 Add-On is calculated as a part of the end-of-day initial margin calculations that would require additional initial margin from the specific Clearing Members driving CCUS's Cover 2 amount.

If a Clearing Member defaults, CCUS first applies that member's own financial resources—i.e., its initial margin and Guaranty Fund contribution—to meet its obligations. Should those funds prove insufficient, CCUS then turns to the next layer of protection in the default waterfall: CCUS's corporate contribution. Only after these resources are exhausted would the Guaranty Fund contributions of the non-defaulting Clearing Members be used. In the unlikely situation where all pre-funded financial resources are depleted, CCUS may call for additional assessments from Clearing Members as permitted under CCUS Rule 507.

CCUS's Margin and Stress Testing Committee serves as the primary internal body responsible for overseeing the stress-testing framework, which forms the foundation for determining CCUS's Default Financial Resources Requirement. The Committee reviews stress-testing results and underlying parameters at least once each month. The methodology supporting the calculation of Default Financial Resources is articulated in the Risk Management Framework and further detailed in supplemental policies. In addition, the Risk Management Committee provides oversight of the sufficiency of the default waterfall, including reviewing and approving substantive modifications to the stress-testing approach and the Default Financial Resources Requirement sizing methodology, and recommending to the Board any changes that could materially affect the Clearinghouse's overall risk profile.

Key Consideration 5:

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

CCUS evaluates the sufficiency of its Guaranty Fund through daily stress testing that incorporates a wide range of scenarios designed to reflect extreme yet plausible market conditions and the specific risk characteristics of each product. To determine what constitutes "extreme but plausible," CCUS analyzes historically significant market movements and uses these observations to construct both historical and hypothetical stress shocks. These severe shocks are applied to estimate potential losses for Clearing Members and their affiliates and to size the Guaranty Fund so that it can cover the default of at least the two Clearing Members (and their affiliated entities) that generate the largest potential stress shortfalls. All scenarios—whether historical or hypothetical—are developed to reflect extreme but plausible conditions based on the prevailing market environment.

As described earlier, stress testing results are reviewed each business day by the Risk Management team and communicated to the Margin and Stress Testing Committee. Stress testing reports are also provided to the Risk Management Committee during its regularly scheduled meetings, and to the Stress Testing Committee monthly or more frequently when market conditions warrant. The Committee's monthly (or more frequently if needed) review ensures that the Guaranty Fund remains appropriately calibrated to absorb potential future exposures arising from the default of the two Clearing Members and their affiliates generating the largest stress shortfalls. The Committee's monthly reporting includes detailed analyses of stress scenarios and their underlying inputs, with more frequent analysis conducted during periods of significant volatility or other notable market events. These reviews may confirm the adequacy of the current scenario set or result in recommendations to modify it.

In addition, CCUS's risk models undergo independent validation at least annually. The findings from these independent validations are presented to the Margin and Stress Testing Committee, and high-level summaries are shared with the Risk Management Committee, which also oversees any necessary remediation efforts. All material revisions to CCUS's stress-testing methodology or Default Financial Resources sizing approach, including those prompted by validation results, are thoroughly reviewed across the Risk Management team, including the Margin and Stress Testing Committee, before being submitted to the Risk Management Committee for approval.

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.

The primary purpose of CCUS's stress testing framework is to account for extreme but plausible market conditions in sizing its Default Financial Resources Requirement. CCUS's Default Financial Resources Requirement is sized to cover the default of the two Clearing Members (and their affiliated Clearing Members) creating the largest financial exposures for the Clearinghouse. The Net Stress Exposure measurement is the basis of the Default Financial Resources Requirement calculation. The Net Stress Exposure of each Clearing Member is determined through stress testing and is a function of stress loss less the maintenance margin requirement.

CCUS uses a scenarios-based methodology for stress testing, using both historical and hypothetical scenarios to capture extreme movements in prices and volatility across relevant risk factors. Historical stress scenarios are designed by examining at least two-day historical price returns using the same margin period of risk as the margin model for the relevant product to identify periods of stress using a minimum lookback period of five years. Separately, the Clearinghouse creates hypothetical stress scenarios that do not rely on historical data but instead simulate forward-looking stress scenarios in a variety of extreme but plausible market conditions.

In accordance with CFTC Regulation §39.36(a)(4), CCUS's stress-testing framework reflects peak historical price volatility, shifts in key pricing drivers, multiple default events across differing timeframes, and concurrent strains in funding and asset markets. The framework applies a set of shocks designed to simulate extreme but plausible conditions, drawing from historical analysis of product-specific price behavior to determine the impact of significant price volatility. The stress scenario shocks represent instantaneous price shocks that are applied to each position in a portfolio.

Additionally, under CCUS's stress testing, a Clearing Member's gains related to a customer account under a given scenario cannot be used to offset any losses related to the house account. This is designed to ensure that the Default Financial Resources are sized sufficiently to cover a Clearing Member's potential losses, as determined by stress testing, while observing CFTC regulations for customer segregation.

Review of CCUS's Stress Testing Framework

Although CCUS's stress-testing framework is designed to capture a broad range of market conditions, CCUS continually reassesses its set of stress scenarios to ensure they remain appropriate for prevailing market dynamics and allow for timely adjustments when warranted. In accordance with CFTC Regulation §39.36(a)(2), the Margin and Stress Testing Committee conducts a review of CCUS's stress scenarios at least once per month to determine whether modifications are needed or whether additional scenarios should be incorporated into the framework. Stress-testing results are also provided to the Risk Management Committee at all regularly scheduled meetings. In addition, CCUS's stress-testing framework undergoes evaluation as part of the annual independent validation process.

CCUS also performs reverse stress tests on its Guaranty Fund to determine when its prefunded financial safeguard resources may be insufficient. The outcomes of these exercises are evaluated at least once a month and are used to guide CCUS's broader stress-testing framework and to assess overall risk exposures.

Key Consideration 7:

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.

CCUS addresses credit losses arising from a Clearing Member default primarily through the provisions set forth in Chapter 5 of the CCUS Rulebook, supplemented by the Default Management Plan and the Risk Management Framework. A credit loss may occur when a Clearing Member fails to meet its obligations when due. CCUS's rules and procedures governing the management of such losses are designed to comply with applicable legal and regulatory requirements while ensuring that CCUS can continue providing clearing and settlement services without disruption.

Chapter 5 of the Rulebook, together with the Default Management Plan, outlines how a defaulting Clearing Member's collateral and other layers of the default waterfall are applied to absorb losses associated with the default. The clearly defined sequence in which these resources are used is essential for ensuring transparency to Clearing Members and helps reinforce incentives for members to manage the risks they introduce into the system.

In the event of a Clearing Member default, CCUS would first use resources of the default waterfall to which the defaulted Clearing Member contributed and then would use other available pre-funded resources. These pre-funded layers of the default waterfall would be used in the order listed below:

- Defaulted Clearing Member's margins on deposit, relevant Guaranty Fund contributions of the defaulted Clearing Member, and other assets available of the defaulted Clearing Member;
- CCUS's Corporate Contribution; and
- Non-defaulting Clearing Member Guaranty Fund contributions to the default waterfall.

In the unlikely event that the pre-funded financial resources are insufficient to cover the losses from the default, CCUS would then utilize its capped assessment powers described above. Beyond assessments, CFTC Regulation §39.39 also requires CCUS to maintain additional tools to address uncovered credit losses. These recovery tools include, among others, voluntary tear-ups, sanctioned partial tear-ups, variation margin gains haircuts, and sanctioned full tear-ups.

After the expiration of the applicable cooling-off period[11], Clearing Members are required to replenish their Guaranty Fund contributions to match the re-calculated Guaranty Fund size. The recalculated Guaranty Fund amount is set to cover the simultaneous default of the two Clearing Members (and their affiliates) with the largest potential stress shortfalls. Assessments that were collected but ultimately not used to address the default may be credited toward a Clearing Member's replenished Guaranty Fund requirement.

[11] The applicable cooling-off periods are defined as from the date of the original default until the later of (i) the fifth Business Day thereafter and (ii) if another Clearing Member defaults during the five Business Days following the initial or any subsequent default, the fifth Business Day following the last such default (such period, the "**Cooling-Off Period**"), regardless of the number of Defaults that occur during such Cooling Off Period.

3.5. 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.

CCUS's Acceptable Collateral Policy sets out the process the Clearinghouse uses when evaluating whether a new asset class should be approved as collateral. This policy operates as an extension of CCUS's broader Risk Management Framework and falls under the oversight of both the Risk Management team and the Risk Management Committee.

The Risk Management Committee conducts an annual review of the policy and is responsible for approving any updates.

The procedures governing the identification of acceptable collateral are intended to ensure that CCUS only approves assets that pose low credit, market, and liquidity risk, consistent with §39.11(e)(4) and §39.13(g)(10). As part of its evaluation of any proposed new collateral type, CCUS conducts a detailed assessment of available pricing sources and the depth, volume, and liquidity of the market for the asset. CCUS also performs a comprehensive risk analysis across multiple dimensions, including credit, liquidity, market, custody, operational, regulatory, and any other risks that might arise from accepting the asset as collateral. The Margin and Stress Testing Committee conducts a review of any potential new acceptable collateral from the legal, compliance, and risk perspectives before the potential acceptable collateral is presented to the Risk Management Committee for review and approval.

The Clearinghouse performs stress-testing and risk-measurement practices to manage the risk posed by acceptable collateral, including marking the collateral to market daily, setting collateral haircuts levels based on the Clearinghouse's stress-testing framework, and reviewing the haircut levels with the Margin and Stress Testing Committee on at least a monthly basis.

At present, CCUS accepts only USD cash for initial margin and for contributions to the Guaranty Fund. This USD-only standard simplifies collateral management while supporting a conservative risk posture.

Key Consideration 2:

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

The Clearinghouse, as noted above, currently limits acceptable collateral to USD cash for all products and services. Because USD cash carries minimal credit, liquidity, and market risk, its value remains stable and does not require the application of haircut methodologies.

CCUS sets collateral haircuts based on the Clearinghouse's stress testing framework. Haircuts are reviewed by the Margin and Stress Testing Committee at least monthly.

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.*
CCUS sets collateral haircuts based on the Clearinghouse's stress testing framework. Haircuts are reviewed by the Margin and Stress Testing Committee at least monthly.
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.*
CCUS sets concentration limits as appropriate for each type of collateral asset that it accepts. However, the Clearinghouse currently only accepts USD cash as collateral for all products and services. This policy inherently avoids concentration risk by eliminating exposure to non-cash asset classes.
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.*
This Key Consideration is not applicable to CCUS because it does not accept cross-border collateral.

Key Consideration 6:

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

The CCUS collateral system incorporates robust risk assessment tools, including stress testing, haircuts, and concentration limit controls. Additionally, CCUS has established a governance process for evaluating new asset classes. The operational setup of CCUS's collateral system is structured to integrate additional collateral types as market needs evolve and applicable haircuts are approved via the governance process.

The framework set forth in the Acceptable Collateral Policy provides for the monitoring and valuation of collateral throughout each business day, including during market stress events. CCUS's collateral management system allows CCUS to mark-to-market collateral daily, set and review haircuts, and allows Clearing Members to post collateral.

In addition, CCUS retains complete control over posted collateral because each Clearing Member provides CCUS with a first-priority, unencumbered security interest in all collateral, positions, and any other funds or property held by the Clearinghouse.

CCUS currently applies a conservative, U.S.–dollar-only approach to collateral.

3.6. 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.

CCUS has margin methodologies and margin requirements that are commensurate with the risk of each product and portfolio, as documented in CCUS's Risk Management Framework, pursuant to CFTC Regulation §39.13(g)(2). CCUS further establishes these requirements through the Margin Model and Stress Scenarios policies and procedures. CCUS's margin model and methodologies describe the risks of each product and portfolio, including any unusual characteristics of, or risks associated with, the products and portfolios cleared, including market, liquidity, concentration and other risks. CCUS's margin methodologies are designed to generate margin requirements sufficient to cover the Clearinghouse's potential future exposures to Clearing Members based on price movements in the interval between the last collection of variation margin and the time within which the defaulting Clearing Member's positions would be able to be reasonably liquidated (liquidation time). CCUS considers liquidity of different products when considering the appropriate liquidation time and establishes the rationale for the choice of liquidation time for each product.

CCUS's margin methodologies are designed to meet an established confidence level of at least 99 percent, based on data from an appropriate historic time period for:

- Each product for which the Clearinghouse uses a product-based margin methodology;
- Each spread within or between products for which there is a defined spread margin rate;
- Each account held by a Clearing Member at the derivatives clearing organization, by house origin and by each customer origin; and
- Each portfolio, including any portfolio containing futures or margined-eligible products approved for clearing by the Clearinghouse held in a commingled account pursuant to §39.15(b)(2), by beneficial owner.

CCUS maintains a model for generating margin requirements which complies with relevant rules, regulations, policies and procedures and addresses determinations that were made in the design and implementation process including choice of liquidation time, choice of historical time period, and choice of the mathematical model.

In accordance with CFTC Regulation §39.13(g)(8)(i), and as detailed further in CCUS's disclosures for Principle 14, CCUS calculates and collects initial margin for Clearing Members' customer accounts on a gross basis. Maintenance margin for each customer omnibus account is collected at a level equal to the total maintenance margin that would be required if each individual customer were itself a Clearing Member. Additionally, under CCUS Rule 403 and CFTC Regulation §39.13(g)(8)(ii), Clearing Members must collect margin from their customers that is at least equal to the minimum initial margin requirements established by CCUS. The Clearinghouse requires its Clearing Members to collect initial margin of no less than 100 percent of the maintenance margin requirement for each product and portfolio, consistent with the risk profile of each customer account. CCUS has reasonable discretion in determining clearing initial margin requirements for products or portfolios, whether and by how much customer initial margin requirements shall, at a minimum, exceed clearing initial margin requirements for categories of customers

determined by the clearing member to have heightened risk profiles. Clearing Members are prohibited from permitting customers to withdraw funds unless, after the withdrawal, the customer's net liquidating value plus remaining margin meet the applicable initial margin requirements for all cleared products and other portfolios in the account. This restriction helps ensure that Clearing Members do not finance customers' initial margin obligations, a practice that could elevate risk and impair the ability to port customer accounts in the event of a Clearing Member default.

Settlement variation margin and initial margin obligations are managed separately, but calculated and collected on similar timelines, routinely at least twice each business day. CCUS uses multiple methods to manage current and potential future exposures. Among these are mark-to-market settlement cycles at least twice daily – a midday and end of day settlement cycle – which cover the settlement of initial and variation margin requirements. At each settlement cycle, initial margin is collected from Clearing Members and variation margin is collected from and paid to Clearing Members. In line with CFTC Regulation §39.14(b) and CCUS Rule 404, CCUS has the authority and operational capacity to effect settlement with each Clearing Member, on an intraday basis, either routinely, when thresholds are breached, or in times of extreme market volatility. An overview of the timeline for the movement of funds for intraday and end-of-day settlements cycles for initial and settlement variation margin requirements is outlined in CCUS's disclosures for Key Consideration 4 of this Principle. Once a settlement bank irrevocably commits to meet the funding obligations on behalf of a Clearing Member, the funds are debited directly from the Clearing Member's account.

A failure of a Clearing Member to satisfy an initial margin call at the intraday or end-of-day settlement cycles is grounds for CCUS to declare such Clearing Member in default pursuant to CCUS Rules 403 and 410. More details on CCUS's default management practices are covered in CCUS's disclosures for Principle 13.

In addition to CCUS's prudent margin requirements, a Clearing Member's financial health is monitored on an ongoing basis. CCUS has put in place safeguards to mitigate the risk of a Clearing Member default by ensuring the financial integrity of its Clearing Members, including adopting appropriate admission and continuing participant requirements for its Clearing Members and imposing reporting requirements related to the financial integrity of the Clearing Member. CCUS has also adopted controls that support the maintenance of adequate default financial resources and provide robust risk management, including daily risk monitoring, ongoing evaluations of model soundness, and operational risk management.

CCUS's risk management practices include monitoring of Clearing Members' credit exposures throughout the day. Additionally, CCUS conducts heightened monitoring for large traders that carry sizeable exposures. CCUS's systems also allow CCUS to aggregate these customers' exposures across Clearing Members. Clearing Members that present concerns related to liquidity or creditworthiness or present the largest exposures to the markets cleared by CCUS are monitored accordingly. These Clearing Members may be assessed for a concentration add-on charge once a Clearing Member's position exceeds predetermined thresholds. The concentration add-on is designed to step up as the size of positions increases to compensate for the additional liquidity risk exposure to the Clearinghouse because of large, concentrated exposure held by individual Clearing Members. This charge is in addition to the initial margin requirement calculated based on the margin rates produced by the margin model. These practices are supported by CCUS's well-developed risk monitoring process that utilizes real-time data, where positions are marked to real-time prices throughout the day. A more detailed overview of the monitoring of a Clearing Member's financial health throughout its relationship with CCUS is provided in Key Consideration 3 of Principle 3: Framework for the Comprehensive Management of Risks.

A more detailed overview of the margin methodologies CCUS employs is provided in CCUS's disclosures for Key Consideration 3 of this Principle.

Transparency of CCUS's Margining Practices

CCUS maintains internal and external documentation relating to the methodologies and procedures for each of its margin models. CCUS's margin methodologies are outlined in both the Risk Management Framework and the Margin Model and Stress Scenarios policies and procedures, internal documents, and the CCUS PFMI Disclosures, Quantitative PFMI Disclosures and the CCUS Rulebook and high-level margin methodology disclosures publicly available on its website.[12]

As described in CCUS's disclosures for Key Consideration 6 of this Principle, CCUS monitors the performance of its margin models on an ongoing basis and has governance arrangements in place for the approval of any changes to margin models. CCUS's risk models undergo independent validation at least annually. The findings from these independent validations are presented to the Margin and Stress Testing Committee, and high-level summaries are shared with the Risk Management Committee, which also oversees any necessary remediation efforts. The CCUS CRO and Risk Management team play an important role in conducting analysis of the margin models' performances and underlying market conditions and propose appropriate changes to margin model parameters. All material revisions to CCUS's margin methodology, including those prompted by validation results, are thoroughly reviewed across the Risk Management team, including the Margin and Stress Testing Committee, before being submitted to the Risk Management Committee for approval. Margin methodology changes impacting Clearing Members are communicated through Clearing House Market Notices published on the CCUS website.[13] Additionally, material changes to CCUS's margin methodologies are subject to public rule filings with the CFTC, which are published on both the CCUS website and CFTC website.

[12] See https://www.cboe.com/solutions/clearing/us/risk-management for information regarding CCUS's margin methodology, CCUS's Rulebook at https://cdn.cboe.com/resources/membership/Cboe-Clear-US-Rulebook.pdf and CCUS Regulation.

[13] See http://www.cboe.com/solutions/clearing/us/notices/ccus-clearing.

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.

CCUS maintains processes that are designed to ensure robust settlement prices. CCUS's primary sources of price data are derived from exchanges, third party data providers, or, where no observable prices are available or reliable, through the use of theoretical valuation models. CCUS uses underlying price data from reliable third-party vendors for the margin model, methodologies and stress scenarios calibration. Additional daily settlement prices, volume and open interest for related margined-eligible products approved for clearing by the Clearinghouse ("**Approved Margined Products**" **or** "**AMPs**") markets are used to study historical trends in basis between underlying indices, and AMP prices, term structure movements, and trends on daily volume and open interest to set concentration thresholds. CCUS also has the flexibility to modify prices, so that they best reflect the true market valuation at the time of the market closing.

CCUS maintains processes that are designed to ensure robust settlement prices, which are the basis of CCUS's initial margin calculations each business day. These processes ensure that settlement prices are reviewed for appropriateness. Pursuant to CFTC Regulation §39.13(g)(5), CCUS maintains a reliable source of timely price data to accurately measure credit exposure, including written procedures and sound valuation models for addressing circumstances where pricing data is not readily available or reliable.

CCUS completes the following price checks every business day to ensure a valid spot price will be available for the CCUS margin models and stress scenarios to calculate updated margin rates:

1. Primary or back-up third-party index prices are missing.
2. Participating Exchange's and/or related markets' derivatives prices, if applicable, are missing.
3. The difference between the Participating Exchange's derivatives prices and related derivatives prices, if applicable, exceeds an internal parameter.

To the extent any of these checks fail and a near real-time alert is generated, an issue is opened where the underlying cause, any necessary actions needed to ensure the margin model can run successfully, and what, if any, additional actions can be taken to ensure the problem will not be encountered again are documented.

CCUS further complies with CFTC Regulation §39.13(g)(5) through its Futures Theoretical Pricing Model, Futures Price Sources and Pricing Model Policy and Ongoing Monitoring Job Aid.

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 sub portfolio 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.

Pursuant to CFTC Regulation §39.13(g)(2), CCUS has initial margin requirements that are commensurate with the risk of each product and portfolio. CCUS's margin methodologies are designed to capture the product-specific risks inherent to Clearing Members' portfolios, which is achieved through the appropriate calibration of the margin parameters – e.g., lookback, margin period of risk, confidence interval, etc. Risk characteristics that CCUS considers in setting its initial margin requirements for a given product include transparency and liquidity.

CCUS has systems for generating initial margin requirements, including its theoretical models, reviewed and validated by a qualified and independent party annually in accordance with CFTC Regulation §39.13(g)(3).

CCUS's risk-based margin methodologies are designed to achieve a 99 percent coverage level based on data from an appropriate historic time period for:

- Each product for which the Clearinghouse uses a product-based margin methodology;
- Each spread within or between products for which there is a defined spread margin rate;
- Each account held by a Clearing Member at the derivatives clearing organization, by house origin and by each customer origin; and
- Each portfolio, including any portfolio containing futures or margined-eligible products approved for clearing by the Clearinghouse held in a commingled account pursuant to CFTC Regulation §39.15(b)(2), by beneficial owner.

CCUS calibrates its margin methodologies to capture the liquidity profiles of the products and portfolios it clears, considering the need to liquidate in times of market stress. Parameters in margin methodologies and models are calibrated using historical market data to reflect the risk of each product. Margin sensitivity analysis is also completed that contemplates historical market data for a range of parameter settings and assumptions as well as hypothetical conditions that provide insight into how the margin models and methodologies will react assuming these changes in parameters or market conditions. Both product and historical as well as hypothetical portfolio backtesting will be completed using the different parameter settings and assumptions considered as a part of this sensitivity analysis. This ensures that the margin requirement and stress exposure measurement

capture the risk characteristics of each product and spread.

As detailed in CCUS's Margin Model and Stress Scenarios Policy, the margin model and methodologies are calibrated using at least five years (or the longest period available) of historical market data to ensure all measurements are commensurate with the risk of each relevant margined-eligible product approved for clearing by the Clearinghouse ("**Approved Margined Products or AMPs**"), including any unusual characteristics or risks associated with any product or portfolio. Risk analysis (including study of tail events) is performed for underlying data, related AMP market data, basis between the underlying price and related AMP market data, and finally, curve price move risk in the related AMP market.

The margin methodology has been designed to cover two business days' extreme price movement risk to give the Clearinghouse sufficient time to liquidate defaulting members' positions since the last collection of variation margin. This exceeds the minimum requirement of one-day liquidation time for futures and options that is required in CFTC Regulation §39.13(g)(2); therefore, the margin period of risk for a given product may exceed these minimums, considering the liquidation profile of the product, concentration profile of the market, seasonality, or other market specific factors. An initial margin multiplier has been set based on intraday high and intraday low-price snapshots. The risk coverage for the margin methodology has been chosen as 99th percentile confidence (two tailed) for two business days' price movement. This coverage is applicable for each product and each spread within products. The risk coverage is based on a five-year rolling window which, in CCUS's judgment, is an appropriate time period to cover different volatility patterns. The risk coverage for the stress scenarios has been chosen by examining historical price returns for the relevant margined-eligible products approved for clearing by the Clearinghouse ("**Approved Margined Products or AMPs**") to identify periods of stress ("**Historical Scenarios**") with the same historical lookback window (i.e., a minimum of five years). Certain hypothetical stress scenarios can be based on market moves or correlation assumptions not previously encountered in the data.[14]

CCUS's margin methodologies are designed to account for a variety of market conditions, leading to stable and conservative initial margin requirements, to avoid procyclical changes to these margin requirements. There are several measures embedded into CCUS's margin methodologies that act to avoid significant changes in initial margin requirements, including during periods of stress. CCUS implements forward-looking adjustments to initial margin levels in anticipation of events that may lead to increased market volatility, such as macroeconomic or geopolitical developments. These measures are intended to mitigate procyclicality by maintaining initial margin levels that appropriately reflect potential risks during periods of low volatility. By doing so, CCUS seeks to reduce the likelihood of abrupt and significant increases to initial margin requirements during periods of market stress,

[14] Separately, the Clearinghouse creates additional stress scenarios by contemplating forward-looking stress scenarios that contemplate unobserved break-downs in historical correlations and/or unobserved relative price movements between individual expirations in a variety of extreme but plausible market conditions ("**Hypothetical Scenarios**"). The stress scenario shocks represent instantaneous price shocks that are applied to each position in a portfolio. The resultant portfolio stress exposure represents the worst theoretical losses generated across all scenarios ("**Gross Stress Exposure**"). Credit risk exposures and liquidity risk exposures will be measured using these Historical and Hypothetical Scenarios as described below. The scenarios considered shall include, but are not limited to, the following:

(i) Relevant peak historic price volatilities, which are captured in the Historical Scenarios;
(ii) Shifts in other market factors including, as appropriate, price determinants and yield curves, which will be captured in the Hypothetical Scenarios;
(iii) Multiple defaults over various time horizons, which are captured by completing reverse stress testing where more than two Clearing Members are assumed to have defaulted and those cumulative losses are compared to the Clearinghouse's Default Financial Resources;
(iv) Simultaneous pressures in funding and asset markets, which will be contemplated within the liquidity stress tests where any liquidity provider affiliated with a Clearing Member in Default will be assumed to be unable to provide liquidity to the Clearinghouse; and
(v) a range of forward-looking stress scenarios in a variety of extreme but plausible market conditions, which will be captured in the Hypothetical Scenarios.

thereby promoting orderly risk management and supporting overall market stability. At all times, to ensure that risks are appropriately collateralized, CCUS maintains the right to adjust margin parameters as market conditions warrant.

CCUS's risk management practices include monitoring of Clearing Members' credit exposures throughout the day. Additionally, CCUS conducts heightened monitoring for large traders that carry sizeable exposures. CCUS's systems also allow CCUS to aggregate these customers' exposures across Clearing Members. Clearing Members that present concerns related to liquidity or creditworthiness or present the largest exposures to the markets cleared by CCUS are monitored accordingly. These Clearing Members may be assessed for a concentration add-on charge once a Clearing Member's position exceeds predetermined thresholds. The concentration add-on is designed to step up as the size of positions increases to compensate for the additional liquidity risk exposure to the Clearinghouse because of large, concentrated exposure held by individual Clearing Members. This charge is in addition to the initial margin requirement calculated based on the margin rates produced by the margin model. These practices are supported by CCUS's well-developed risk monitoring process that utilizes real-time data, where positions are marked to real-time prices throughout the day.

Pursuant to CFTC Regulation §39.13(g)(4), CCUS may allow reductions in initial margin requirements. CCUS's margin methodologies allow for reduction in initial margin based on price risk correlation for contracts of the same product with different expiration dates or different products with the same or different expiration dates. Prices of contracts considered for margin offsets must have shown significant and reliable correlation in the historical data and be based on a sound conceptual basis for that correlation to be eligible for a margin reduction. Conceptual correlation will be evaluated based on the contracts having the same underlying asset in the case of intra-commodity spreads or the contracts' underlying prices being impacted by materially similar risk factors in the case of inter-commodity spreads. CCUS reviews all initial margin reductions and correlations as described in CCUS's Margin Model and Stress Scenarios Governance Policy.

CCUS determines the adequacy of its initial margin requirements in accordance with CFTC Regulation §39.13(g)(6) and complies with this regulation using its Margin Model and Stress Scenarios Governance Policy along with the Margin Rate and Initial Margin Reviews and Approvals described below, which are captured in the Margin Monitoring Job Aid.

Margin Model Overview

1. The Margin Model specifies the US Dollar denominated margin requirement for outright and spread positions in each contract or spread cleared by the Clearinghouse.
2. The Model has the following sub-components:
    a. Spot Tail Risk ("**Spot Risk**") measurement, which estimates the market risk from price movements of the underlying spot commodity.
    b. Basis risk adjustment which represents a premium added to Spot Risk to account for basis risk between the spot commodity and the margined-eligible products approved for clearing by the Clearinghouse.
    c. Funding Amount risk adjustment which represents a premium added to Spot Risk to account for the Funding Amount obligation related to Continuous Futures.
    d. Intra-Commodity offset, which provides for risk offset between contracts on the same underlying product.
    e. Inter-Commodity Offset, which provides risk offsets between contracts on different underlying products.

3. Spot Tail Risk is based on a filtered historical simulation Value-at-Risk ("**FHS VaR**") model using Historical Value-at-Risk ("**HVaR**") to establish floors for minimum Margin Requirements.

Margin Model Parameters

The Spot Risk calculation parameters are set as follows:

1. Lookback Period of 5 years (or, if unavailable, longest available length of data).
2. Margin Period of Risk of two (2) Business Days.[15]
3. Confidence Level of 99th percentile Two-tail Risk, i.e., 0.5% for each tail of the return distribution.
4. An additional six (6) months of historical data is used to ensure stability of the short-term volatility estimates for the FHS VaR.[16]
5. Exponential Moving Average Smoothing Factor = 0.99

The configurations for basis risk and funding amount risk adjustments as well as intra-commodity and inter-commodity offsets are calibrated using the following parameters:

1. Lookback Period of five (5) years (or longest available length of data).
2. Margin Period of Risk of two (2) Business Days.
3. Minimum Confidence Level of 99th percentile Two-Tail Risk, i.e., 0.5% for each tail of the distribution. Higher risk adjustments may be used to prevent excessive leverage or to account for idiosyncratic market risks that may not be captured in the data.

Spot Risk Measurement and Volatility

CCUS's Spot Risk Measurement is based on an FHS VaR calculation as described in the Bank of England Working Paper No. 525 by Gurrola-Perez and Murphy.[17] FHS VaR adjusts for short-term price volatility allowing Margin Requirements to adjust to changing market conditions.

The FHS VaR is supplemented with an HVaR calculation to prevent risk requirement measurements from falling too quickly during extended periods of low volatility. The use of long-term HVaR to establish a floor on risk calculation is meant to prevent large swings in margin requirements in response to changes in market volatility.

The margin model and methodologies provide replicability, transparency and anti-procyclical tools, and take into account a variety of data points to capture historical and seasonal volatility, as well as forward looking measures. The filtered HVaR components use at least a five-year rolling lookback period and adjust the five business day historical returns based on appropriate forecasts of short-term volatility (i.e., EWMA). The unscaled components incorporate historical scenarios from longer lookback periods, in addition to the rolling five-year lookback, and also allow for the injection of hypothetical scenarios. The unscaled components' inclusion of periods of stress acts as an anti-procyclicality measure by having these periods persist in initial margin requirements, even during periods of lower volatility.

[15] Business Day is defined in the CCUS Rulebook.

[16] Requiring 6 months of data for short term volatility estimation (in addition to the 5 years Lookback Period for Tail Risk measurement) results in a total historical data length of 5.5 years. If the length of available data is less than 5.5 years, then the Lookback Period will be shortened to be equal to length of the available data minus 6 months.

[17] https://www.bankofengland.co.uk/-/media/boe/files/working-paper/2015/filtered-historical-simulation-value-at-risk-models-and-their-competitors.pdf?la=en&hash=34BF0E24DB60656E044E3DB5524E08DF5D0112D

Margin Rate and Initial Margin Reviews and Approvals

Every business day, margin rates for each listed futures contract or margined-eligible products approved for clearing by the Clearinghouse are generated and an approval process is completed by Risk Management before those margin rates are written to the clearing system for portfolio margin calculations. For participating exchanges, Risk Management will obtain the parameter values for the pre-trade risk controls that the participating exchange employs and incorporate the values into Risk Management's ongoing monitoring.

Following margin rate approval, margin requirements are generated for each Clearing Member account using those margin rates as inputs and a similar approval process is completed by Risk Management.

Further details are described in CCUS's Margin Monitoring Job Aid for these processes.

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.

Settlement variation margin and initial margin obligations are managed separately, but calculated and collected on similar timelines, routinely at least twice each business day. Settlement variation is calculated at least twice each business day using current market prices based on positions from the previous settlement cycles. Intraday settlement variation calculations use a combination of current market prices and theoretical prices. CCUS uses multiple methods to manage current and potential future exposures. Among these are mark-to-market settlement cycles at least twice daily – a midday and end of day settlement cycle – which cover the settlement of initial and variation margin requirements. End-of-day mark-to-market settlement obligations are calculated each business day using settlement prices.

CCUS conducts a settlement cycle for initial and variation margin at least twice per business day:

- **Midday settlement cycle**: calculated at 12:00 PM CT (Chicago), with any payments due by 2:00 PM CT (Chicago) same day; and
- **End-of-day settlement cycle**: calculated after the 4:00 PM CT (Chicago) market close and by 9:00 PM CT (Chicago) same day, with payments due by 8:00 AM CT (Chicago) the following business day.

At each settlement cycle, initial margin is collected from Clearing Members and variation margin is collected from and paid to Clearing Members. In line with CFTC Regulation §39.14(b) and CCUS Rule 404, CCUS has the authority and operational capacity to effect settlement with each Clearing Member, on an intraday basis, either routinely, when thresholds are breached, or in times of extreme market volatility. Once a settlement bank irrevocably commits to meet the funding obligations on behalf of a Clearing Member, the funds are debited directly from the Clearing Member's account.

A failure of a Clearing Member to satisfy an initial margin call at the intraday or end-of-day settlement cycles is grounds for CCUS to declare such Clearing Member in default pursuant to CCUS Rules 403 and 410. More details on CCUS's default management practices are covered in CCUS's disclosures for Principle 13.

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.

Pursuant to CFTC Regulation §39.13(g)(4), CCUS may allow reductions in initial margin requirements. CCUS's margin methodologies allow for reduction in initial margin for contracts of the same product with different expiration dates or different products with the same or different expiration dates. Prices of contracts considered for margin offsets must have shown significant and reliable correlation in the historical data and provide a sound conceptual basis to be eligible for a margin reduction. This will be evaluated based on the contracts having the same underlying asset in the case of intra-commodity spreads or the contracts' underlying prices being impacted by materially similar risk factors in the case of inter-commodity spreads. CCUS reviews all initial margin reductions and correlations as described in CCUS's Margin Model and Stress Scenarios Governance Policy.

CCUS does not currently have a cross-margining program with other CCPs.

Key Consideration 6:

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

Consistent with CFTC Regulation §39.13(g)(7), CCUS conducts backtesting of its margin models to monitor their appropriateness, with particular focus on adherence to the 99 percent coverage standard using one, three and five-year lookback periods evaluated based on the results from the Basel Traffic Light Framework[18]. Backtesting is incorporated into the design, development, and implementation of CCUS's margin models. Prior to making material changes to a margin model or launching a new margin model, the impact of the proposed change is evaluated using a series of backtesting exercises that are designed to ensure adequate coverage is achieved over historical timeframes, sufficient to cover periods of stress. If backtesting results indicate that the margin model is not performing as expected, then the model changes or new models are not implemented in production environments until the backtesting results are sufficiently robust. Additionally, prior to launching a new product for clearing, backtesting is conducted to confirm that the applicable margin model will provide sufficient coverage.

CCUS complies with this regulation by completing daily and monthly margin account backtests as described below.

Daily Futures and Spread Margin Adequacy Backtests

CCUS conducts backtesting in the form of initial margin coverage testing to assess that the margin models and their parameters are performing as expected and meeting the required targeted coverage standards. Consistent with CFTC Regulation §39.13(g)(7), this testing compares portfolio losses to those initial margin requirements driven by market risk factors. CCUS conducts daily backtests on each business day and each Clearing Member customer account and house account that carries positions overnight for every product and spread in the account. These backtests consider the portion of initial margin requirements determined by the CME SPAN methodology using CCUS's margin rates as inputs and do not include any add-ons.[19] The focus of CCUS's daily backtests is on the independence of backtesting violations and the Basel Traffic Light Framework output. Any backtesting breaches of the 99 percent coverage standard trigger analysis exercises that are designed to ensure model parameters are appropriately tuned to existing market conditions. Any significant backtesting breaches, identified in daily backtesting, are brought to the Risk Management Committee for review, which may result in a decision by the Committee to adjust margin model parameters, as appropriate.

Monthly Futures and Spread Margin Adequacy Backtests

On a monthly basis, CCUS completes backtest reviews with longer lookback periods of one, three, and five years compared to the one-year lookback period used for the daily margin

[18] See Basel Committee on Banking Supervision. (1996). *Supervisory framework for the use of "backtesting" in conjunction with the internal models approach to market risk capital requirements*. Bank for International Settlements.

[19] See CME Group's PFMI Disclosures which describe the SPAN margin methodology available at: CME Clearing: Principles for Financial Market Infrastructures Disclosure.

backtests. This monthly review also includes margin model sensitivity analysis, review of stress testing parameters, and other informational statistics on the product and spread return histories compared to the applicable current margin rates. Where CCUS has identified that a margin model is not performing as expected, through backtesting and/or other analysis or otherwise, CCUS would take the necessary steps to address this. The Risk Management team undertake any further analysis to understand the shortcomings and any related changes would be subject to the appropriate governance as described in Principle 2 of these disclosures.

Key Consideration 7:

A CCP should regularly review and validate its margin system.

CCUS has systems for generating initial margin requirements, including its theoretical models, reviewed and validated by a qualified and independent party annually in accordance with CFTC Regulation §39.13(g)(3). Where no material changes to the margin model have occurred, previous validations can be reviewed and affirmed as part of the annual review process. Additionally, prior to launching a new margin model or making significant changes to an existing model, CCUS requires an independent model validation, designed to ensure proper coverage of the relevant products. The validation process is designed to affirm the appropriateness of the margin model's implementation and its theoretical soundness.

In addition to annual validation of CCUS's margin systems and models, CCUS reviews the following:

- Reduction in Initial Margin for Spreads and Portfolios - 17 CFR 39.13(g)(4): CCUS reviews all reductions in margin requirements and correlations on which they are based on a monthly basis.
- Daily Margin Adequacy Review - 17 CFR 39.13(g)(6): CCUS reviews the adequacy of its initial margin requirement on a daily basis.
- Daily Margin Requirement Backtest - 17 CFR 39.13(g)(7): CCUS performs daily backtests on all product portfolios to test adequacy of the initial margin requirement using a Lookback Period (as defined in the CCUS Margin Model and Stress Scenarios Document) of at least 30 business days. Backtesting performed as part of this review will not include any margin add-ons that the Clearinghouse may charge beyond the margin requirement dictated by the Tail Risk (as defined in the CCUS Margin Model and Stress Scenarios Document) measurement.

A summary of the results of each review will be provided by the Risk Management department to the CRO and the President of CCUS once completed. The CRO will present a summary of any changes that were made to the margin model parameters and stress scenarios to the Risk Management Committee during its regularly scheduled meetings.

3.7. 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 participants, settlement banks, nostro agents, custodian banks, liquidity providers, and other entities.

The policies and practices for managing the CCUS liquidity risk framework ("**Liquidity Risk Management Framework**") are set forth in CCUS's Risk Management Framework, more specifically in the Liquidity Risk Management Policy, Financial Resources and Reporting Policy and the Treasury Management - Liquidity and Capital Funding Policies and Procedures, which comprehensively address the requirements for liquidity risk management pursuant to CFTC Regulations §39.33, §39.39(d) and §39.11(e). The Risk Management Framework and Liquidity Risk Management Policy set out the policies and procedures through which CCUS maintains access to sufficient liquidity across all currencies in which it has settlement obligations. The Liquidity Risk Management Framework is designed to ensure that CCUS can meet its obligations under a range of stress scenarios, including the default of a Clearing Member (and, where relevant, its affiliates) that would generate the largest liquidity requirement under extreme but plausible market conditions. Further, the Liquidity Risk Management Framework establishes the approach for identifying, monitoring and managing liquidity risks, and outlines the financial resources available to address potential liquidity needs. Information regarding the scale of potential liquidity exposures and the corresponding resources is disclosed publicly on a quarterly basis through the CCUS Quantitative PFMI Disclosure document.

The Liquidity Risk Management Framework is under the ultimate oversight of the Board and as such, is reviewed and approved by the Board on at least an annual basis, in addition to its review and approval by the Risk Management Committee that precedes the Board's final approval. Within the Clearinghouse, the Liquidity Risk Management Framework is overseen by the Risk Management Committee, which, among other things, is also responsible for reviewing liquidity risk and resources during regularly scheduled meetings.

The Liquidity Risk Management Framework establishes CCUS's approach for identifying and assessing the Clearinghouse's largest potential liquidity requirement under extreme but plausible market conditions. This assessment is primarily driven by scenarios involving the default of a Clearing Member and, where relevant, incorporates additional stress scenarios, including the potential failure of related counterparties or service providers as further described in CCUS's disclosures for Key Consideration 4 of this Principle. The framework is designed to ensure that CCUS can continue to meet its settlement obligations to non-defaulting Clearing Members during a liquidity event. In such circumstances, the Clearinghouse may convert collateral of a defaulted Clearing Member into cash, in accordance with applicable customer protection requirements.

Liquidity risk is measured and monitored through regular stress testing, including daily assessments of potential liquidity exposures. More detailed analysis of the liquidity needs and available resources, including by currency, is conducted on a monthly basis, or more frequently in periods of heightened volatility or when Risk Management observes stress shortfalls in its stress testing that could jeopardize CCUS's compliance with its financial

resource requirements. These scenarios are then escalated through CCUS's risk governance structure, including the Margin and Stress Testing Committee, as appropriate.

The Clearinghouse manages liquidity risk through ongoing monitoring of Clearing Member payment obligations, including consideration of exposures across affiliated entities and services. Where a counterparty performs multiple roles, exposures are assessed both at the individual service level and on an aggregated basis to ensure a comprehensive view of potential liquidity risk. Assumptions regarding the availability of liquidity resources are applied conservatively, including where affiliated entities may be unable to perform their roles under stress conditions.

Collateral eligibility and management practices support CCUS's Liquidity Risk Management Framework by prioritizing highly liquid assets and facilitating timely access to funds. Collateral is managed in a manner designed to minimize the risk of loss or delay in access, while supporting CCUS's ability to meet its obligations and manage risk effectively.

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.

Consistent with its regulatory obligations as a DCO, CCUS measures settlement flows by monitoring the movement of funds associated with settlement and initial margin requirements. These flows are tracked on an ongoing basis through the Clearinghouse's internal systems. CCUS utilizes internally developed systems and tools to identify, measure, and monitor settlement and funding activity. Settlement banks confirm the completion of variation margin payments following notification to Clearing Members, as described in greater detail in CCUS's disclosures for Principle 8. CCUS's systems enable real-time monitoring of positions and settlement exposures throughout the day, and support analysis of settlement obligations across Clearing Members, accounts and product types.

To support effective risk management, CCUS may communicate anticipated variation margin requirements to Clearing Members and settlement banks during the day, providing transparency into expected payment flows. Where observed activity deviates materially from historical patterns, including under stressed conditions, alerts are generated for further

review by Risk Management. In such cases, CCUS may notify the relevant Clearing Member of expected obligations to facilitate timely and accurate settlement.

These monitoring processes are complemented by broader counterparty risk management tools and systems, as discussed in CCUS's disclosures for Principle 4, which support the ongoing assessment of Clearing Member exposures and credit profiles.

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.

This Key Consideration is not applicable to CCUS because it is not a payment system or securities settlement system.

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 participants and their affiliates that would generate the largest aggregate payment obligation to the CCP in extreme but plausible market conditions.

Pursuant to CFTC Regulation §39.33(c), CCUS maintains stress testing to assess eligible liquidity resources in all relevant currencies that, at a minimum, will enable it to meet its intraday, same-day, and multiday obligations to perform settlements with a high degree of confidence under a wide range of stress scenarios that include a default by a Clearing Member (and, where relevant, its affiliates) creating the largest aggregate liquidity obligation for CCUS in extreme but plausible market conditions. Eligible liquidity resources are enumerated in the Liquidity Risk Management Policy. In addition to the financial resources described throughout this Principle, and in the Liquidity Risk Management Policy, allocated financial resources include unencumbered, liquid financial assets (i.e., cash and/or highly liquid securities) sufficient to enable CCUS to cover the operating costs for a period of at least six months. If the financial resources allocated to meet the necessary requirements of the Risk Management Framework and Liquidity Risk Management Policy do not include such assets in a sufficient amount, the Clearinghouse may consider a committed line of credit or similar facility for the purpose of meeting the requirement.

It should be noted that CCUS limits the assets it accepts as initial margin to those that have minimal credit, market and liquidity risks, consistent with CFTC Regulation 39.13(g)(10). At present, CCUS only accepts USD, and all Clearing Member and customer assets are maintained in USD. Pursuant to CFTC Regulation §39.15(e) the funds and assets belonging to Clearing Members and their customers that are invested by the Clearinghouse will be held in instruments with minimal credit, market, and liquidity risks. Currently, the Clearinghouse does not invest Clearing Member funds.

Based on its stress testing, CCUS identifies its largest potential liquidity exposure as the payment obligations that may arise from the default of a Clearing Member. These obligations may result from the default of a Clearing Member on a standalone basis or in combination with the failure of its settlement bank, where the Clearing Member is unable to meet its obligations to the Clearinghouse. For these purposes, payment obligations are defined as including the defaulted Clearing Member's potential variation margin obligations, as well as any replacement costs associated with positions subject to physical delivery. Potential payment obligations are assessed on an aggregated basis across affiliated entities and relevant financial resources (including across Guaranty Funds).

CCUS performs daily liquidity stress testing on Clearing Member portfolios and on large customer accounts to monitor and quantify its exposures using defined scenarios and parameters. Stress test results are compared with various benchmarks, including initial margin requirements and Clearing Member capital.

Stress testing results are reviewed each business day by the Risk Management team and communicated to the Margin and Stress Testing Committee. Stress testing reports are also provided to the Risk Management Committee during its regularly scheduled meetings and to the Margin and Stress Testing Committee on at least a monthly basis consistent with CFTC Regulation §39.36(c)(3), or more frequently when market conditions warrant. The Margin and Stress Testing Committee's at least monthly review ensures that CCUS' liquidity resources, including those within the Guaranty Fund, remain appropriately calibrated to absorb potential future exposures arising from the default of the Clearing Member and its affiliates generating the largest liquidity stress test shortfalls. The Margin and Stress Testing Committee's monthly reporting includes detailed analyses of stress scenarios and their underlying inputs, with more frequent analysis conducted during periods of significant volatility or other notable market events. These reviews may confirm the adequacy of the current scenario set or result in recommendations to modify it. In addition, CCUS conducts both daily and monthly backtesting over multiple lookback periods to ensure that its margin models operate as intended.

In addition to the Margin and Stress Testing Committee's review of stress scenarios and results, the adequacy of available liquidity resources relative to its potential payment

obligations is also reviewed. This includes analysis of the largest liquidity needs under extreme but plausible market conditions, as well as the sufficiency and composition of available resources to meet those needs. At a minimum, CCUS maintains sufficient qualifying liquidity resources, in each currency in which it has settlement obligations, to meet the largest identified liquidity requirement, while also taking into account additional potential exposures.

Key Consideration 5:

For the purpose of meeting its minimum liquid resource requirement, an FMI's qualifying liquid resources in each currency include cash at the central bank of issue and at creditworthy commercial banks, committed lines of credit, committed foreign exchange swaps, and committed repos, as well as highly marketable collateral held in custody and investments that are readily available and convertible into cash with prearranged and highly reliable funding arrangements, even in extreme but plausible market conditions. If an FMI has access to routine credit at the central bank of issue, the FMI may count such access as part of the minimum requirement to the extent it has collateral that is eligible for pledging to (or for conducting other appropriate forms of transactions with) the relevant central bank. All such resources should be available when needed.

As determined by liquidity stress testing, CCUS maintains access to sufficient liquidity resources from allowable sources of liquidity permissible under CFTC Regulations §39.11(e) and §39.33(c) in all relevant currencies, that, at a minimum, will enable the Clearinghouse to meet its intraday, same-day, and multiday obligations to perform settlements with a high degree of confidence under a wide range of stress scenarios that include, but are not be limited to, a default by the Clearing Member creating the largest aggregate liquidity obligation. CCUS has multiple prearranged and highly reliable funding arrangements in place to facilitate same-day liquidity in the currency of need, described in greater detail below:

- Cash in the currency of the required obligations held either at the issuing central bank or at a creditworthy commercial bank;
- Committed lines of credit;
- Committed foreign exchange swaps;
- Committed repurchase agreements; and
- Highly marketable collateral, including high-quality, liquid sovereign obligations, that are readily available and convertible to cash through prearranged, highly reliable funding arrangements, even under extreme but plausible market conditions.

The following additional restrictions will apply:

- Assets in a guaranty fund will have minimal credit, market, and liquidity risks and will be readily accessible on a same-day basis;
- To the extent cash balances are invested, the investments will bear little or no principal risk;
- Letters of credit will not be a permissible asset for a guaranty fund; and
- The Clearinghouse will take appropriate steps to verify that liquidity arrangements are enforceable, do not include material adverse change conditions, and remain highly reliable under extreme but plausible market conditions.

The arrangements that facilitate CCUS's access to liquidity allow for resources that are considered as "qualifying liquidity resources" under CFTC Regulation §39.33(c)(3). To the extent additional liquidity resources are maintained in addition to those described above, they will be in the form of assets that are likely to be saleable with proceeds available promptly or acceptable as collateral for lines of credit, swaps, or repurchase agreements on an ad-hoc basis.

CCUS is responsible for ensuring liquidation arrangements are in place to support the rapid

deployment of collateral to cash in the currency of need if it becomes necessary. At least annually, in accordance with CFTC Regulation §39.33(d)(4), CCUS conducts tests on its liquidity arrangements, with more frequent tests commonly employed for new liquidity providers or in the event of certain operational changes.

Key Consideration 6:

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.

As described above in Key Consideration 5, the arrangements that facilitate CCUS's access to liquidity allow for resources that are considered as "qualifying liquidity resources" under CFTC Regulation §39.33(c)(3). To the extent additional liquidity resources are maintained in addition to those described above, they will be in the form of assets that are likely to be saleable with proceeds available promptly or acceptable as collateral for lines of credit, swaps, or repurchase agreements on an ad-hoc basis. This action would effectively use supplemental liquidity resources rather than relying on the prearranged and highly reliable liquidity funding arrangements (i.e., qualifying liquidity resources) to facilitate access to liquidity. CCUS is confident in its ability to execute market actions in a stressed market environment through its prudent collateral eligibility standards and CCUS's own experience in liquidating collateral for same-day settlement. When evaluating a CCP's "supplemental" liquidity resources, it is important to consider what types of resources are "qualifying liquidity resources". Pursuant to CFTC Regulation §39.33(c)(3) qualifying liquidity resources include:

- Cash in the currency of the requisite obligations;
- Committed lines of credit;
- Committed foreign exchange swaps;
- Committed repurchase agreements; and

- Highly marketable collateral, including high quality, liquid, general obligations of a sovereign nation that are readily available and convertible into cash pursuant to prearranged and highly reliable funding arrangements, even in extreme but plausible market conditions.

Under the CFTC's criteria for qualifying liquidity resources, obligations of the United States and other sovereign nations, that are of high quality and highly liquid cannot be treated as *prima facie* qualifying liquidity resources – i.e., "prearranged and highly reliable funding arrangements" are required.

Key Consideration 7:

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

CCUS has relationships with counterparty settlement and custodian banks, and certain Clearing Members (and their affiliates),[20] as described in the CCUS Bank Counterparty Participation Requirements Policy. CCUS uses settlement and custodian banks to facilitate cash settlements and serve as custodians for Clearing Member funds, respectively. Settlement and custodian banks inherently present a variety of risks to the Clearinghouse including credit, liquidity and operational risks. Additionally, to ensure the Clearinghouse has access to sufficient liquidity to manage the Default of a Clearing Member, CCUS may maintain relationships with external liquidity providers, which present similar risks as those presented by settlement and custodian banks. CCUS has established measures to monitor and manage the risks the Clearinghouse is exposed to from the use of settlement and custodian banks as well as liquidity providers.

In line with CFTC Regulation §39.33(d)(2), CCUS assesses and reviews all counterparties, including liquidity providers, through its internal credit rating process on at least an annual basis. CCUS conducts a comprehensive review of each counterparty bank and other liquidity providers against standards set forth in the CCUS Bank Counterparty Participation Requirements Policy in determining whether to onboard a counterparty bank to facilitate cash settlements and serve as custodians of Clearing Member funds. The criteria considered include capitalization, creditworthiness, access to liquidity, most recent audit results, and regulatory oversight. The counterparty review process also assesses the likelihood of a liquidity provider being able and willing to provide liquidity in a stressed market environment based on the credit strength and resources likely available during that event. CCUS analyzes liquidity providers on a standalone basis and does not consider access to the central bank as a factor to fulfil the necessary liquidity requirements. CCUS carries out ongoing credit assessments (depending on the frequency of updated financial statements being filed) of its settlement and custodian banks. CCUS's ongoing monitoring of counterparty banks is intended to ensure that the level of oversight and monitoring applied is appropriate and that the counterparty bank continues to satisfy CCUS's standards for settlement and counterparty bank credit quality.

Settlement and custodian banks are selected in accordance with the criteria set forth in the CCUS Bank Counterparty Participation Requirements Policy, as further described in CCUS's disclosures under Principle 4. Proposed settlement and custodian banks are presented to the Risk Management Committee, which is responsible for reviewing the settlement and custodian bank assessment and recommending the institution to the Board for approval.

Settlement and custodian banks must have and maintain a minimum internal credit rating

[20] To the extent any bank counterparty, as defined in the CCUS Bank Counterparty Participation Requirements Policy, is affiliated with a Clearing Member, any Liquidity Resources will be assumed to be unavailable in the scenario where the affiliated Clearing Member is driving the Clearinghouse's Liquidity Risk Exposure. Similarly, for purposes of measuring Liquidity Risk Exposure, affiliated Clearing Members will be treated as a single Clearing Member.

for which CCUS determines based on its comprehensive internal credit rating methodology and must meet other minimum requirements that are designed to ensure a counterparty bank can fulfil its obligations each business day. These requirements are, in part, assessed during the annual due diligence review CCUS conducts of its settlement banks, which are typically on-site. Due diligence reviews are conducted in addition to the ongoing monitoring CCUS employs each business day for all of its counterparty relationships, including settlement banks. Through CCUS' monitoring each business day it is able to actively manage its credit and liquidity exposures to its settlement banks.

CCUS's counterparty banks and liquidity providers have sufficient information to understand and manage their associated obligations to CCUS. The liquidity obligations of Clearing Members subject to CCUS Rule 304, Duties and Responsibilities of Clearing Members, and CCUS Rules 504-507 relating to Default and the scope of the Guaranty Fund, as described in CCUS's disclosures for Key Consideration 4 of Principle 3, are limited to the size of the Clearing Member's Guaranty Fund deposits at the time of the liquidity event. Clearing Members are fully aware of their Guaranty Fund obligations, by way of daily reporting of the projected size of their Guaranty Fund requirements with scheduled resizing of the total Guaranty Fund occurring monthly. CCUS regularly communicates with counterparty banks and other liquidity providers the information that they need to assess their liquidity risks, requirements, and obligations. This occurs either through the CCUS Rulebook that is publicly available and/or applicable legal agreements. Clearing Members agree to be legally bound by the obligations under the CCUS Rulebook, upon membership, as described in CCUS's disclosures for Principle 1.

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.

This Key Consideration is not applicable to CCUS because it does not maintain any accounts with central banks, payment services or securities services.

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.

As described in CCUS's disclosures for Key Consideration 1 of this Principle, liquidity stress testing practices are outlined in CCUS's Liquidity Risk Management Framework. CCUS measures and monitors liquidity risk through regular stress testing, including daily assessments of potential liquidity exposures. More detailed analysis of the liquidity needs and available resources, including by currency, is conducted on a monthly basis, or more frequently in periods of heightened volatility or when Risk Management observes stress shortfalls in its stress testing that could jeopardize CCUS's compliance with its financial resource requirements. CCUS uses liquidity stress testing to size and assess the sufficiency of its liquidity resources. In particular, liquidity stress testing is used to assess the sufficiency of CCUS's liquidity resources to cover the potential cash outflow on an aggregate and per currency basis required as a result of a Clearing Member default, assuming payment obligations are met on a same-day basis. CCUS's liquidity stress testing is informed by the same stress testing scenarios utilized to size its Guaranty Funds, which are described in CCUS's disclosures for Principle 4. CCUS performs reverse stress tests on its Guaranty Fund to determine when its prefunded financial safeguard resources may be insufficient. The outcomes of these exercises are evaluated at least once a month and are used to guide CCUS's broader stress-testing framework and to assess overall risk exposures.

As a part of all same-day, intraday and end-of-day settlements, CCUS monitors the Clearinghouse's Liquidity Risk Exposure ("**Liquidity Risk Exposure**"). In addition, CCUS monitors Clearing Member positions in relation to thresholds that drive the CCUS Margin Model's concentration add-on. Specifically, CCUS will conduct the following monitoring.

- At each settlement cycle, evaluate the Liquidity Risk Exposure as a percentage of Liquidity Resources and to the extent this ratio exceeds internal thresholds, escalate a recommendation to the Margin and Stress Testing Committee regarding whether the Clearinghouse's Liquidity Resources need to be expanded.
- When completing this analysis, to the extent any Liquidity Provider is affiliated with a Clearing Member and that Clearing Member is the driver of the stress testing scenario and/or the liquidity scenario, that Liquidity Provider's Liquidity Resources will be assumed to be unavailable.
- On a daily basis, the stress testing parameters used in the CCUS Stress Test Model will be reviewed to ensure they remain appropriate for determining the appropriate amount of Liquidity Resources by comparing the parameters. Specifically, market volatility will be evaluated by comparing the most recent daily returns to the extreme but plausible scenarios used in the Stress Test Model and market liquidity will be evaluated by comparing volumes to the related parameters in the CCUS concentration add-on.

A summary of this daily monitoring will be provided to the Margin and Stress Testing Committee on a monthly basis and the CCUS Risk Management Committee during its regularly scheduled meetings. These summaries will include dispositions on the adequacy of the Clearinghouse's Liquidity Resources and compliance with CFTC Regulation §39.33(c).

In line with CFTC Regulation §39.36(c), CCUS's liquidity stress testing framework captures extreme but plausible market conditions, considering relevant peak historical price volatilities, shifts in price determinant, multiple defaults over various time horizons, and simultaneous pressures in funding and asset markets. Although CCUS's stress-testing framework is designed to capture a broad range of market conditions, CCUS continually reassesses its set of stress scenarios to ensure they remain appropriate for prevailing market dynamics and allow for timely adjustments when warranted. In accordance with CFTC Regulation §39.36(a)(2), the Margin and Stress Testing Committee conducts a review of CCUS's stress scenarios at least once per month to determine whether modifications are

needed or whether additional scenarios should be incorporated into the framework. Stress-testing results are also provided to the Risk Management Committee during its regularly scheduled meetings. In addition, CCUS's stress-testing framework undergoes evaluation as part of the annual independent validation process.

Liquidity stress tests are designed to model potential cash flows under extreme but plausible market conditions in the event of a Clearing Member default and the default of a Clearing Member with the simultaneous default of its settlement or custodian bank, where the Clearing Member cannot otherwise meet its payment obligations to CCUS. Further, the potential multiple roles of key entities, such as liquidity providers and counterparty banks that are affiliated with Clearing Members and the associated effects on liquidity resources, are accounted for in CCUS's liquidity stress testing.

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 participants. These rules and procedures should address unforeseen and potentially uncovered liquidity shortfalls and should aim to avoid unwinding, revoking, or delaying the same-day settlement of payment obligations. These rules and procedures should also indicate the FMI's process to replenish any liquidity resources it may employ during a stress event, so that it can continue to operate in a safe and sound manner.

CCUS has rules and procedures, and prearranged and highly reliable liquidity funding arrangements in place, that enable CCUS to effect same-day and, where appropriate, intraday and multiday settlement of payment obligations on time following a Clearing Member default as described in CCUS's disclosures for Key Consideration 5 of this Principle. CCUS's practices are designed to enable it to effectuate the settlement of its payment obligations as described in CCUS's disclosures for Principle 8, even in a scenario where a Clearing Member defaults.

As described in CCUS's disclosures for Principle 4, a liquidity shortfall because of a Clearing Member default will be managed in accordance with CCUS's financial safeguards waterfall structure. CCUS actively monitors its counterparty relationships and has a robust default

waterfall plan, which includes multiple layers of protection against market participant losses in the event of a Clearing Member default. The default waterfall plan is based on CCUS's methodologies for margining and stress testing to size CCUS's default financial resources requirement, as well as the application of policies for collateral acceptance and management and liquidity risk management. CCUS's default waterfall is designed to limit the risk of exposure to potential losses from a Clearing Member default and may be activated in the event a Clearing Member is declared in default pursuant to CCUS Rules. Each layer of CCUS's default waterfall is structured to encourage prudent risk management. The waterfall creates incentives for both defaulting and non-defaulting Clearing Members through the order in which resources are applied: the defaulting Clearing Member's margin, followed by its Guaranty Fund contribution; CCUS's corporate contribution; the Guaranty Fund contributions of non-defaulting Clearing Members; and, if necessary, capped assessments on non-defaulting Clearing Members for additional resources.

As described in greater detail in CCUS's disclosures for Key Consideration 5 of this Principle, in managing a potential liquidity shortfall that is caused by the default of a Clearing Member, CCUS would generally first attempt to liquidate the collateral of the defaulted Clearing Member through market action, but also has the following tools at its disposal for accessing qualifying liquidity resources:

- Cash in the currency of the required obligations held either at the issuing central bank or at a creditworthy commercial bank;
- Committed lines of credit;
- Committed foreign exchange swaps;
- Committed repurchase agreements; and
- Highly marketable collateral, including high-quality, liquid sovereign obligations, that are readily available and convertible to cash through prearranged, highly reliable funding arrangements, even under extreme but plausible market conditions.

3.8. 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.

To ensure timely and final settlement on each business day, CCUS defines the point at which settlement is final in CCUS Rule 404(d) and Rule 403(e).

CCUS's settlement banks are contractually obligated to process and confirm settlement instructions within defined timeframes. Settlement is considered final, irrevocable, and unconditional once the Clearinghouse's account at the relevant settlement bank has been debited or credited in accordance with settlement instructions. Obligations subject to settlement finality include variation margin payments and other contract-related cash flows, such as applicable fees. Under CCUS Rule 403, transfers of initial margin, variation margin, and other obligations between Clearing Members and CCUS are irrevocable and unconditional once effected. Further, under CFTC Regulation §39.14(a), the exchange of variation margin constitutes settlement of obligations rather than the provision of collateral, and accordingly, the Clearinghouse does not retain a security interest in such payments once settlement is final.

Legal certainty with respect to settlement finality is supported by CCUS's rulebook and contractual arrangements with settlement banks, as described in CCUS's disclosures for Principle 1, and is grounded in applicable U.S. law, including relevant insolvency frameworks. Once settlement is final, the Clearinghouse does not have recourse to funds paid by a defaulting Clearing Member in satisfaction of its final settlement obligations. In addition, a DCO's rules are legally binding and enforceable against its Clearing Members and participants under U.S. law, providing further assurance of settlement finality.

Key Consideration 2:

An FMI should complete final settlement no later than the end of the value date, and preferable intraday or in real time, to reduce settlement risk. An LVPS (Large-Value Payment System) or SSS (Securities Settlement System) should consider adopting RTGS (Real Time Gross Settlement) or multiple-batch processing during the settlement day.

As detailed further in CCUS's disclosures for Key Consideration 1 of Principle 6, settlement variation margin and initial margin obligations are managed separately, but calculated and collected on similar timelines, routinely at least twice each business day. CCUS uses multiple methods to manage current and potential future exposures, including mark-to-market settlement cycles at least twice daily – a midday and end of day settlement cycle – which cover the settlement of initial and variation margin requirements and any ad hoc cycles as needed. At each settlement cycle, initial margin is collected from Clearing Members and variation margin is collected from and paid to Clearing Members. In line with CFTC Regulation §39.14(b) and CCUS Rule 404, CCUS has the authority and operational capacity to effect settlement with each Clearing Member, on an intraday basis, either routinely, when thresholds are breached, or in times of extreme market volatility. An overview of the timeline for the movement of funds for intraday and end-of-day settlements cycles for initial margin and settlement variation margin requirements is outlined in CCUS's

disclosures for Key Consideration 3 of this Principle. Once a settlement bank irrevocably commits to meet the funding obligations on behalf of a Clearing Member, the funds are debited directly from the Clearing Member's account.

All settlement fund transfers made through the Clearinghouse's approved settlement banks are completed with finality no later than the settlement obligation date, ensuring that settlement obligations are fully and finally discharged within the prescribed settlement timeframe.

A failure of a Clearing Member to satisfy an initial margin call at the intraday or end-of-day settlement cycles is grounds for CCUS to declare such Clearing Member in default pursuant to CCUS Rules 403 and 410. More details on CCUS's default management practices are covered in CCUS's disclosures for Principle 13.

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.

Settlement variation payments become final, irrevocable, and unconditional at the moment the designated account at the applicable settlement bank is debited or credited with the payment.

CCUS uses multiple methods to manage current and potential future exposures[21]. Among these are mark-to-market settlement cycles at least twice daily – a midday and end of day settlement cycle – which cover the settlement of initial and variation margin requirements. End-of-day mark-to-market settlement obligations are calculated each business day using settlement prices.

At each settlement cycle, initial margin is collected from Clearing Members and variation margin is collected from and paid to Clearing Members. In line with CFTC Regulation §39.14(b) and CCUS Rule 404, CCUS has the authority and operational capacity to effect settlement with each Clearing Member, on an intraday basis, either routinely, when thresholds are breached, or in times of extreme market volatility. Once a settlement bank irrevocably commits to meet the funding obligations on behalf of a Clearing Member, the funds are debited directly from the Clearing Member's account. A failure of a Clearing Member to satisfy an initial margin call at the intraday or end-of-day settlement cycles is grounds for CCUS to declare such Clearing Member in default pursuant to CCUS Rules 403 and 410. More details on CCUS's default management practices are covered in CCUS's disclosures for Principle 13.

CCUS calculates midday initial and variation margin at approximately 12:00 PM Central Time ("**CT**") each business day and requires midday margin deficits, including initial and variation margin requirements, be satisfied by 2:00 PM CT the same business day. CCUS calculates end-of-day initial and variation margin at approximately 4:00 PM CT each business day and requires end-of-day margin deficits, including initial and variation requirements, be satisfied by 8:00 AM CT the following business day. CCUS schedules settlement cycles in accordance with documented procedures that account for applicable holidays and non-business days. Settlement timing and any schedule changes are

[21] A summary of the results of each methodology and model review will be provided by the Risk Management department to the CRO and President of CCUS once completed. The CRO will present a summary of any changes that were made to the margin model parameters and stress scenarios to the Risk Management Committee during its regularly scheduled meetings.

communicated to Clearing Members through approved channels, including advance clearing notices. CCUS also publishes a Holiday Calendar on its website to promote transparency and operational clarity.

CCUS's settlement bank agreements define the limited circumstances under which settlement instructions may be amended or revoked, such as for the correction of operational errors. While such actions are expected to be rare, any amendment or revocation is executed in accordance with CCUS procedures through documented communications with the relevant settlement bank(s) and impacted Clearing Member(s).

3.9. Principle 9: Money Settlements

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

Key Consideration 1:

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

CCUS conducts its money settlements through approved commercial settlement banks, both the payment and receipt, in all of the currencies for which the contracts it clears are settled. Settlement in central bank money is not currently practical or available for CCUS. Settlement banks are subject to defined eligibility criteria and ongoing monitoring in accordance with CCUS policies and procedures to ensure that they are appropriately regulated, financially sound, operationally reliable and have sufficient access to liquidity. CCUS's settlement arrangements are designed to strictly limit credit and liquidity risks arising from the use of commercial settlement banks.

To mitigate the risks associated with non-central bank money settlements, CCUS employs multiple safeguards, including clearly defined settlement timing, intraday and end-of-day settlement cycles, and legally enforceable agreements that provide for the irrevocability and unconditionality of settlement fund transfers once effected. Settlement obligations are settled in immediately available funds, and exposures are reduced through frequent settlement and netting of payment obligations. Together, these measures ensure that CCUS's money settlement arrangements achieve a level of safety and efficiency consistent with the objectives of this Principle.

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.

Clearing Members' financial obligations are settled in U.S. dollars. Variation margin and initial margin settlements are met in U.S. Dollars. These processes are designed to ensure the financial obligations to CCUS are met with minimal credit and liquidity risks.

Settlement banks are selected in accordance with the criteria set forth in the CCUS Bank Counterparty Participation Requirements Policy, as further described in CCUS's disclosures under Principle 4. Proposed settlement banks are presented to the Risk Management Committee, which is responsible for reviewing the settlement bank assessment and recommending the institution to the Board for approval.

Settlement banks must have and maintain a minimum internal credit rating for which CCUS determines based on its comprehensive internal credit rating methodology and must meet other minimum requirements that are designed to ensure a settlement bank can fulfil their obligations each business day. These requirements are, in part, assessed during the annual due diligence review CCUS conducts of its settlement banks. Due diligence reviews are conducted in addition to the ongoing monitoring CCUS employs each business day for all of its counterparty relationships, including settlement banks. Through CCUS' monitoring each business day it is able to actively manage its credit and liquidity exposures to its settlement banks.

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 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.

Consistent with CFTC Regulations §39.14 and §39.36, CCUS maintains a defined governance framework to monitor, manage, and limit credit and liquidity risks arising from its use of commercial settlement banks, as described in CCUS's disclosures for Principle 4 and Principle 7. Settlement banks are subject to strict eligibility standards and ongoing oversight, including assessment of regulatory status and supervision, financial condition, capitalization, access to liquidity, and operational resilience, as set forth in CCUS's policies and procedures. Adherence to these criteria is reviewed on an ongoing basis to ensure continued suitability.

CCUS regularly evaluates all settlement banks against defined criteria through its due diligence reviews, internal credit rating methodology, and monitoring each business day related to:

- Capitalization;
- Creditworthiness;
- Access to liquidity;
- Operational reliability;
- General risk management and governance; and
- Regulatory standing.

These criteria are closely evaluated through CCUS's annual due diligence review of its settlement banks.

Settlement banks must have and maintain a minimum internal credit rating for which CCUS determines based on its comprehensive internal credit rating methodology and must meet other minimum requirements that are designed to ensure a counterparty bank can fulfil its obligations each business day. These requirements are, in part, assessed during the annual due diligence review CCUS conducts of its settlement banks. Due diligence reviews are conducted in addition to the ongoing monitoring CCUS employs each business day for all of its counterparty relationships, including settlement banks. Through CCUS' monitoring each business day it is able to actively manage its credit and liquidity exposures to its settlement banks.

CCUS's approach to managing credit and liquidity risk exposures, including its counterparty monitoring processes and margining practices, is outlined in its Risk Management Framework (and Liquidity Risk Management Policy, respectively). As noted previously, these risk management frameworks undergo review and approval by the Risk Management Committee at least once each year. Any substantive modifications to CCUS's risk management practices require formal approval from the Risk Management Committee, Board and any other relevant committees before the Risk Management Framework (and Liquidity Risk Management Policy) can be updated. CCUS also continually assesses the effectiveness of its risk management practices, incorporating insights from daily operations, evolving market conditions, emerging industry standards, and new product launches, among other factors.

Alongside the Risk Management Framework and Liquidity Risk Management Policy, CCUS maintains a dedicated Credit Risk Management Policy, which provides additional details on the Clearinghouse's methodology for managing credit risk arising from Clearing Members.

The Bank Counterparty Participation Requirements Policy outlines CCUS's approach to overseeing credit risk associated with settlement and custodian banks. The Acceptable Collateral Policy sets forth the Clearinghouse's procedures for managing potential credit risks related to potential new types of collateral deposits. The Credit Risk Management Policy, Bank Counterparty Participation Requirements Policy, and the Collateral Policy are reviewed and approved by the internal Credit Risk Committee and then the Risk Management Committee at least annually.

In addition, CCUS actively manages concentration risk by monitoring its exposures to individual settlement banks and maintaining the ability to adjust settlement arrangements as needed. These controls are supported by internal escalation and review processes and are designed to ensure that settlement bank exposures remain consistent with CCUS's risk tolerance and settlement risk management objectives.

Key Consideration 4: *If an FMI conducts money settlements on its own books, it should minimise and strictly control its credit and liquidity risks.*
As described above, CCUS conducts settlements through commercial settlement and custodian banks that are disclosed on its website.[22]
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.*
As described in CCUS's disclosures for Principle 8, the contractual agreements CCUS has with each settlement bank clearly state the point at which settlements are final and irrevocable. Further, the point at which settlements are final is defined under CCUS Rule 404. Settlements are final, irrevocable, and unconditional no later than when the Clearinghouse's bank account at the relevant settlement bank is debited or credited with the payment. Once settlement is final, Clearing Members have the right to move any funds they have received. CCUS's disclosures for Principle 8 also outline the timeline for the movements of funds.

[22] See https://www.cboe.com/solutions/clearing/us.

3.10. 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.

This Principle is not applicable to CCUS because the Clearinghouse does not currently offer delivery of physical instruments.

Please note, however, that CCUS Rule 410 does consider physical deliveries and, as described in Key Consideration 4 of Principle 3, CCUS's Recovery Plan affords CCUS tools to address Clearing Member defaults with concentrated positions that cannot be liquidated or transferred quickly, liquidity shortfalls from physically-settled products and non-cash collateral, and general business risk, operational risk, and non-default losses. Specifically, the following scenario is included: "Liquidity Shortfalls from Physically-Settled Products and Non-Cash Collateral". This scenario involves one or more Clearing Member defaults where the defaulting member(s) held positions in physically-settled products or posted non-cash collateral. See Key Consideration 4 of Principle 3 for more information on the Recovery Plan scenarios.

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.

This Principle is not applicable to CCUS because the Clearinghouse does not currently offer delivery of physical instruments.

3.11. Principle 11: Central Securities Depositories

A CSD should have appropriate rules and procedures to help ensure the integrity of securities issues and minimise and manage the risks associated with the safekeeping and transfer of securities. A CSD should maintain securities in an immobilised or dematerialized form for their transfer by book entry.

This Principle is not applicable to CCUS because it is not a central securities depository.

3.12. Principle 12: Exchange-of-value Settlement Systems

If an FMI settles transactions that involve the settlement of two linked obligations (for example, securities or foreign exchange transactions), it should eliminate principal risk by conditioning the final settlement of one obligation upon the final settlement of the other.

Key Consideration 1:

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

This Principle is not applicable to CCUS because it is not an exchange of value system. Details on money settlements are described in CCUS's disclosures for Principle 9.

3.13. 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 precures 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.

In line with CFTC Regulation §39.16, CCUS Rules and procedures are designed to enable the prompt identification and management of a Clearing Member default. These arrangements are intended to allow the Clearinghouse to take timely action to contain losses, meet its obligations, and continue to provide clearing and settlement service during a default event. CCUS Rule 502 defines the circumstances under which a Clearing Member may be deemed in default, including the failure to meet financial or operational obligations or the initiation of bankruptcy, insolvency or similar proceedings. Upon a determination of default, CCUS will take appropriate action in accordance with its rules and applicable regulatory requirements, including notifying the CFTC and communicating the declaration of default to market participants through notice publicly available on the CCUS website.

The CCUS Rulebook grants the Board emergency authority to establish a governance framework that enables escalation and decision-making in stressed conditions, including the authority to implement measures necessary to protect the integrity of the clearing system and act swiftly when circumstances arise that jeopardize, or could jeopardize, the fair and orderly settlement process or the integrity of any contract. Under CCUS Rule 207, the Board or, when time does not permit convening the Board, an Officer of the Clearinghouse acting with the approval and consultation of the Chief Compliance Officer, may institute temporary emergency rules and procedures. The Default Management Committee ("**DMC**") established by the Risk Management Committee will also be brought in to manage risks to the Clearinghouse and its non-defaulting Clearing Members when a Clearing Member defaults, is at risk of defaulting, or when a nondefault loss arises. The DMC is chaired by the Clearinghouse's Chief Risk Officer and includes additional senior management representatives, along with one member who represents either a clearing member or a non-clearing exchange participant that is a customer of a Clearing Member.

These potential measures necessary to protect the integrity of the clearing system that CCUS may exercise include:

- Suspending or curtailing clearing, or limiting clearing to liquidation only;
- Extending or shortening the expiration date and/or the last settlement date for contracts;
- Providing alternative settlement mechanisms;
- Ordering the liquidation of contracts, the fixing of a settlement price, or the reduction of positions;
- Extending, limiting or changing the hours of operation of CCUS;

- Temporarily modifying or suspending any provision of the CCUS Rules;
- Changing the amount of money to be paid in connection with a contract, whether previously or thereafter delivered;
- Requiring Clearing Members to meet special margin requirements and other obligations;
- Suspend any Clearing Member; and/or
- Any other action necessary to protect the financial integrity of the Clearinghouse.

Such actions are designed to mitigate risk, protect non-defaulting Clearing Members and support the orderly management of a default. Decisions to utilize the powers afforded under these emergency rules would be made in accordance with CFTC regulations, including those under CFTC Regulation §39.24, which require CCUS to have governance arrangements that place a high priority on the safety and efficiency of CCUS and explicitly support the stability of the broader financial system.

CCUS maintains default management rules and procedures designed to enable the effective management of a Clearing Member default while continuing to operate its clearing and settlement processes in an orderly manner. In the event of a default, the Clearinghouse seeks to continue its standard settlement cycles, consistent with its established settlement framework as described in CCUS's disclosures for Principle 8. CCUS's default management arrangements are developed through its risk governance framework and are designed to address the characteristics of the products it clears, as well as the range of scenarios that may arise in a default event. These arrangements provide the Clearinghouse with the flexibility to respond to evolving conditions while maintaining control over risk exposures.

As described above, CCUS may take various actions to manage a default pursuant to CCUS Rule 207, including the transfer, liquidation or hedging of the positions of the defaulted Clearing Member, for both customer and house accounts, as appropriate. The Clearinghouse's rules provide the authority to take such actions promptly, based on the circumstances at the time of the default. These rules are designed to support timely decision-making and effective risk mitigation, while preserving the safety and efficiency of the Clearinghouse and supporting the stability of the broader financial system. At the same time, the sequence and application of the Clearinghouse's financial safeguards waterfall, including its default resources, are clearly defined within the CCUS rule framework and described in greater detail below.

CCUS actively monitors its counterparty relationships and has a robust default waterfall plan, which includes multiple layers of protection against market participant losses in the event of a Clearing Member default. The default waterfall plan is based on CCUS's methodologies for margining and stress testing to size CCUS's default financial resources requirement, as well as the application of policies for collateral acceptance and management and liquidity risk management. CCUS's default waterfall is designed to limit the risk of exposure to potential losses from a Clearing Member default and may be activated in the event a Clearing Member is declared in default pursuant to CCUS Rules.

Each layer of CCUS's default waterfall is similarly structured to encourage prudent risk management. The waterfall creates incentives for both defaulting and non-defaulting Clearing Members through the order in which resources are applied:

- the defaulting Clearing Member's margin, followed by its Guaranty Fund contribution;
- CCUS's corporate contribution;
- the Guaranty Fund contributions of non-defaulting Clearing Members;
- and, if necessary, capped assessments on non-defaulting Clearing Members for

additional resources.

Guaranty Fund requirements also reinforce these incentives by mandating a Minimum Guaranty Fund Deposit from each Clearing Member. These resources are used to absorb losses resulting from a Clearing Member default once the defaulting member's margin and Guaranty Fund deposits are depleted.

CCUS further underscores its confidence in its own risk management framework by contributing meaningful corporate resources to the default waterfall—currently $25 million. While a CCP must have "skin in the game," an overly large CCP contribution could weaken Clearing Members' incentives to manage their risks by reducing the likelihood that their mutualized resources would be used to cover losses. CCUS's capped assessment powers are likewise designed to promote recovery actions rather than push the Clearinghouse toward wind down.

Chapter 5 of the CCUS Rulebook, together with the Default Management Plan, outline how a defaulting Clearing Member's collateral and other layers of the default waterfall are applied to absorb losses associated with the default. The clearly defined sequence in which these resources are used is essential for ensuring transparency to Clearing Members and helps reinforce incentives for members to manage the risks they introduce into the system.

In the event of a Clearing Member default, the first step in CCUS's default management process is to evaluate the defaulted Clearing Member's portfolio. CCUS may close, offset or transfer the defaulting Clearing Member's positions to any other Clearing Member as described in CCUS Rule 506. A detailed recommendation of the process to finalize a resolution with respect to a Default, including taking into consideration the effects of the liquidation, auction, tear- up, or sale of positions or assets of the Defaulting Clearing Member, shall be produced by the President of CCUS or CRO and provided to the DMC for approval. The liquidation of open contracts of the Defaulting Clearing Member as determined by the DMC may occur by one or more of the following methods:

- Book entry that offsets concurrent long and short open contracts on the books of the Defaulting Clearing Member;
- Executing block trades with one or more exchange participants;
- Hedging positions, where offsets are impractical due to market illiquidity or volatility;
- Liquidation in the open market; and/or
- One or more private auctions amongst qualified market participants invited by the Clearinghouse to submit confidential bids.

When determining the appropriateness of the recommended method of portfolio liquidation, the DMC will take into consideration the Defaulting Clearing Member's position size, liquidity of the products and whether some are deemed less liquid than others, open interest, market conditions and other relevant factors. For products deemed to be highly liquid, notwithstanding the considerations as described above, the DMC may determine to attempt open market liquidation first. For products deemed less liquid, the DMC may determine to perform one, or some combination of entering into hedge positions, and/or pursuing liquidation through the other methods such as block trade and/or auctions.

CCUS has established competitive auction processes for the products it clears that are designed to minimize losses for non-defaulting Clearing Members and the Clearinghouse. CCUS's auction processes leverage both voluntary and mandatory participation of Clearing Members, as well as the voluntary participation of customers. CCUS has implemented a framework for the mandatory participation of Clearing Members in its default management auctions pursuant to CCUS Rule 506 and CCUS's Default Auction Policy. Specifically,

certain Clearing Members may be required to bid in an auction for a given product category (as established by the Clearinghouse), based on their daily average margin requirement(s) for the previous month of their customers that are mandatory auction participants based on position account identifiers. CCUS would not require a Clearing Member to bid on a portion of the defaulted Clearing Member's portfolio that is not proportional to the size of the bidding Clearing Member's portfolio in the relevant product categories, as described above. This limitation would not, however, prevent a Clearing Member from voluntarily bidding for more than its proportional share, where permitted by CCUS. Further details on the auction process are outlined in CCUS's Default Auction Policy.

Financial Safeguards Waterfalls

If a Clearing Member defaults, CCUS first applies that member's own financial resources, i.e., its initial margin and Guaranty Fund contribution, to meet its obligations. Should those funds prove insufficient, CCUS then turns to the next layer of protection in the default waterfall: CCUS's corporate contribution. Only after these resources are exhausted would the Guaranty Fund contributions of the non-defaulting Clearing Members be used. In the unlikely situation where all pre-funded financial resources are depleted, CCUS may call for additional assessments from Clearing Members as permitted under CCUS Rule 507.

Pursuant to Chapter 5 of the CCUS Rulebook, specifically, Rule 502, CCUS would first use resources of the default waterfall to which the defaulted Clearing Member contributed and then would use other available pre-funded resources, allowing CCUS to quickly act in the event of a default. The pre-funded layers of the default waterfall would be used in the order listed below:

- Defaulted Clearing Member's initial margin;
- Defaulting Clearing Member's Guaranty Fund contribution;
- Corporate Contribution;
- Non-defaulting Clearing Members' Guaranty Fund contributions; and/or
- Clearing Member Assessments.

CCUS's assessment powers are set forth in the CCUS Default Management Plan. Each non-defaulting Clearing Member will be subject to an assessment that is directly proportional to the Clearing Members' total Guaranty Fund deposit requirement up to an amount that does not exceed (i) a total of three times such Clearing Member's total Guaranty Fund deposit requirement at the time of the default with respect to losses that are attributed to the default of a single Clearing Member, and (ii) a total of six times such Clearing Member's total Guaranty Fund deposit requirement at the time of the default with respect to losses that are attributed to the default of multiple Clearing Members during a cooling off period.

CCUS will initially use margin and Guaranty Fund contributions of the defaulted Clearing Member with respect to the financial safeguards waterfall in which the default event occurred to satisfy any losses associated with products covered under such Guaranty Fund23. After satisfying all losses associated with products for a particular financial safeguards waterfall, CCUS may use any excess assets of the defaulted Clearing Member related to the waterfall to satisfy losses associated with products covered in any other financial safeguards waterfall. If the margin held with respect to the Defaulting Clearing Member's member

[23] Taking into account the size and nature of a Defaulting Clearing Member's positions, market conditions prevailing at the time, the potential market effects of liquidating transactions that might be directed by the Clearinghouse, and such other relevant circumstances, the Default Management Committee may determine that the closing out of some or all of the Defaulting Clearing Member's positions would not be in the best interests of the Clearinghouse, other Clearing Members, or the general public, and therefore, such positions would not be closed out.

property accounts, and other assets of the Clearing Member held by, pledged to or otherwise available to the Clearinghouse, including any guarantee issued pursuant to the Clearinghouse Rulebook, are insufficient to satisfy the Defaulting Clearing Member's obligations to the Clearinghouse after applying any such amounts pursuant to CCUS Rule 502(d), the defaulting Clearing Member will continue to be liable for any outstanding obligations. CCUS Rule 502 sets out the rights of the Clearinghouse in closing, offsetting, transferring or otherwise resolving the contracts of a Clearing Member as provided for in CCUS Rules 502 and 601.

CCUS further underscores its confidence in its own risk management framework by contributing meaningful corporate resources to the default waterfall—currently $25 million. While a CCP must have "skin in the game," an overly large CCP contribution could weaken Clearing Members' incentives to manage their risks by reducing the likelihood that their mutualized resources would be used to cover losses. CCUS's capped assessment powers are likewise designed to promote recovery actions rather than push the Clearinghouse toward wind-down.

The Clearinghouse will not apply any funds and assets held in segregated customer accounts to any obligations arising from a Default in a Clearing Member's house account. In the event a Default occurs in the segregated customer account of a Clearing Member, any obligations shall be satisfied by application of any and all funds and assets held in the Clearing Member's customer account, in a manner consistent with CFTC Regulation §1.20. In the event the relevant Futures Commission Merchant's ("**FCM**") customer funds and assets are insufficient, the customer obligations shortfall will be first covered from FCM Clearing Member's excess house funds.

The Clearinghouse may make immediate demand upon any guarantor of the Clearing Member. Upon demand, the guarantor will pay the Clearinghouse by the time and date set by the Clearinghouse.

In the unlikely event that the pre-funded financial resources are insufficient to cover the losses from the default, CCUS would then utilize its capped assessment powers described above. Beyond assessments, CFTC Regulation §39.39 also requires CCUS to maintain additional tools to address uncovered credit losses. These recovery tools include, among others, voluntary tear-ups, sanctioned partial tear-ups, variation margin gains haircuts, and sanctioned full tear-ups.

In accordance with CCUS Rules 504 and 505, after the expiration of the applicable cooling-off period, Clearing Members are required to replenish their Guaranty Fund contributions to match the re-calculated Guaranty Fund size. The recalculated Guaranty Fund amount is set to cover the simultaneous default of the two Clearing Members (and their affiliates) with the largest potential stress shortfalls. Assessments that were collected but ultimately not used to address the default may be credited toward a Clearing Member's replenished Guaranty Fund requirement.

Testing of the CCUS Default Management Plan ("**DMP**") is performed at least once per calendar year. Information about DMP testing and required operational preparation is communicated to Clearing Members as part of the onboarding process and their ongoing membership participation. The CCUS Default Communication Plan governs internal and external Clearinghouse communications in the event of a Default.

As a result of the clearly defined order in which CCUS can utilize available resources to manage a Clearing Member default event, in line with CFTC Regulation §39.16, CCUS's practices are designed to allow it to promptly act and thus contain losses.

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.

In line with CFTC Regulation §39.16, and as further described in Key Consideration 1 of this Principle, CCUS Rules and procedures are designed to enable the prompt identification and management of a Clearing Member default, including the roles and responsibilities of CCUS senior management and governance bodies. CCUS maintains and regularly updates its default management procedures, which includes its operational guidelines for managing Clearing Member default events. Along with these guidelines, CCUS maintains a communication protocol that has contact information of relevant regulatory agencies and internal personnel for the timely communication of information related to a default. CCUS will communicate to its market participants the declaration of a Clearing Member default through notice on the publicly available CCUS website. These arrangements are intended to allow the Clearinghouse to take timely action to contain losses, meet its obligations, and continue to provide clearing and settlement service during a default event.

The CCUS Rulebook grants the Board emergency authority to establish a governance framework that enables escalation and decision-making in stressed conditions, including the authority to implement measures necessary to protect the integrity of the clearing system and act swiftly when circumstances arise that jeopardize, or could jeopardize, the fair and orderly settlement process or the integrity of any contract. Under CCUS Rule 207, the Board or, when time does not permit convening the Board, an Officer of the Clearinghouse acting with the approval and consultation of the Chief Compliance Officer, may institute temporary emergency rules and procedures. The Default Management Committee ("**DMC**") established by the Risk Management Committee will also be brought in to manage risks to the Clearinghouse and its non-defaulting Clearing Members when a Clearing Member defaults, is at risk of defaulting, or when a nondefault loss arises. The DMC is chaired by the Clearinghouse's Chief Risk Officer and includes additional senior management representatives, along with one member who represents either a clearing member or a non-clearing exchange participant that is a customer of a Clearing Member.

In the event of a default, the Clearinghouse seeks to continue its standard settlement cycles, consistent with its established settlement framework as described in CCUS's disclosures for Principle 8. CCUS's default management arrangements are developed through its risk governance framework and are designed to address the characteristics of the products it clears, as well as the range of scenarios that may arise in a default event. These arrangements provide the Clearinghouse with the flexibility to respond to evolving conditions while maintaining control over risk exposures.

Additionally, CCUS's default management procedures are developed considering the guidance of the CCUS Risk Management Committee which approves substantive changes to default policies and procedures.

Key Consideration 3:

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

Consistent with CFTC Regulation §39.16, CCUS's default rules and procedures are maintained in the CCUS Rulebook that is publicly available on the CCUS website. These rules and procedures should be read in conjunction with CCUS's broader disclosures regarding its default management framework, including Key Consideration 1 of this Principle. Chapter 5 of the CCUS Rulebook establishes the conditions under which a Clearing Member may be declared in default, including the failure to meet financial or operational obligations or the initiation of bankruptcy, insolvency or similar proceedings. Decisions to declare a default are made in accordance with the Clearinghouse's governance framework and are communicated to market participants through the appropriate public channels, including CCUS's website.

The Clearinghouse's default management procedures are designed to enable the continuation of clearing and settlement practices to non-defaulting Clearing Members while managing the risks associated with a default. These procedures include the ability to transfer (port) customer positions of a defaulted Clearing Member to solvent Clearing Members, where feasible, and to liquidate or auction positions associated with the defaulted Clearing Member's house accounts.

In addition, the Clearinghouse may take steps, in conjunction with the Default Management Committee, to hedge exposures arising from the defaulted Clearing Member's portfolios, as appropriate, and may conduct auctions or other orderly disposition processes involving Clearing Members and, where relevant, other market participants. These actions are intended to reduce risk and facilitate the orderly management of the defaulted portfolio. Where applicable, CCUS's rules and procedures also address the treatment of customer obligations, including the application of available collateral to meet outstanding obligations and the management of customer defaults in accordance with its rules and applicable regulatory requirements.

CCUS Rule 502 provides that if a Clearing Member defaults, CCUS first applies that member's own financial resources, i.e., its initial margin and Guaranty Fund contribution, to meet its obligations. Should those funds prove insufficient, CCUS then turns to the next layer of protection in the default waterfall: CCUS's corporate contribution. Only after these resources are exhausted would the Guaranty Fund contributions of the non-defaulting Clearing Members be used. In the unlikely situation where all pre-funded financial resources are depleted, CCUS may call for additional assessments from Clearing Members as permitted under CCUS Rule 507. Further details of the financial safeguards waterfall can be found in Key Consideration 1 of this Principle.

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.

Consistent with CFTC Regulation §39.16(b), Clearing Members and other market participants, where appropriate, as determined by CCUS, participate in annual default management drills for CCUS's financial safeguards waterfall. These drills afford Clearing Members and other market participants the opportunity to become familiar with CCUS's default management rules and procedures and provide a forum for participants to test their ability to evaluate sizable portfolios, including under extreme but plausible market conditions. Pursuant to CCUS Rule 203 and the CCUS Default Management Plan ("**DMP**"), Clearing Members are required to participate in the Clearinghouse's default management drills, based on if they could be mandated to participate in a default management auction for managing an actual Clearing Member default. Information about DMP testing and the required operational preparation is communicated to Clearing Members as part of the onboarding process and their ongoing membership participation. In addition, the CCUS Default Communication Plan governs internal and external Clearinghouse communications in the event of a Default.

All Clearing Members and mandatory auction participants will be informed during their onboarding as Clearing Members and/or mandatory auction participants, and reminded by Clearing Notice at least annually, of their obligation to participate in the Clearinghouse's test of the DMP, including information about the DMP test drill and required operational preparation. Such information and preparation include:

- Clearing Member and mandatory auction participant designation of DMP representatives and their contact information; and
- Clearing Member and auction participant obligations to ensure DMP representatives make themselves available for, and participate in, annual DMP testing.

The results of each drill are reviewed with the CCUS Risk Management Committee and changes to default management processes are implemented when warranted. Additionally, CCUS regularly conducts stress testing of its credit and liquidity risk frameworks and considers potential collateral concentrations when analyzing collateral held.

3.14. 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.

As set out in CCUS Rules 310 and 314, CCUS's segregation arrangements satisfy the requirements under CFTC Regulations §1.20 through §1.30, §1.32, §30.7 and Section §4d of the CEA, that customer positions and initial margin funds are segregated from the positions and initial margin funds of their Clearing Member (and their affiliates) and CCUS – commonly referred to as customer segregated accounts. The funds in each customer account class are held on an omnibus basis. The Clearinghouse will hold funds and assets belonging to Clearing Members and their customers in a manner which minimizes the risk of loss or of delay in access by the Clearinghouse to such funds and assets.

Any Clearing Member that supports customer clearing at CCUS must register as an FCM. FCM registration invokes specific CFTC regulatory requirements related to customer protection, including but not limited to obligations related to segregation of customer funds, margin collection requirements, recordkeeping, and reporting.

In accordance with CFTC Regulation §39.13(g)(8)(i), and as detailed further in CCUS's disclosures for this Principle, CCUS calculates and collects initial margin for Clearing Members' customer accounts on a gross basis. Maintenance margin for each customer omnibus account is collected at a level equal to the total maintenance margin that would be required if each individual customer were itself a Clearing Member. Additionally, under CCUS Rule 403 and CFTC Regulation §39.13(g)(8)(ii), Clearing Members must collect margin from their customers that is at least equal to the minimum initial margin requirements established by CCUS. The Clearinghouse requires its Clearing Members to collect initial margin of no less than 100 percent of the maintenance margin requirement for each product and portfolio, consistent with the risk profile of each customer account. CCUS has reasonable discretion in determining clearing initial margin requirements for products or portfolios, whether and by how much customer initial margin requirements shall, at a minimum, exceed clearing initial margin requirements for categories of customers determined by the clearing member to have heightened risk profiles. Clearing Members are prohibited from permitting customers to withdraw funds unless, after the withdrawal, the customer's net liquidating value plus remaining margin meet the applicable initial margin requirements for all cleared products and other portfolios in the account. This restriction helps ensure that Clearing Members do not finance customers' initial margin obligations, a practice that could elevate risk and impair the ability to port customer accounts in the event of a Clearing Member default.

CFTC Regulations §1.20 and §22.5 also require that FCMs and DCOs obtain from each commercial depository where customer funds are held letters acknowledging the segregation of such customer collateral, waiving the right of any offset or lien against such collateral, and obligating the institution to provide information to the CFTC. While the

acknowledgement letter is not always required in the same format for central banks, those banks have also acknowledged the segregated nature of customer collateral and foregone their liens on such collateral.

In the ordinary course of business, CCUS Rule 408 specifies that customers may elect to transfer their accounts, including positions and initial margin, to a different Clearing Member, as described under Key Consideration 3 of this Principle. CCUS maintains systems and operational processes designed to support the efficient transfer of customer positions and associated initial margin. In the event of a Clearing Member default, the Clearinghouse can facilitate the prompt transfer of customer accounts through established procedures. These arrangements are supported by applicable U.S. legal frameworks, including Subchapter IV of Chapter 7 of the U.S. Bankruptcy Code and the CFTC's Part 190 Regulations.

To support the portability of customer positions in the event of a Clearing Member's distress or default, CCUS undertakes analysis prior to effecting any position transfer to evaluate the potential receiving Clearing Members' financial resources, operational capacity, and risk management capabilities necessary to manage the transferred positions. As a part of this process, the Clearinghouse will engage with potential receiving Clearing Members to support the transfer of customer positions in such a default scenario. In addition, CCUS's margining and customer protection framework supports the effective transfer of positions and associated risk-based initial margin requirements. These arrangements, together with advance planning and coordination, are designed to increase the likelihood that customer positions can be ported in an orderly and timely manner.

CCUS Rule 408 provides the Clearinghouse with the immediate right to transfer, in part or in whole, a customer's portfolio of positions from the carrying Clearing Member of the Clearinghouse to another Clearing Member of the Clearinghouse without requiring the close-out and re-booking of the positions prior to the requested transfer subject to the following conditions:

- The customer has instructed the carrying Clearing Member to make the transfer;
- The customer is not currently in Default to the carrying Clearing Member;
- The transferred positions will have appropriate Margin at the receiving Clearing Member;
- Any remaining positions will have appropriate Margin at the carrying Clearing Member; and
- The receiving Clearing Member has consented to such transfer.

Transfer trades will be recorded and carried on the books of the receiving Clearing Member at the closing settlement price on the day of the transfer processing.

CCUS's rules provide the Clearinghouse with the authority to transfer non-defaulting customer positions and associated initial margin to a receiving Clearing Member in the event of a Clearing Member's distress or default, as described in Key Consideration 3 of this Principle. In appropriate circumstances and taking into account prevailing conditions and the objective of maintaining market stability, CCUS may initiate the transfer of customer accounts to facilitate continuity of access to clearing services. These arrangements support the efficient transfer of either entire customer portfolios or subsets of accounts to solvent Clearing Members, enabling customers to continue to manage their positions with minimal disruption. The transfer process is designed to operate on an expedited basis, subject to the willingness and capacity of receiving Clearing Members.

In the case of a Clearing Member insolvency, applicable U.S. legal frameworks, including provisions of the U.S. Bankruptcy Code and CFTC customer protection regulations, support the portability of customer accounts and collateral. These frameworks generally limit the ability to challenge transfers effected in proximity to insolvency proceedings and require that efforts be made to transfer customer positions promptly following the commencement of

such proceedings. The Clearinghouse's procedures are designed to align with these requirements and to maximize the likelihood of successful porting within the applicable framework.

Legal Basis

The legal basis for the enforceability of the CCUS Rules for segregation and porting is well-established and provides CCUS certainty that the Clearinghouse would be able to take the appropriate actions to port customers of a defaulted Clearing Member. CCUS's Rules are aligned with applicable regulatory requirements relating to segregation and portability. This overall framework is designed to provide a high degree of legal certainty that, in the event of a Clearing Member default, CCUS can take appropriate actions to transfer customer accounts efficiently while protecting customer positions and collateral, as further described in CCUS's disclosures for Key Consideration 4 of Principle 1.

Consistent with CFTC Regulation §39.27(b) applicable to all DCOs, the Clearinghouse operates within a legal framework that supports the timely management of a Clearing Member default, including the ability to transfer customer positions and associated collateral. CCUS's Rule 502 and Rule 408 provide for the protection of customer assets and establish the rights necessary to facilitate the orderly transfer of customer accounts in both ordinary course and default scenarios. In addition, the Clearinghouse maintains the appropriate legal rights in respect of collateral posted by Clearing Members, enabling access to such collateral in accordance with its Rules and applicable law to support default management and portability.

U.S. law, in particular the U.S. Bankruptcy Code and Part 190 of CFTC Regulations, sets forth a clear framework for the management of a Clearing Member default event. Under the U.S. Bankruptcy Code, certain DCO activities are protected from an automatic bankruptcy, allowing a DCO to manage a defaulting Clearing Member according to the DCO's rules. Specifically, the U.S. Bankruptcy Code provides safe harbors to allow DCOs to exercise certain contractual rights in the face of a default, including the offset, payment, or transfer of obligations. CCUS Rule 502 provides the Clearinghouse with the ability to exercise these rights in the event of a default. These safe harbors are well-established and tested and provide a high level of certainty that CCUS Rules related to the safe harbors will be enforced in the event of a default.

In addition, Part 190 of the CFTC Regulations sets forth a well-established framework for the liquidation of commodity brokers, specifically FCMs and DCOs, in the event of insolvency. These rules prioritize customer protection, aiming for the fast transfer of customer accounts and the pro-rata distribution of property. Both the U.S. Bankruptcy Code and Part 190 of CFTC Regulations include provisions that protect a DCO's right to immediately enforce its interest in the collateral it holds to margin positions and to guarantee performance of its Clearing Members' obligations. Further, the manner in which CCUS holds collateral is intended to ensure the enforceability of CCUS's security interest in the collateral.

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.

As described above, CCUS Rules 310 and 314 set out CCUS's segregation arrangements to satisfy the requirements under CFTC Regulations §1.20 through §1.30, §1.32, §30.7 and Section §4d of the CEA, that customer positions and initial margin funds are segregated from the positions and initial margin funds of their Clearing Member (and their affiliates) and CCUS – commonly referred to as customer segregated accounts. The funds in each customer account class are held on an omnibus basis. The Clearinghouse will hold funds and assets belonging to Clearing Members and their customers in a manner which minimizes the risk of loss or of delay in access by the Clearinghouse to such funds and assets.

Customer initial margin is held to protect CCUS from the failure by a Clearing Member to make payments related to its customers' exposures, in particular, settlement variation margin payments. As noted above, in accordance with CFTC Regulation §39.13(g)(8)(i), and as detailed further in CCUS's disclosures for this Principle, CCUS calculates and collects initial margin for Clearing Members' customer accounts on a gross basis. Maintenance margin for each customer omnibus account is collected at a level equal to the total maintenance margin that would be required if each individual customer were itself a Clearing Member. Additionally, under CCUS Rule 403 and CFTC Regulation §39.13(g)(8)(ii), Clearing Members must collect margin from their customers that is at least equal to the minimum initial margin requirements established by CCUS. The Clearinghouse requires its Clearing Members to collect initial margin of no less than 100 percent of the maintenance margin requirement for each product and portfolio, consistent with the risk profile of each customer account.

CCUS Rules 311 and 411 outline the records each Clearing Member must prepare, maintain and make available to CCUS, including, but not limited to, reconciliations for all accounts. Of particular relevance is CCUS Rule 311, which requires each Clearing Member to submit reports to the Clearinghouse each business day that includes legal entity identifiers, where available, and end-of-day gross positions by each individual customer account within a segregation account origin. Additionally, CCUS Rule 311 requires each FCM Clearing Member to prepare and complete, each business day, materially accurate computations of funds held in each customer account class, including customer segregated accounts, it clears. Pursuant to CFTC Regulations §1.20 and §22.5, CCUS also obtains acknowledgement letters from depositories and custodians holding customer segregated and cleared swap funds and collateral, as described above.

Managing Customer Risk in Default Scenarios

In line with CFTC Regulation §39.13(f), CCUS mitigates the risk of losses arising from a Clearing Member default by enforcing rules and policies designed to ensure that its Clearing Members remain financially sound and possess the necessary operational capacity to perform their obligations. CCUS Rule 309 establishes minimum financial standards that Clearing Members must satisfy. CCUS has put in place additional safeguards to mitigate the risk of a Clearing Member default by ensuring the financial integrity of its Clearing Members, including adopting appropriate admission and continuing participant requirements for its Clearing Members and imposing reporting requirements related to the financial integrity of the Clearing Member. CCUS has also adopted controls that support the maintenance of adequate default financial resources and provide robust risk management, including daily risk monitoring, ongoing evaluations of model soundness, and operational risk management. CCUS's risk monitoring practices include the monitoring of Clearing Members' credit exposures throughout the day. Additionally, CCUS conducts heightened monitoring for large traders that carry sizeable exposures relative to the respective Clearing Member's financial condition. CCUS's systems also allow CCUS to aggregate common customers' exposures across multiple Clearing Members to the extent the same customer is reported as a large trader at multiple Clearing Members.

Customer risk refers to the potential for losses arising from customer defaults to affect the financial condition of a Clearing Member and, in turn, the Clearinghouse. This risk may arise in a range of scenarios, including where multiple customers of a single Clearing Member default simultaneously, potentially exceeding the Clearing Member's financial resources, or where defaults occur across customers of multiple Clearing Members, resulting in stress affecting more than one Clearing Member. These dynamics may be more pronounced where customer positions are held within omnibus account structures, which can create complexity in isolating exposures and managing losses.

Applicable regulatory requirements, including the CFTC's Part 39 Regulations and CCUS's Rules, prohibit the use of customer collateral to satisfy obligations arising from a Clearing Member's proprietary positions and restrict the use of collateral across different account types, except where permitted under approved margining arrangements. Customer risk is mitigated through the collection of initial margin on a gross basis at the customer level and requirements for Clearing Members to maintain additional proprietary resources in customer accounts in excess of aggregate customer collateral. These measures are intended to provide a buffer against losses arising from customer defaults.

The Clearinghouse also employs concentration analysis and large trader stress testing to identify and assess exposures associated with significant customer positions, including where such exposures may be concentrated within a single Clearing Member or across multiple Clearing Members. These analyses are designed to capture scenarios involving correlated or concentrated customer defaults and to inform risk management actions, including adjustments to margin requirements and other controls.

In a default scenario involving a Clearing Member, the Clearinghouse seeks to protect non-defaulting customers to the extent practicable; however, where customer positions and collateral are maintained in a commingled account structure, losses associated with that account may be allocated across the relevant customer pool in accordance with applicable legal and regulatory frameworks. By contrast, for account structures that provide for the identification of positions and collateral at the individual customer level, applicable regulations are designed to limit the use of collateral contributed by non-defaulting customers to cover losses arising from other customers, thereby reducing the potential for customer risk.

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.

In the ordinary course of business, CCUS facilitates the efficient transfer of customer positions and associated initial margin between Clearing Members at the direction of the customer, subject to the completion of appropriate account documentation. Such transfers are standard market practice and are generally completed on a prompt basis. Clearing Members are expected to process customer transfer requests within applicable regulatory timeframes, and where necessary, CCUS may take steps to facilitate the timely execution of such transfers.

In the event of a Clearing Member default, the Clearinghouse is able to effect transfers on an expedited basis in accordance with established U.S. legal and regulatory frameworks, including under Subchapter IV of Chapter 7 of the U.S. Bankruptcy Code and the CFTC's Part 190 Regulations. CCUS's margining approach supports the segregation and identification of customer positions and collateral, enhancing the ability to transfer accounts either individually or in bulk to one or more receiving Clearing Members. CCUS's systems

and operational processes are designed to support the prompt transfer of positions and associated initial margin, whether initiated by customer instruction or, where appropriate, directed by the Clearinghouse to protect customer interests in a default scenario. Customers whose accounts are transferred retain the ability to subsequently move their positions to another Clearing Member, subject to applicable procedures.

As discussed above, customer positions and collateral are maintained in a manner that allows for their identification and transfer in accordance with applicable legal and regulatory requirements. Where customer positions and collateral are held on an omnibus basis on behalf of customers that are intermediaries themselves, Clearing Members are required to maintain records sufficient to identify customer entitlements. In a default scenario, CCUS may facilitate bulk or partial transfers of customer accounts including the transfer customer initial margin associated with ported accounts, to the extent such collateral is held within accounts under its control and where legally and operationally feasible. Such transfers are conducted in coordination with relevant regulatory authorities and, where applicable, insolvency or bankruptcy administrators, consistent with applicable legal requirements. To the extent the initial margin is determined to be insufficient prior to transferring the position, that shortfall in initial margin will be collected from the receiving Clearing Member(s).

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 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.

The segregation and portability arrangements of CCUS, along with the extent to which any risks, costs, and uncertainties exist, are reflected in the CCUS Rules, which are publicly disclosed on the CCUS website, as required under CFTC Regulation §39.21(d). The CCUS Rules are designed to provide certainty, including with respect to segregation and portability. Additionally, as described further in CCUS's disclosures for Principle 23, CCUS publishes various documents on the CCUS website specific to CCUS clearing on the page, "Clearing".[24] This page includes documents and information that provide an overview of the financial safeguards afforded to trades cleared through CCUS, including CCUS's customer protections and account classes. Information on the application and effect of the account segregation and portability models is also available on the CCUS website via the CCUS Rulebook.

[24] See https://www.cboe.com/solutions/clearing/us.

3.15. 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.

CCUS is a wholly-owned subsidiary of Cboe Global Markets, Inc. ("**CGM**"), a publicly-traded Delaware corporation. As a publicly traded company, CGM is required to file certain reports, including annual, quarterly and current reports, with the U.S. Securities and Exchange Commission on an ongoing basis, and has extensive disclosure requirements across its operations, financial statements and risk factors.[25] CGM maintains management and financial controls that track crucial financial performance measures that allow CGM to establish short, medium, and long-term financial goals and objectives to protect it against general business risk, while encouraging investment growth initiatives.

The key processes are as follows:

- Annual strategic planning process;
- Annual budget process; and
- Monthly and quarterly financial forecasts.

Leveraging these key processes, CGM identifies potential sources of general business risk, which allows CGM to put in place effective tools to manage potential sources of such risk, from strategy generation to execution, risk management and performance measurement. The outputs of these processes inform the development of a comprehensive financial plan and annual budget, including projected operating earnings and cash flows. The financial plan is designed to ensure that CGM maintains sufficient resources to execute its strategic directives while considering potential risks and uncertainties. Projected operating performance is based on assumptions regarding market conditions, economic factors and volatility, including their impact on existing products and potential new revenue opportunities. These projections also incorporate expected changes in operating expenses and cash flow requirements. The underlying assumptions and parameters are reviewed and refined on a regular basis to reflect evolving market conditions and updated revenue expectations.

In addition, CGM performs analysis to assess its ability to meet operating expenses and capital commitments under adverse conditions, including periods of reduced growth and market contraction. These analyses support the development of contingency plans designed to address potential deterioration in financial performance and ensure the continued resilience of the organization under stressed conditions. CGM maintains a governance and reporting framework that enables senior management and the CGM Board to monitor financial performance and exposures to general business risks on an ongoing basis. This framework includes regular reporting designed to provide sufficient detail and trend analysis to support informed decision-making and effective oversight.

As further described in Principle 2, CCUS carries out its risk management responsibilities

[25] See https://ir.cboe.com/financials/sec-filings/default.aspx.

independently from its commercial operations and from those of CGM. As a DCO, CCUS is committed to advancing the public interest by fostering markets that are safe, fair, and efficient.

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.

Consistent with CFTC Regulation §39.11(a), CCUS maintains sufficient financial resources to cover at least twelve months of operating expenses, calculated on a rolling basis. As outlined in the Wind-Down Plan described in Key Consideration 4 of Principle 3, these resources are intended to ensure that CCUS can fund its expected operating costs for no less than one year should it become necessary to wind down one or more of its services. Further, in accordance with CFTC Regulation §39.11(e), at least six months of these resources are held in unencumbered, highly liquid assets. These funds are intended to support CCUS's ability to continue delivering its critical operations and services while executing an orderly wind-down. CCUS uses forecasts for future revenue and business as usual operating expenses to determine the appropriate size of resources to maintain. On an ongoing basis, CCUS monitors the primary drivers of its operational expenses. Additionally, as part of its wind-down planning, CCUS also considers the changes in revenue and operating expenses it may observe in wind-down.

Above and beyond the resources CCUS maintains in satisfaction of CFTC Regulation §39.11, CGM maintains a strong capital base and treats its own funds and assets conservatively to protect and ensure their safety and minimize the risk of loss. In accordance with CFTC regulations, CCUS submits a quarterly report to the CFTC setting forth its financial resources and projected operating costs.

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 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.

In accordance with CFTC Regulation §39.39(b), CCUS's Recovery and Wind-Down Plans address extreme yet plausible scenarios involving uncovered credit losses or liquidity shortfalls, as well as separate scenarios tied to operational or general business risks and any additional threats to CCUS's continued viability. As described in Key Consideration 2 of this Principle, and consistent with CFTC Regulation §39.11(a), CCUS maintains sufficient financial resources to cover at least twelve months of operating expenses, calculated on a rolling basis. As outlined in the Wind-Down Plan, these resources are intended to ensure that CCUS can fund its expected operating costs for no less than one year should it become necessary to wind down one or more of its services. Further, in accordance with CFTC Regulation §39.11(e), at least six months of these resources are held in unencumbered, highly liquid assets. These funds are intended to support CCUS's ability to continue delivering its critical operations and services while executing an orderly wind-down.

As described in Key Consideration 4 of Principle 3, the Recovery Plan addresses interconnections and interdependencies among CCUS and its affiliates, internal and external service providers, and other stakeholders, including critical relationships with its parent company, CGM, and key service providers, and analyzes how these relationships may impact recovery effectiveness. CCUS views recovery as a significantly more desirable outcome than a wind-down, as continued operations help preserve broader financial market stability. For this reason, CCUS has structured its default management processes, default waterfall, and Recovery Plan to prioritize achieving recovery rather than moving toward wind-down. CCUS observes that a situation requiring activation of the Recovery Plan is unlikely given the conservative methodology CCUS uses to size its pre-funded default financial resources minimizes the chance that such measures would be needed.

CCUS is required under CFTC Regulation §39.39 to maintain supplementary tools within its Recovery Plan and Rules to address situations involving uncovered credit losses or liquidity shortfalls. These additional recovery mechanisms available to CCUS include voluntary tear-ups, sanctioned partial tear-ups, variation margin gains haircuts, and sanctioned full tear-ups.

The scenarios in which a liquidity shortfall could occur would include the following. (1) one or more Clearing Members is in default under CCUS rules; (2) the defaulting member(s) held positions in physically-delivered products and/or deposited non-cash collateral with the Clearinghouse; and (3) the Clearinghouse's liquidity facilities, including its parent company, were unable to lend the Clearinghouse sufficient liquidity so it could meet the liquidity demands to manage the default(s). The Clearinghouse's management of its liquidity risk would include ensuring, in accordance with its policies, that its liquidity resources are sufficient to cover the single largest liquidity risk exposure across all Clearing Members in extreme but plausible market conditions, where affiliated Clearing Members would be treated as a single Clearing Member for this purpose.

If after all liquidity resources were exhausted and there were still unmet obligations of the defaulted member(s) the Clearinghouse could not meet, and other recovery tools have been

exhausted, the Board may approve a Sanctioned Full Tear-Up, involving the forced termination of all open positions in one or more products. If the Default Loss is not satisfied after a Sanctioned Full Tear-Up, or at any prior point the Board deems it prudent, recovery efforts will be terminated and wind-down procedures will begin.

The potential scenarios not related to a Clearing Member default considered as part of recovery planning address scenarios in which CCUS would be exposed to general business and operational risks, such as fraudulent activity or cybersecurity threats. CCUS believes the likelihood of needing to implement the Recovery Plan to be very low, as it employs many proactive risk management practices, as described throughout its disclosures, and CCUS reiterates that the scenarios identified in the Recovery Plan are meant to be extreme but plausible in nature.

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.

CCUS actively manages its general business risk and as described above, holds sufficient liquid resources to cover at least one-year of its operating costs, with resources to cover at least six-months of such costs held in unencumbered, liquid financial assets. CCUS defines eligible funds for compliance with these requirements in accordance with guidance provided by the CFTC. On a monthly basis, CCUS forecasts its operating expenses and projected revenue for the upcoming twelve months and compares it to the net liquid assets.

The primary recovery tool for CCUS in the event a scenario related to a general business risk, operational risk or other non-default loss (e.g., poor business results, investment loss, legal liability) triggers the use of CCUS's Recovery Plan, is to request a capital infusion from CGM. CCUS believes that requesting a capital infusion from CGM would allow it to continue to maintain its viability and provide its critical operations and services to the marketplace in the event of a scenario related to general business risk, operational risk or other non-default loss. Additionally, CGM maintains insurance policies that could be utilized by CCUS in managing losses related to certain types of general business risk.

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.

CCUS maintains a financial plan to raise additional equity, if need be, as required under CFTC Regulation §39.39(e), which is approved by the Board and updated annually. CCUS, with the assistance of CGM, will determine on an annual basis, if needed, the capital contribution required to fund working capital for the upcoming calendar year. To the extent additional capital funding is required during the year, CCUS will work with CGM to determine such capital contribution amount(s) and the timing for such capital infusion. Capital contributions may be in the form of cash funding and/or conversion of existing intercompany debt to equity capital.

3.16. 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.

As described in Key Consideration 8 of Principle 7, CCUS does not maintain any accounts with central banks, payment services or securities services.

As described in Key Consideration 7 of Principle 7, CCUS does have relationships with counterparty settlement and custodian banks and certain Clearing Members (and their affiliates)[26]as described in the CCUS Bank Counterparty Participation Requirements Policy. CCUS uses settlement and custodian banks to facilitate cash settlements and serve as custodians for Clearing Member funds, respectively. Settlement and custodian banks inherently present a variety of risks to the Clearinghouse including credit, liquidity and operational risks. Additionally, to ensure the Clearinghouse has access to sufficient liquidity to manage the Default of a Clearing Member, CCUS may maintain relationships with external liquidity providers, which present similar risks as those presented by settlement and custodian banks. CCUS has established measures to monitor and manage the risks the Clearinghouse is exposed to from the use of settlement and custodian banks as well as liquidity providers.

In line with CFTC Regulation §39.33(d)(2), CCUS assesses and reviews all counterparties through its internal credit rating process as often as Call Reports are made available. CCUS conducts a comprehensive review of each counterparty bank against standards set forth in the CCUS Bank Counterparty Participation Requirements Policy in determining whether to onboard a counterparty bank to facilitate cash settlements and serve as custodians of Clearing Member funds. The criteria considered include capitalization, creditworthiness, access to liquidity, most recent audit results, and regulatory oversight. CCUS carries out credit assessments of its settlement and custodian banks as often as Call Reports are made available in addition to on-going monitoring of developments identified in publicly available company press releases and news sources. CCUS's ongoing monitoring of counterparty banks is intended to ensure that the level of oversight and monitoring applied is appropriate and that the counterparty bank continues to satisfy CCUS's standards for settlement and counterparty bank credit quality. To the extent exceptions are approved by the Board of Directors, those exceptions are presented to the Risk Management Committee at least annually to ensure they remain appropriate based on CCUS' internal credit rating process.

Settlement and custodian banks are selected in accordance with the criteria set forth in the CCUS Bank Counterparty Participation Requirements Policy, as further described in CCUS's disclosures under Principle 4. Proposed settlement and custodian banks are presented to the Risk Management Committee, which is responsible for reviewing the settlement and custodian bank assessment and recommending the institution to the Board for approval.

[26] To the extent any bank counterparty, as defined in the CCUS Bank Counterparty Participation Requirements Policy, is affiliated with a Clearing Member, any Liquidity Resources will be assumed to be unavailable in the scenario where the affiliated Clearing Member is driving the Clearinghouse's Liquidity Risk Exposure. Similarly, for purposes of measuring Liquidity Risk Exposure, affiliated Clearing Members will be treated as a single Clearing Member.

Settlement and custodian banks must have and maintain a minimum internal credit rating for which CCUS determines based on its comprehensive internal credit rating methodology and must meet other minimum requirements that are designed to ensure a counterparty bank can fulfil its obligations on each business day. These requirements are, in part, assessed during the annual due diligence review CCUS conducts of its settlement banks. Due diligence reviews are conducted in addition to the ongoing monitoring CCUS employs each business day for all of its counterparty relationships, including settlement banks. Through CCUS' monitoring each business day it is able to actively manage its credit and liquidity exposures to its settlement banks.

CCUS's counterparty banks and liquidity providers have sufficient information to understand and manage their associated obligations to CCUS. The liquidity obligations of Clearing Members subject to CCUS Rule 304, Duties and Responsibilities of Clearing Members, and CCUS Rules 504-507 relating to Default and the scope of the Guaranty Fund, as described in CCUS's disclosures for Key Consideration 4 of Principle 3, are limited to the size of the Clearing Member's Guaranty Fund deposits at the time of the liquidity event. Clearing Members are fully aware of their Guaranty Fund obligations, by way of daily reporting of the projected size of their Guaranty Fund requirements with scheduled resizing of the total Guaranty Fund occurring monthly. CCUS regularly communicates with counterparty banks and other liquidity providers the information that they need to assess their liquidity risks, requirements, and obligations. This occurs either through the CCUS Rulebook that is publicly available, and/or applicable legal agreements. Clearing Members agree to be legally bound by the obligations under the CCUS Rulebook, upon membership, as described in CCUS's disclosures for Principle 1.

Key Consideration 2:

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

The contractual agreements CCUS has with its settlement and custodian institutions and the account structures that the Clearinghouse supports reflect CCUS's first priority and unencumbered security interest in the collateral posted by its Clearing Members in satisfaction of their obligations to it. In line with CFTC Regulation §39.15(c), this is designed to ensure that CCUS has prompt access to collateral assets held at such depository institutions and in accordance with the CCUS Rules, the ability to liquidate or apply the collateral when needed. CCUS can direct its custodian institutions to transfer, deposit, distribute, or otherwise dispose of the assets.

Further, as described in CCUS's disclosures for Principle 1, consistent with CFTC Regulation §39.27(b) applicable to all DCOs, the Clearinghouse operates within a legal framework that supports the timely management of a Clearing Member default, including the ability to transfer customer positions and associated collateral. CCUS's Rule 502 and Rule 408 provide for the protection of customer assets and establish the rights necessary to facilitate the orderly transfer of customer accounts in both ordinary course and default scenarios. In addition, the Clearinghouse maintains the appropriate legal rights in respect of collateral posted by Clearing Members, enabling access to such collateral in accordance with its Rules and applicable law to support default management and portability.

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.

The CCUS Risk Management team analyzes and evaluates counterparty credit risk according to its credit review process, described in CCUS's disclosures for Principle 3, and according to CCUS's Risk Management Framework and Credit Risk Management Policy. To oversee the counterparty risks inherent in its role as a CCP, CCUS has implemented detailed policies governing the review and monitoring of its relationships with Clearing Members, settlement banks, and collateral custodians. These policies are designed to ensure that all such counterparties meet stringent creditworthiness and operational criteria, thereby safeguarding CCUS against credit and counterparty exposures. As noted previously, CCUS carries out ongoing credit assessments (depending on the frequency of updated financial statements being filed) of its settlement and custodian banks to ensure that settlement and custodian banks continue to meet CCUS's capitalization, creditworthiness, and access to liquidity requirements. CCUS also performs annual risk reviews of its Clearing Members, focusing primarily on Clearing Members' management of market and counterparty risk. The insights gained from these assessments inform CCUS's ongoing, day-to-day risk monitoring activities.

The reviews described above are also in addition to CCUS's monitoring of its counterparties each business day, including collateral custodians. CCUS mitigates the risk posed by its collateral custodians by only using supervised and regulated entities, as well as by engaging multiple providers, where possible. Further, CCUS holds Clearing Member and customer funds in a manner which is designed to minimize the loss of or delay in the access to these funds, as discussed in CCUS's disclosures for Key Consideration 2 of this Principle.

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.

CCUS is committed to undertaking a conservative approach to the investment of its cash collateral that is designed to ensure that the principal is preserved and participants are protected from losses through CCUS directed investment activity. These are defined objectives under CCUS's Treatment of Funds and Investments Policy, which supplements the Risk Management Framework. The procedures governing the identification of acceptable collateral are intended to ensure that CCUS only approves assets that pose low credit, market, and liquidity risk, consistent with CFTC Regulations §39.11(e)(4), §39.13(g)(10) and §39.15(e). As part of its evaluation of any proposed new collateral type, CCUS conducts a detailed assessment of available pricing sources and the depth, volume, and liquidity of the market for the asset. CCUS also performs a comprehensive risk analysis across multiple dimensions, including credit, liquidity, market, custody, operational, regulatory, and any other risks that might arise from accepting the asset as collateral. The Margin and Stress Testing Committee conducts a review of any potential new acceptable collateral from the legal, compliance, and risk perspectives before the potential acceptable collateral is presented to the Risk Management Committee for review and approval.

CCUS, as a DCO, complies with CFTC Regulation §1.29, which requires that a DCO bears all market value losses related to the DCO directed investment of customer funds. This practice is in line with CCUS's overall risk management practices of providing fulsome

protections to all market participants, a key tenet of the CCUS Risk Management Framework. It is the policy of the Clearinghouse to have procedures in place that are designed to protect and ensure the safety of funds and assets belonging to a Clearing Member and their customers while the funds and assets are in transit or held by the Clearinghouse in accordance with regulations under CFTC Regulation §39.15. Funds and assets held by the Clearinghouse may be invested by the Clearinghouse pursuant to all applicable CFTC Rules, including Regulation §1.25 and Regulation §1.29.

CCUS leverages its analysis of collateral eligibility and haircut methodologies to inform its investment practices, with the objective of ensuring that invested assets can be liquidated in a timely manner with limited adverse price impact. CCUS sets concentration limits as appropriate for each type of collateral asset that it accepts; however, the Clearinghouse currently only accepts USD cash as collateral for all products and services. This policy inherently avoids concentration risk by eliminating exposure to non-cash asset classes. Investment counterparties are subject to eligibility criteria designed to ensure that cash is placed with high-quality obligors. Investment limits incorporate diversification requirements and consider the credit quality of counterparties based on internal assessments. CCUS monitors its investment portfolio on a daily basis, including performance at both the individual investment and portfolio level, exposures relative to established limits, and key portfolio characteristics such as weighted average maturity. The composition and risk profile of the investment portfolio are reviewed on an ongoing basis and reported to the Risk Management Committee during its regularly scheduled meetings.

3.17. 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.

CCUS has policies and processes in place for identifying plausible sources of operational risks, whether the risks arise from internal or external sources (collectively, the "**Operational Risk Management Framework**"). CCUS has also adopted controls that support the maintenance of adequate default financial resources and provide robust risk management, including daily risk monitoring, ongoing evaluations of model soundness, and operational risk management. The Clearinghouse maintains adequate financial, operational and managerial resources in accordance with CFTC Regulations §39.10, §39.11 and §39.33, to identify and assess sources of risk and their potential impact on the operations and services of the Clearinghouse. CCUS's Operational Risk Management Framework aids CCUS in managing operational risk, which is designed to work in harmony with CGM's Enterprise Risk Management Policy ("**ERM**")[27]. The CGM enterprise approach to risk management is not exclusively aligned to a single standard or practice. The risk management effort is guided and informed by a range of standards and approaches, including but not limited to the International Organization for Standardization ("**ISO**") 31000:2018, the Committee of Sponsoring Organizations of the Treadway Commission ("**COSO**") guidance, and applicable regulatory publications. In specific contexts, such as technology, further relevant standards may be leveraged including, but not limited to, those from the National Institute of Standards and Technology ("**NIST**"), the Control Objectives for Information and Related Technologies ("**COBIT**") framework, and ISO. This is to ensure that the most appropriate approach is derived for the organizational context. CCUS has adopted a process of continuous improvement, maturity, and growth — as such the risk management lifecycle is a perpetual process. In addition to these policies and procedures, the CGM Global Policy for Business Continuity, Disaster Recovery, and Operational Resiliency applies to CCUS and establishes a framework for maintaining documented continuity and recovery plans applicable to their operations and, more specifically, the CCUS Business Continuity and Disaster Recovery Plan, sets out the Clearinghouse's objectives, policies, and procedures that allow for the rapid recovery and timely resumption of critical operations following a wide-scale or major disruption.

CCUS's Operational Risk Management Framework describes the processes used in the identification, measurement, and mitigation of operational risk, while establishing decision controls, as well as monitoring and reporting policies, that are designed to ensure effective

[27] At the enterprise level, the CGM Enterprise Risk Management Policy applies to CCUS and establishes three lines of defense to manage enterprise risk, including operational risk: governance, management and independent assurance. The first line of defense owns the risks and is responsible for managing the risks effectively within the risk appetite. The second line of defense is comprised of the risk and oversight functions, responsible for providing independent challenge and oversight regarding risk management. The third line of defense is the Internal Audit function and is responsible for providing independent and objective assurance on the effectiveness of the overall risk management framework-associated policies and activities across both first- and second-line functions.

management of operational risk. The CCUS Operational Risk Management Framework, in conjunction with other supporting documents, also addresses the communication procedures and standards of the Clearinghouse, which are further described in CCUS's disclosures for Principle 22. The constituent policies and procedures within the Operational Risk Management Framework are reviewed and approved on at least an annual basis by the Risk Management Committee, the Board, and other committees as further described in CCUS's disclosures for Principle 2. In particular, the objective of the Operational Risk Management Framework is to provide overall guidance and a common approach to CCUS staff to measure, manage, and control operational risk, within the defined statement of risk appetite and risk tolerance thresholds, for the core clearing processes, as described below. The Operational Risk Management Framework identifies the core clearing processes and related key risks to these processes. The Operational Risk Management Framework also defines risk impact and likelihood ratings for each core clearing process based on the statement of risk appetite and risk tolerance for the relative core clearing process.

Consistent with the Operational Risk Management Framework, CCUS identifies and defines the scope of risks that could affect the performance of its core clearing processes and establishes strategies to manage those risks. CCUS identifies and closely monitors potential risks posed to its core clearing processes, and is supported by the broader, cross-functional Enterprise Risk Management team that captures risks across the CGM group. These risks are evaluated and managed in accordance with the CGM group's defined risk appetite.

Operational risk is managed through a combination of independent controls and monitoring processes, including system and process surveillance, performance monitoring against established service standards, and the use of risk and payment systems designed to mitigate potential operational disruptions. Real-time monitoring tools are used to track system performance and identify potential issues, including alerts for processing activities that exceed expected time thresholds, enabling timely investigation and response. The Operational Risk Management Framework identifies CCUS's core clearing processes and establishes controls designed to support their resilience and reliability. The identified core clearing processes in the Operational Risk Management Framework are:

- Ability to operate the Clearinghouse systems and data integral to its ongoing operations;
- Ability to accept executed trades for clearing;
- Ability to view and manage market, credit, and liquidity risks; and
- Ability to process and manage settlement and collateral.

Consistent with its core clearing processes, CCUS's primary responsibility to market participants is the reliable and timely provision of trade processing and settlement services. The Clearinghouse operates on a continuous basis and maintains round-the-clock monitoring of its systems to support uninterrupted service delivery. Dedicated operational functions oversee key components of the clearing process, with staffing structured to provide coverage and oversight of systems performance and critical processes.[28]

The Clearinghouse monitors operational performance against defined performance standards and employs real-time tools to track system activity, including the flow of inbound and outbound data and messages. These tools provide visibility into transaction volumes, processing rates, and system capacity, enabling the identification and timely escalation of potential issues. The Clearinghouse also monitors specific types of activity that may affect operational performance or risk exposure, such as large-scale transfers between Clearing Members, as these activities can impact their risk profiles. Ongoing coordination with relevant internal functions supports situational awareness, particularly during periods of

[28] See https://www.cboe.com/solutions/clearing/us.

heightened activity or volatility.

To support operational resilience, the Clearinghouse maintains business continuity arrangements designed to enable the prompt recovery of critical services following a disruption. In accordance with applicable regulatory expectations, specifically CFTC Regulation §39.18(c)(2), CCUS adheres to a twenty-four (24) hour recovery time objective in the event of a significant operational disruption to resume core clearing, processing and settlement functions.

Staff for CCUS's Clearing Operations

CCUS carries out its risk management responsibilities independently from its commercial operations and from those of CGM. As a DCO, CCUS is committed to advancing the public interest by fostering markets that are safe, fair, and efficient. CGM's ownership of multiple equities, options, and futures exchanges enhances the overall effectiveness of risk management. In particular, having a related futures exchange enables CCUS to oversee risk comprehensively throughout the entire lifecycle of a trade, using coordinated pre-trade and post-trade tools and controls.

As described in Key Consideration 5 of Principle 2, CGM's recruitment and performance management processes, which apply to CCUS employees, reinforce core standards of integrity, professionalism and ethics as set forth in the Code of Business Conduct and Ethics. CCUS benefits from a dedicated recruiting process and thorough candidate screening, as well as regular performance evaluations, ongoing training and access to internal and external knowledge resources to ensure employees maintain an appropriate understanding of the organization's activities and responsibilities. Together, these practices help ensure that the individuals responsible for CCUS's operational and risk management activities possess the experience, capabilities, and integrity required for their roles.

Integrity is a core value for CGM and CCUS. The Board's structure, composition, and governing policies are designed to ensure CCUS fulfills its regulatory responsibilities as a DCO and enables the Board to supervise CCUS in a way that prioritizes the Clearinghouse's safety, efficiency, and broader financial-system stability. The Code of Business Conduct and Ethics ensures that directors, officers, and employees maintain the highest ethical standards and act in the best interests of CGM and its subsidiaries, including CCUS. CGM has also adopted a Conflicts of Interest Policy applicable to all employees. The policy addresses guidelines and requirements that associates must follow to avoid conflicts of interest, and the appearance of conflicts of interest, which may arise between personal and business interests.

As further described in Key Consideration 5 of Principle 2, the CCUS Board provides oversight of the management and operations of the Clearinghouse and maintains primary oversight of the governance of CCUS. The Board plays an active role in assuring that the operations of CCUS are overseen by personnel with the necessary qualifications and expertise and oversees the CCUS Chief Risk Officer ("**CRO**") by receiving direct reports from the CRO. The CRO is directly available to the Board. As part of fulfilling its oversight and governance responsibilities, the Board has established a Risk Management Committee to serve as an advisory committee to the Board with regard to any matters that could materially affect the risk profile of CCUS. The Risk Management Committee reports directly to the Board on matters that could materially affect the risk profile of CCUS in its capacity as a DCO.

The Clearinghouse requires cross-training of staff members that support critical business functions which support core clearing services. Additionally, all key staff, and back-up staff (when applicable), that are responsible for the execution of the CCUS Business Continuity and Disaster Recovery Plan are required to review the Plan and understand their roles and

responsibilities. The Clearinghouse will track the attendance of staff for Business Continuity and Disaster Recovery training and require the head of various departments to identify staffing requirements for critical functions and rotate staff for training purposes when possible.

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, CPSS-IOSCO – Disclosure framework and assessment methodology – December 2012 59 and controls should be reviewed, audited, and tested periodically and after significant changes.

As described in Key Consideration 1 of this Principle, the Board is responsible for the governance of CCUS and maintains ultimate oversight of the Clearinghouse's Risk Management Framework, including operational risk. CCUS establishes and oversees its risk appetite through CGM's Enterprise Risk Management ("**ERM**") framework, which defines the risk taxonomy and requires CCUS-specific risk appetite statements. The Board establishes and approves a statement of risk appetite that reflects CCUS's regulatory obligations under CFTC Regulation §39.24 to prioritize the safety and efficiency of the Clearinghouse. CCUS documents the level and type of risk CCUS is willing to accept in a Risk Appetite Chart that is reviewed by the Board annually. CCUS monitors residual risk against established tolerances set forth in the Risk Appetite Chart with the quarterly presentation of Risk Tolerance Charts to the Board by the Chief Risk Officer ("**CRO**"), highlighting risks that

exceed CCUS's risk appetite or risk tolerance along with plans for risk mitigation.[29] In respect of operational risk management, some of the key responsibilities of CCUS are to:

- Maintain systems and processes to identify, assess and manage risks;
- Ensure that staff have clearly defined roles and responsibilities, and are appropriately trained to provide oversight of practices and processes;
- Monitor operational risk exposure through regular reporting and take appropriate actions as necessary; and
- Maintain reporting processes to support compliance with applicable regulatory requirements and the Clearinghouse's Rules, including timely escalation and communication of relevant operational risk information to regulators, Clearing Members, internal compliance and other functions.

As part of CCUS's risk governance framework, the Board, supported by the Risk Management Committee, oversees the CCUS implementation of the ERM and the associated risk universe. Substantive changes to these frameworks are subject to review and approval through the governance structure described in this Principle and Principles 2 and 3. Given the regulatory expectations and requirements for CCUS, while subject to the CGM ERM, CCUS maintains a unique risk appetite statement and risk register tailored to CCUS's regulated business models as described in Principle 3.

As described in Key Consideration 1 of this Principle, the ERM applies to CCUS and establishes three lines of defense to manage enterprise risk: governance, management and independent assurance. The third line of defense is the CGM Internal Audit function that provides independent, risk-based assurance, advice, and insight to evaluate and enhance the effectiveness of governance, risk management, and internal control processes across CGM and its subsidiaries, including CCUS. The CGM Audit Committee is responsible for overseeing the Internal Audit function, including its scope and performance, which helps to safeguard the independence and objectivity of internal audit. Internal audit coverage for CCUS is determined based on risk and regulatory considerations and includes audit work performed directly by CGM's Internal Audit function and, where appropriate, through the use of external service providers under Internal Audit oversight. Internal Audit communicates significant audit results related to CCUS to the CCUS Board or its designated committee, as appropriate, to support governance oversight. The scope of the Internal Audit function as it relates to CCUS includes evaluating whether the Clearinghouse's risk management and control processes, as designed by management, are adequate and operating effectively to ensure that:

- Risks are appropriately identified, assessed and managed;
- Coordination with relevant compliance and other internal functions occurs as necessary;
- Financial, managerial and operational information is accurate, reliable and timely;
- Activities are conducted in compliance with applicable policies, standards, procedures and legal and regulatory requirements;

[29] At the enterprise level, the ERM applies to CCUS and establishes three lines of defense to manage enterprise risk, including operational risk: governance, management and independent assurance. The first line of defense owns the risks and is responsible for managing the risks effectively within the risk appetite. The second line of defense is comprised of the risk and oversight functions, responsible for providing independent challenge and oversight regarding risk management. The third line of defense is the Internal Audit function and is responsible for providing independent and objective assurance on the effectiveness of the overall risk management framework-associated policies and activities across both first- and second-line functions. The Board is supported by its Risk Management Committee and senior management cross-functional teams, including Risk and Operations, who comprise the second line of defense in the ERM.

- Resources are utilized efficiently and effectively;
- Assets are appropriately safeguarded;
- Programs, plans, and strategic objectives are achieved;
- Control processes support quality and continuous improvement; and
- Significant legislative and regulatory developments are identified and addressed in a timely manner.

Additionally, the Internal Audit function issues periodic reports to the Board and other committees of the Board and management summarizing the results of internal audit activities. This process encompasses review, inquiry and challenge of internal audit findings by the relevant governance bodies to ensure that, where appropriate, corrective actions have been undertaken on significant audit findings.

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.

Consistent with CFTC Regulation §39.38(c), CCUS maintains defined operational reliability objectives that are measurable and designed to ensure the consistent delivery of its core clearing processes as described in Key Consideration 1 of this Principle. These objectives, set out within the Clearinghouse's Operational Risk Management Framework, establish minimum service expectations for key clearing functions. To support these objectives, CCUS maintains operational resilience capabilities across its systems, processes, personnel and monitoring tools. Critical components supporting clearing services are designed with redundancy and failover capabilities, enabling a transition from primary to backup systems in a manner consistent with established recovery time objectives. Production environments are designed to minimize service disruption and support continuity of operations in the event of system or component failures.

The CCUS Business Continuity and Disaster Recovery Plan sets out the Clearinghouse's objectives, policies, and procedures that allow for the rapid recovery and timely resumption of critical operations following a wide-scale or major disruption. On an annual basis, the Operations and Risk Management departments jointly conduct or review an Enterprise Business Impact Analysis ("**BIA**") of the Clearinghouse's critical functions in various departments including, but not necessarily limited to: Operations, Software Engineering, Infrastructure, Information Security, Compliance, Legal, Finance and Regulatory. The BIA seeks to identify critical business processes and their dependencies, recovery time objectives, maximum tolerable downtime, and recovery point object for each business function.

The BIA is a key step in the Clearinghouse's overall contingency planning process and will include the following elements:

1. **Identification of Critical Business Processes**

This step involves evaluation of important business processes and specific IT, vendor and staff resources that are required to support those business processes.

2. **Identification of Disruption Impacts and Allowable Outage Times**

This step involves the evaluation of impacts should a given business process be disrupted or damaged. It also involves specification of the recovery time objective, maximum tolerable downtime, and recovery point object that the process must adhere to in the event of a significant business disruption ("**SBD**") before it prevents or inhibits the performance of an essential business process.

3. **Identification of IT Resources and Vendor Dependencies**

Once the dependencies between business processes and vendors are established, each IT resource/ vendor is analyzed individually to understand its service level agreement for availability compared to the recovery time objective, maximum tolerable downtime, and recovery point object for the business process being supported. This step also reviews whether vendors are set-up in the vendor management system and identify the business owner for the vendor.

4. **Identification of Recovery Priorities**

Finally, once all the business processes, IT resources, and vendors are identified with impact ratings of exceeding the maximum tolerable downtime that inform a criticality determination for each business process, this information is used to establish priorities for business

recovery in the event of an SBD.

The CCUS Product and the Risk Management departments will perform an ad hoc BIA when any of the following are being newly introduced or retired in production environments; or because of substantial system or business changes that may impact availability or recovery:

- Service or application
- Infrastructure component
- Network connectivity
- Channel for publishing or consuming data
- Data center or cloud provider
- Middleware or database

The purpose of the BIA is to identify and prioritize system components by correlating them to the mission/business process(es) the system supports and using this information to characterize the impact on the process(es) if the system were unavailable.

The Clearinghouse prepares for two forms of SBDs: internal and external. Internal SBDs affect only the Clearinghouse's ability to communicate and conduct business (e.g., a fire in the office building or a phone system disruption). External SBDs prevent clearing and settlement services and/or impact several firms (e.g., a terrorist attack, a natural disaster, or a wide-scale regional disruption, such as a power grid outage). The Clearinghouse's response to an external SBD relies more heavily on other entities and systems including, but not limited to, capabilities of vendors, clearing members, data centers and network service providers.

CCUS has established an emergency management team ("**EMT**") who is responsible for the overall direction of business continuity efforts, evaluation of ongoing circumstances and communications with other senior management. The EMT is responsible for:

- Evaluating and assessing SBDs to determine what response should be made;
- Determining and directing how and when to respond to SBDs;
- Determine the appropriate communication substance and channels for communicating with Clearinghouse employees, clearing members, market users, and third-party providers;
- Determine appropriate notification, if any, to applicable regulators;
- Escalation and communication to any participating exchanges' Board of Directors, the Clearinghouse Board, and the Clearinghouse Risk Management Committee members as appropriate; and
- Assure that appropriate resources are allocated to the recovery process.

CCUS has also established a cross-functional recovery coordination team ("**RCT**") that is responsible for coordination of the disaster recovery effort at the direction of the EMT. The RCT comprises the Chief Information Security Officer, an Infrastructure Management Senior Director, and the President of CCUS. The RCT is responsible for:

- Coordination of the disaster recovery effort at the direction of the EMT;
- Facilitating communication between the Clearinghouse and clearing members, market participants and third-party providers;

- Gathering damage assessment and other information to assist EMT in determining next actions;
- Providing regular updates to the EMT of progress of ongoing recovery; and
- Preparing a post-SBD debriefing report to be provided to the EMT.

The RCT, in coordination with Risk Management and Operations personnel, will administer disaster recovery testing and business continuity plan training no less than annually to ensure the integrity of the plan, maintain familiarity with the plan, and identify gaps and provide for improvements.

The overall manner in which CCUS's systems are structured and supported and the provision of backup optionality for systems that are necessary for CCUS to perform its critical functions provides a high level of operational reliability.

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.

In line with the requirements under CFTC Regulation §39.18(b), CCUS maintains scalable capacity to support increases in transaction volumes while continuing to meet defined service standards, as set forth in the CCUS Capacity Planning Policy and Procedures and the Operational Risk Management Framework. Consistent with applicable regulatory expectations, capacity planning is an ongoing, cyclical process that includes establishing service targets, monitoring production systems, forecasting future demand, testing system performance under stress conditions and implementing capacity enhancements as needed. Capacity planning incorporates the definition of performance objectives based on key processing milestones and real-time system metrics.

Ongoing production monitoring enables the Clearinghouse to assess performance against these objectives and confirm that current capacity levels are sufficient to meet operational needs. Forward-looking demand forecasts, informed by expected transaction volumes and service requirements, are used to model future capacity needs. These models are validated through testing to determine when system enhancements are required.

The CCUS Operations staff continuously monitor systems health and activity. Capacity reviews are both informal and formal. Informal reviews occur through the normal course of maintaining system performance. Formal reviews occur on a monthly basis where monitoring alerts, alert thresholds and any production incidents related to capacity and performance are discussed.

The capacity planning process is designed to cover all critical systems supporting clearing operations and to balance monitoring and modeling in order to identify and address potential constraints before they affect service delivery. It is CCUS's general practice to have a minimum of two times the last known peak load in capacity for a given application system. Capacity thresholds are established to provide a buffer above observed peak usage, supporting resilience during periods of heightened activity. Capacity models and performance metrics are reviewed and updated on a regular basis, with results reported

through the Clearinghouse's governance framework to support oversight and decision-making. This approach supports proactive resource planning and system design decisions, with the objective of maintaining sufficient capacity to meet operational demands and avoid service degradation under both normal and stressed conditions.

Key Consideration 5:

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

CCUS maintains comprehensive physical and information security policies.

Physical Security

CCUS maintains a comprehensive physical security program designed to protect its personnel, facilities and critical assets. This program, as outlined in CCUS's Information Security Policy on Physical and Environmental Protection, includes layered controls such as access management, surveillance systems and security monitoring capabilities and outlines the following objectives:

- Preventing unauthorized physical access, damage, or interference to CCUS's premises and infrastructure, using controls appropriate to the identified risk and the value of the assets protected; and
- Preventing loss, damage, theft, or compromise of assets or interruption to CCUS's activities.

CCUS maintains security personnel and conducts regular exercises to validate response procedures and support continuous improvement. Access to offices and information security centers is controlled through established procedures that limit entry to authorized individuals based on business need. Employees, market participants and vendors are subject to background screening and approvals prior to being granted entry. Visitor access is managed through defined protocols, including identity verification, controlled entry points and escort requirements. Deliveries and packages are subject to inspection prior to entering secured areas. Security operations are monitored on a continuous basis through a centralized function that coordinates incident response, communication and escalation across the organization. This function maintains visibility over key security systems and supports timely responses to potential threats or incidents.

CCUS maintains relationships with relevant public sector and industry partners to support situational awareness and information sharing. These relationships provide access to threat intelligence and support coordination in response to security-related threats.

Information Security

CCUS's information security practices are governed by the CGM Information Security and Privacy Program and CGM Information Security Policies which define standards, procedures and controls that govern information security management practices. These policies, collectively, as well as the CGM Information Security and Privacy Program, are based on accepted international, national and industry-level frameworks and guidelines as described in Key Consideration 1 of this Principle. CGM's Global Information Security department supports the integrity of CGM's global markets, maintains customer and employee trust, enables the business to achieve its objectives, contributes to shareholder value, and protects CGM's information assets in order to defend CGM's reputation.

The mission of CGM's Information Security and Privacy Program is to offset possible threats and delineate operational accountability, and is essential to protecting the confidentiality, integrity, and availability of CGM and its subsidiaries' information assets, including personal data[30], and mitigating the likelihood, frequency, and severity of information security[31] incidents and system disruptions and malfunctions that may negatively and materially impact

[30] Personal Data includes any information relating to an identified or identifiable natural person.
[31] Cybersecurity is considered to be a subset of information security and is focused on the protection and defense of data in electronic form.

CGM's business, financial condition, and/or operating results. The Information Security and Privacy Program is based on an approach that integrates people, processes and technology to manage risk and protect sensitive information, including that of customers, counterparties and employees.

CGM maintains a structured set of information security and privacy program components aligned with recognized industry standards and practices. These components support the organization's information security and privacy objectives and are designed to meet business, regulatory and data protection requirements. Responsibility for information security is shared across relevant functions, with defined roles and accountability extending beyond the central information security function. The Information Security and Privacy Program comprises a set of coordinated controls and processes designed to support the identification, protection, detection and response to information security risks and the key program constituents are as follows:

- Chief Information Security Officer, with oversight from executive management and the CRO, is primarily responsible for the development, administration, coordination, implementation, and maintenance of the Information Security Program;
- Data Protection Officer, with oversight from senior management and the CRO, is primarily responsible for the development, administration, coordination, implementation, and maintenance of the Privacy Program;
- CRO, provides oversight to guide the organization toward a budget that addresses risks in alignment with the risk appetite defined via the Enterprise Risk Management process;
- The Cyber Executive Committee is a multi-disciplinary group that includes the organization's COO, CISO, and CRO. The Cyber Executive Committee is responsible for coordination, monitoring and communication of information security related matters throughout the organization;
- Executive Management includes senior CGM officials, including the Chief Executive Officer, President, Chief Operating Officer, Chief Financial Officer, General Counsel, and other officers who are responsible for overseeing information security and privacy/data protection for their respective areas of responsibility and for ensuring compliance with the Information Security and Privacy policies;
- The CGM Security Council is comprised of cross-functional members whose purpose is to understand major security initiatives, act as an objective mediator when conflicts arise regarding security matters and ensure security incidents and concerns are communicated to all appropriate parties; and

The following information technology areas further support the Information Security and Privacy Program missions and objectives and are governed by teams within the broader organization:

- IT Asset Management;
- Risk Management and Information Security team;
- Enterprise Architecture;
- Data Center Operations;
- Software Development;
- Change and Release Management;
- Configuration Inventory and Management;
- Patch Management;
- System Development Life Cycle; and
- Incident Response Management.

As part of its strategic risk management framework, CGM maintains controls over the development and maintenance of technology systems, including independent quality assurance reviews of software changes, secure coding practices, vulnerability assessments and controlled access to source code. CGM conducts regular testing of its infrastructure and application environments to evaluate the effectiveness of its information security controls. This testing is performed through established internal processes and supplemented, where appropriate, by independent third-party assessments. Identified issues are addressed through risk-based remediation processes, with results reported through the organization's risk governance framework to support oversight by senior management and the Board. CGM sustains a structured approach to identifying and assessing potential information security threats and vulnerabilities and continually enhances its practices to address evolving risks.

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 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.

In line with the requirements under CFTC Regulation §39.18(e), CCUS's Business Continuity and Disaster Recovery Plan sets out the Clearinghouse's objectives, policies, and procedures that allow for the rapid recovery and timely resumption of critical operations following a wide-scale or major disruption. The Clearinghouse Business Continuity and Disaster Recovery Plan is designed to mitigate the impact of disruptions on its operations, market participants, and the broader financial system. These plans establish procedures to support the continuity of critical services, protect the interests of key stakeholders and preserve the integrity and reputation of the Clearinghouse through:

- Alignment with U.S. and international standards for business continuity and disaster recovery management;
- Implementation of incident response, system resilience and business recovery strategies that are flexible and adaptive;
- Building effective partnerships to support risk management;
- Employment of testing and exercise programs that evolve with changes in the operating environment and system architecture;
- Identification of opportunities to enhance resilience;
- Establishment and maintenance of collaborative relationships with external stakeholders, including industry partners and relevant authorities; and
- Continuous monitoring and adjustment of program components to meet regulatory requirements and reflect material changes to the business.

Business continuity strategies include defined incident response processes, regular testing of disaster recovery capabilities against established recovery objectives and cross-training of personnel to support operational continuity across all locations. The Clearinghouse conducts a range of testing activities, including failover exercises, business unit recovery testing and incident response simulations, to validate the effectiveness of its business continuity and disaster recovery arrangements and identify areas for improvement. CCUS's multi-region functionality in the cloud (AWS) is designed to ensure continuous clearing operations and resilience by distributing systems, data, and operational capabilities across multiple geographic regions. This is a hot-hot setup with no loss of functionality in the event of the loss of a region. Data is replicated across locations to support continuity and recovery in the event of a disruption. Upon the occurrence of a significant outage, critical systems can be restored at alternate locations in accordance with established recovery procedures. Testing outcomes are documented and used to inform ongoing enhancements to resilience capabilities. The business continuity framework considers a range of disruption scenarios, including those affecting personnel, facilities, systems and third-party providers, and is designed to support the Clearinghouse's ability to continue operations under extreme but plausible conditions.

On an annual basis, the Operations and Risk Management departments jointly conduct or review an Enterprise Business Impact Analysis ("**BIA**") of the Clearinghouse's critical functions in various departments including, but not necessarily limited to: Operations, Software Engineering, Infrastructure, Information Security, Compliance, Legal, Finance and Regulatory. The BIA seeks to identify critical business processes and their dependencies, recovery time objectives, maximum tolerable downtime, and recovery point object for each business function.

CCUS's response teams and the governance around business continuity and disaster recovery are described in Key Consideration 3 of this Principle.

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.

CCUS does not outsource its critical clearing functions; however, it identifies, monitors and manages risks that may arise from key participants, other financial market infrastructure and service and utility providers. CCUS's approach to operational resilience is supported by the following practices:

- Enterprise-wide operational resilience governance is established within the organization and subject to oversight by senior management and the Board;
- Planning and testing procedures are implemented across business, information security and technology functions;
- Critical operations and supporting technology are distributed across geographically diverse locations;
- Data replication capabilities support timely system recovery and protection against data loss;
- Telecommunications infrastructure incorporates diversification to support continuity of connectivity; and
- Backup and recovery strategies are designed to meet or exceed operational and regulatory requirements.

The Clearinghouse's management of risks associated with third-party relationships and external dependencies is addressed through CCUS's Operational Risk Management Framework and Business Continuity and Disaster Recovery Plan, and described in greater detail in Principles 3, 4, 6, 7, 8, 13, 14, 17 and 20 of these disclosures. The Clearinghouse also participates in periodic industry and sector-wide resilience exercises, including those conducted with market participants and public sector partners, to validate its preparedness and coordination in response to disruption scenarios.

3.18. Principle 18: Access and Participation Requirements

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

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.

Consistent with CFTC Regulation §39.12(a), CCUS's participation requirements for clearing membership provide for fair and open access to its clearing services. The CCUS Rulebook establishes transparent rules for the participation of its Clearing Members, which include, but are not limited to the following provisions:

- **General Clearing Membership Requirements:** CCUS Rule 301
- **Duties and Responsibilities of Clearing Members:** CCUS Rule 304
- **Financial Requirements of FCM Clearing Members:** CCUS Rule 309
- **Access to CCUS:** CCUS Rule 315
- **Initial Margin:** CCUS Rule 403
- **Guaranty Fund:** CCUS Rules 504 and 505
- **Credit Risk:** CCUS Rule 304
- **Disclosures to CCUS and the CFTC:** CCUS Rule 311
- **Segregation of Customer Funds and Accounts:** CCUS Rule 314
- **Recordkeeping and Reporting Requirements:** CCUS Rule 411
- **Anti-Money Laundering:** CCUS Rule 304
- **Risk Management:** CCUS Rule 304
- **Business Continuity and Disaster Recovery Policies:** CCUS Rule 312
- **Fees:** CCUS Rule 313
- **Default Management:** CCUS Rule 502 and Rule 506

CCUS's membership requirements are designed to establish appropriate standards of capability and financial and operational soundness for Clearing Members, while remaining proportionate and not overly restrictive. CCUS provides fair and open access to its clearing services by establishing appropriate admission and continuing participation requirements that are objective, public, and risk-based. CCUS publishes its Rulebook on the CCUS website, which provides an overview and clarity of its clearing membership requirements.[32] An overview of CCUS's clearing membership requirements is provided below and can be referred to in greater detail in Chapter 3 of the CCUS Rulebook:

General Clearing Membership Requirements

- A Clearing Member must be a corporation, limited liability company, partnership or other entity approved by CCUS, duly organized and in good standing in its state of organization.
- A Clearing Member shall agree to abide by all CCUS Rules and to cooperate in their enforcement and continue to meet all requirements applicable to Clearing Members, including all financial requirements provided by CCUS Rules.
- A Clearing Member shall be engaged in or demonstrate immediate capacity to engage in the conduct of business of a Clearing Member.

[32] See https://cdn.cboe.com/resources/membership/Cboe-Clear-US-Rulebook.pdf.

- A Clearing Member shall have the ability to:
  - make and take delivery of any contract in which it trades;
  - have banking relationships sufficient to deposit U.S. dollars with the Clearinghouse settlement bank;
  - on a daily basis reconcile its records against those of the Clearinghouse;
  - provide updated positions each business day by the time established by the Clearinghouse; and
  - identify an Authorized Representative to be contacted in the event of any issues related to clearing.
- A Clearing Member must have appropriate risk management capabilities, operational infrastructure, and experience to support the products it clears.
- A Clearing Member shall guarantee and assume responsibility for all contracts submitted by it or for which it authorizes another person to submit in its name for clearing.
- A Clearing Member shall comply with all credit risk policies developed by CCUS for customer and proprietary transactions.

Guaranty Fund Requirements

- All Clearing Members must make a Guaranty Fund deposit with the Clearinghouse for their obligations.
- Each Clearing Member shall be required to contribute to the Guaranty Fund in accordance with the procedures as determined by CCUS. The form and amount of such Guaranty Fund Deposits will be determined by CCUS and will be reviewed periodically and communicated to Clearing Members.

Capital Requirements of Clearing Members

- FCM Clearing Members must at all times maintain minimum regulatory capital in excess of the greater of (i) $5,000,000, and (ii) the capital requirements imposed by any government agency, self-regulatory organization or other examining authority or regulator to which it is subject by statute, regulation or agreement.
- CCUS may prescribe additional capital requirements with respect to any FCM Clearing Member.

Financial Reporting Requirements

- FCM Clearing Members shall submit a monthly Form 1-FR-FCM or a FOCUS Report and supplementary information schedule, in the form prescribed by the CFTC, including an unaudited monthly Form 1-FR-FCM or FOCUS Report as of the FCM Clearing Member's fiscal year-end, within the time set forth in CFTC Regulation 1.10.
- An FCM Clearing Member must include with its Form 1-FR-FCM or FOCUS Report a Statement of Income (Loss) for the period between the date of the most recent 1-FR-FCM or FOCUS or, at the option of the FCM Clearing Member, the most 29 recent certified 1-FR- FCM or FOCUS filed with Cboe Clear US and the date for which the report is made.
- An FCM Clearing Member must submit a certified Form 1-FR-FCM or FOCUS Report as of the Clearing Member's fiscal year-end within the time requirements set forth in CFTC Regulation 1.10. An FCM Clearing Member must include with its certified Form 1-FR-FCM or FOCUS Report, a reconciliation from the certified Form 1-FR-FCM or FOCUS Report to the monthly Form 1-FR-FCM or FOCUS Report as of the same date or a statement that no material differences were noted
- CCUS may prescribe additional accounting, reporting, and other financial and/or

operational requirements, and FCM Clearing Members must comply with such requirements.

Notification Requirements

Each Clearing Member must provide written notice to CCUS whenever the Clearing Member:

- Defaults or otherwise fails to meet its financial and/or other obligations as set forth in the CCUS Rulebook;
- Fails to maintain minimum capital;
- Fails to maintain current books and records;
- Determines the existence of a material inadequacy as specified in the CFTC regulations;
- Fails to comply with additional accounting, reporting, financial and/or operational requirements as prescribed by CCUS; and/or
- Fails to meet any of the notice requirements of CCUS Rule 307.

Other Clearing Membership Risk Management Requirements

- All Clearing Members must have a written anti-money laundering and economic sanctions compliance program approved by senior management.
- All Clearing Members must have written risk management policies and procedures in place to ensure they are able to perform certain basic risk and operational functions at all times.
- All Clearing Members must have written disaster recovery and business continuity policies and procedures in place.

FCM Clearing Membership Operational Requirements

FCM Clearing Members must have adequate operational capacity to meet obligations arising from participation in the Clearinghouse. The requirements shall include, but are not limited to:

- maintaining back-office facilities staffed with experienced and competent personnel or have entered into a facilities management agreement in form and substance acceptable to the Clearinghouse;
- the ability to process expected volumes and values of transactions cleared by a FCM Clearing Member within required time frames, including at peak times and on peak days;
- the ability to fulfill collateral, payment, and delivery obligations imposed by the Clearinghouse; and
- the ability to participate in default management activities under the rules of the Clearinghouse and in accordance with CFTC §39.16.

CCUS's clearing membership requirements and onboarding practices are designed to ensure that admitted Clearing Members possess the financial, operational and risk management capabilities necessary to meet their obligations. These standards support a clearing membership base that can manage risk effectively and contribute to the safety and integrity of the markets served by the Clearinghouse.

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.

CCUS is committed to supporting fair and efficient markets through the application of sound risk management practices and robust financial safeguards. Consistent with CFTC Regulation §39.12, CCUS's participation standards are designed to provide fair and open access while remaining proportionate to the risks presented. Membership criteria are structured to avoid unnecessary restrictiveness, while ensuring that admitted Clearing Members do not introduce undue financial, operational or legal risk to the Clearinghouse, its participants or the broader market. Participation requirements are risk-based and are designed to ensure that Clearing Members have the capability to conduct their activities in a prudent and controlled manner. These requirements reflect the exposures associated with clearing activity and are publicly available through the Clearinghouse's Rulebook on the CCUS website.

CCUS's clearing membership requirements and standards establish appropriate financial, operational and risk management requirements, which are subject to oversight through the Clearinghouse's governance structure. This framework is designed to balance the need for effective risk management with consideration of the interests of Clearing Members and their customers, while supporting the stability of the broader financial markets and system. Financial requirements are calibrated to scale with the level of exposure a Clearing Member brings to the Clearinghouse. This approach is intended to ensure that Clearing Members maintain sufficient resources to manage their obligations, while allowing firms with lower exposures to access clearing services without being subject to disproportionate requirements.

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.

CCUS monitors, on an ongoing basis, Clearing Members' compliance with its Rules, policies, and applicable regulatory requirements. The Risk Management team conducts ongoing financial reviews and operational capacity reviews for FCM Clearing Members in accordance with the CCUS Credit Risk Management Policy and the CCUS Risk Management Framework. At all times the Clearinghouse has the authority to request and obtain information and documents from its FCM Clearing Members regarding their risk management policies, procedures, and practices, including, but not limited to, information and documents relating to the liquidity of their financial resources and their settlement procedures; and require its FCM Clearing Members to make information and documents regarding their risk management policies, procedures, and practices available to the CFTC upon request.

Clearing Members are subject to defined reporting requirements designed to provide timely visibility into their financial condition and customer protection obligations. These requirements can be found in the CCUS Rulebook and have been summarized in Key Consideration 1 of this Principle, and include periodic financial reporting, as well as more frequent reporting of customer account balances and related information. Additional notification requirements apply to significant business developments, including material changes in operations, financial condition or key personnel, to support proactive risk monitoring. The Clearinghouse conducts regular risk reviews of Clearing Members, as described in CCUS's disclosures for Principle 3, to assess compliance with applicable risk management and other regulatory requirements. These reviews are performed on a regular cycle and may be supplemented by enhanced monitoring where warranted by the characteristics of a Clearing Member's activities or exposures. This framework is designed to support the timely identification of emerging risks and ensure that Clearing Members continue to meet the Clearinghouse's participation requirements.

CCUS's Risk Management team employs a monitoring program that reviews customer segregation and financial statements submitted by Clearing Members to demonstrate that they have adequate customer fund protection and are in capital compliance. As described in CCUS's disclosure for Principle 3, the Risk Management department also conducts risk-based examinations of Clearing Members that include a targeted review of the Clearing Members' financial statements and customer protection procedures to ensure that they conform with CFTC regulations and CCUS Rules.

If a participant fails to fulfill certain requirements and requests from CCUS to re-establish compliance with relevant requirements in a timely fashion, a Clearing Member's privileges may be limited or suspended pursuant to the processes and procedures established under the CCUS Rulebook, including Rules 601 to 608. Any suspended or expelled Clearing Member must comply with any orders provided by the Board, the CCUS Risk Management Committee, or any other duly authorized CCUS personnel. CCUS may take whatever means necessary to affect an order with which the Clearing Member refuses to abide. As noted in CCUS's disclosures for Principle 13, decisions to utilize the powers afforded under such rules will be made in accordance with CFTC regulations, including those under CFTC Regulation §39.24, which require CCUS to have governance arrangements that place a high priority on the safety and efficiency of CCUS and explicitly support the stability of the broader financial system.

3.19. 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.

Clearing Members are the direct participants of the Clearinghouse, while indirect participants include customers of Clearing Members and affiliated entities that access clearing services through them. A key risk for Clearing Members that provide customer clearing services is that losses arising from customer activity could exceed the Clearing Member's financial resources, potentially leading to distress or default and, in turn, posing risk to the Clearinghouse. CCUS uses a range of risk management tools designed to ensure that Clearing Members assume exposures that are commensurate with their financial and operational capacity. These measures include risk-based membership requirements, ongoing monitoring and other controls intended to support the prudent management of customer-related risks, as described in CCUS's disclosures for Principle 18.

In accordance with CCUS's obligations under CFTC Regulation §39.19(c), pursuant to CCUS Rules, Clearing Members must provide certain information to CCUS each business day to identify each of their individual customer accounts within a segregation account origin. Specifically, pursuant to CCUS Rule 311, each FCM Clearing Member is required to submit reports to CCUS each business day including, at a minimum, the open position listing, day trade listing, cash adjustments listing and debit equity listing, if applicable. Such reporting, in part, is primarily used by the Clearinghouse to facilitate the collection of customer margin on a gross basis. Customer gross margining inherently ensures a certain level of transparency into individual clients' exposures. Further, pursuant to CCUS Rule 311, each Clearing Member of CCUS is required to maintain current books and records consistent with CCUS Rules, the CEA, and CFTC regulations and such books and records shall be open to inspection and promptly provided upon request. Each FCM Clearing Member is also required to maintain an adequate accounting system, internal accounting controls, and procedures for safeguarding customer and firm assets, where applicable. This includes, but is not limited to, the following: (i) Preparation and maintenance of complete and accurate reconciliations for all accounts; and (ii) Resolution of reconciling items in a timely manner; and (iii) Prevention of a material inadequacy as defined in CFTC Regulation §1.16(d)(2).

CCUS's risk management systems are built to enable analysis of potential risks at multiple levels of detail, including at the settlement account level and at the margin account level. These tools also allow CCUS to identify potential concentration risks within Clearing Members' customer or house portfolios. Through CCUS's clearing systems, intraday price changes and trading activity are tracked continuously and in real time throughout the trading day. CCUS performs intraday mark-to-market calculations on Clearing Member and customer positions both during the day and overnight. The Risk Management team also monitors real-time profit and loss on real-time positions that are marked to real-time market prices. Per CFTC Regulation §39.13(h)(3) the Clearinghouse obtains from its Clearing Members, or from a relevant designated contract market or swap execution facility, copies of all reports that are required to be filed with the CFTC by, or on behalf of, such Clearing Members.

In addition to the reporting pursuant to CCUS Rule 311, on a daily basis, the Clearinghouse ascertains the risk of the overall portfolio of each large trader, as applicable, cleared by the Clearinghouse which are held by all Clearing Members carrying accounts for each such

large trader, and will take additional actions with respect to such Clearing Members, when appropriate, in order to address any risks posed by any such large trader. The Clearinghouse complies with this CFTC regulation through Clearinghouse Rules 303(b) and 704(a) in addition to its Clearing Services Agreements with participating exchanges and large trader monitoring.

CCUS regularly assesses the credit of the Clearing Member based on both quantitative and qualitative metrics. Quantitative metrics may include profitability, leverage, liquidity and asset quality, as well as capitalization metrics. Qualitative metrics may include an assessment of a counterparties' business profile, operating capacity, management and governance, and risk management practices. As described further in CCUS's disclosures for Principle 3, CCUS also conducts regular risk reviews of its Clearing Members, which, in part, focuses on their clearing for customers. These reviews allow CCUS to assess the manner in which its Clearing Members are managing the exposure they have from their customer accounts and the risk management practices they use to manage such risks.

Key Consideration 2:

An FMI should identify material dependencies between direct and indirect participants that might affect the FMI.

The Clearinghouse assesses dependencies between Clearing Members and their customers on an ongoing basis through daily monitoring tools and periodic risk reviews as described in CCUS's disclosures for Principle 3. A key consideration is the sustainability of each Clearing Member's business model, including its financial strength, operational capacity and expertise in the products it clears, to ensure it can meet its obligations to the Clearinghouse on behalf of its customers. CCUS monitors customer-related exposures using a range of tools and analytics, including data provided through clearing activity. In doing so, the Clearinghouse also considers the role of Clearing Members as the primary interface with customers. Clearing Members are responsible for managing their customer relationships, including assessing creditworthiness, monitoring exposures, and serving as the first line of financial responsibility in the event of a customer default. While Clearing Members maintain primary responsibility for customer risk management, CCUS maintains independent oversight of customer-related exposures. This includes the ability to identify instances where customer activity may be inconsistent with a Clearing Member's risk profile and to engage with the Clearing Member as appropriate. Such assessments are informed by defined risk tolerances and monitoring thresholds designed to support the timely identification and management of elevated risks.

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.

Through its daily monitoring and internal systems CCUS is able to monitor and manage the risks posed by Clearing Members' customers, particularly those who are considered large trader customers, as described in CCUS's disclosure for Key Consideration 1 of this Principle. CCUS takes a number of steps to monitor the risk posed by a customer to its Clearing Member, relative to overall activity and the given customer's Clearing Member. In accordance with CFTC Regulation §39.13(h)(3), the Clearinghouse monitors customer exposures both at the Clearing Member level and across Clearing Members, including those associated with large or concentrated participants. This monitoring includes the identification of accounts with significant exposures arising from position concentration, product breadth and concentrations in deliverable supply, among other risk factors.

In accordance with the CCUS Risk Management Framework, risk limits pursuant to CFTC Regulation §39.13(h)(1) are imposed on each Clearing Member by house origin and by each customer origin.

The Clearinghouse determines:

- The method of computing risk exposure;
- The appliable thresholds; and
- The applicable financial resources

The Clearinghouse may permit a Clearing Member to exceed the threshold provided that additional margin has been posted that is sufficiently appropriate to eliminate the excessive risk exposure. The Clearinghouse further complies with this CFTC regulation through its Credit Risk Management Policy.

The Clearinghouse evaluates the performance of large trader accounts through ongoing analysis of profit, loss and margin requirements, including assessing such exposures relative to the financial capacity of the relevant Clearing Member. Pursuant to CFTC Regulation 39.13(h)(3), the Clearinghouse conducts stress tests with respect to each large trader who poses significant risk to a Clearing Member or the Clearinghouse, including, as applicable, across all relevant products, which are held by all Clearing Members carrying accounts for each such large trader on a daily basis. The Clearinghouse also conducts stress tests with respect to each Clearing Member account, by house origin and by each customer origin, and each portfolio, including any portfolio containing products held in a commingled account pursuant to CFTC regulations, by beneficial owner, under extreme but plausible market conditions. The scenarios comprised of individual price shocks used to complete these stress tests are evaluated as a part of the monthly backtesting described in Key Consideration 6 of Principle 6 of CCUS's disclosures. The Clearinghouse complies with CFTC Regulation §39.13(h)(3) through its Margin Model and Stress Scenarios Governance Policy, which addresses how stress tests are created and maintained as well as its Credit Risk Management Policy, which addresses how stress tests are applied.

The Clearinghouse has ongoing communication with Clearing Members to better understand large or complex customer positions and associated risk profiles. Defined risk tolerance thresholds are established for each Clearing Member, including metrics related to variation margin and initial margin requirements, to identify exposures that are evaluated relative to typical activity. Where exposures exceed established thresholds, the Clearinghouse will take appropriate risk management actions, including engaging with the Clearing Member, increasing the frequency or depth of monitoring or requiring measures to reduce exposures.

These actions are calibrated based on the size and nature of the exposure and the Clearing Member's capacity to manage the associated risk.

CCUS regularly assesses the credit of the Clearing Member based on both quantitative and qualitative metrics. Quantitative metrics may include profitability, leverage, liquidity and asset quality, as well as capitalization metrics. Qualitative metrics may include an assessment of a counterparties' business profile, operating capacity, management and governance, and risk management practices. As described further in CCUS's disclosures for Principle 3, CCUS also conducts regular risk reviews of its Clearing Members, which, in part, focus on their clearing for customers. These reviews allow CCUS to assess the manner in which its Clearing Members are managing the exposure they have from their customer accounts and the risk management practices they use to manage such risks. As part of these reviews, CCUS evaluates Clearing Members' practices across a range of areas, including:

- Monitoring of customer credit risk;
- Oversight of customer account activity on an intraday and overnight basis;
- Use of risk management tools, such as stress testing and position limits, to mitigate the impact of market volatility;
- Operational risk management capabilities, including systems and controls supporting clearing activities;
- Functionality of order entry and risk control systems, including the ability to implement credit controls and position limits;
- Liquidity risk management practices; and
- Processes for assessing and maintaining risk profiles for individual customer accounts, including the identification of higher-risk accounts.

Key Consideration 4:

An FMI should regularly review risks arising from tiered participation arrangements and should take mitigating action when appropriate.

CCUS's Risk Management Framework sets out the policies and procedures used by the Clearinghouse to identify, assess and manage risks arising from customer activity conducted through Clearing Members. This framework is supplemented, as appropriate, by additional policies and procedures and is subject to review and approval on at least an annual basis by the Risk Management Committee, the Board, and other committees as further described in CCUS's disclosures for Principle 2. The Clearinghouse utilizes internal systems to continuously assess the risk profiles of customer portfolios, including exposures arising from tiered participation arrangements. These assessments are complemented by periodic risk reviews of Clearing Members, which provide further insight into how customer-related risks are managed at the Clearing Member level. CCUS manages and mitigates risks associated with indirect participation through the application of the Clearinghouse Rules and participation standards, which establish minimum requirements for Clearing Members' risk management practices. These include requirements for documented risk management frameworks and compliance programs designed to support the effective oversight of customer exposures and adherence to applicable regulatory obligations.

CCUS maintains the right to instruct a customer via its Clearing Member to make appropriate changes to its portfolio in order to reduce its risk profile, including moving an account from one Clearing Member to another, reducing positions, or depositing additional initial margin funds, among other possibilities, depending on the particular situation. As such, CCUS Rule 403 permits CCUS, at its sole discretion, consistent with its risk management and regulatory priorities, to require Clearing Members to collect additional initial margin deposits from specific account holders in circumstances deemed necessary by CCUS.

3.20. Principle 20: FMI Links

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

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.

CCUS establishes links with other FMIs only where such entities demonstrate strong financial standing and a clear understanding of, and commitment to, their obligations under the arrangement. These relationships are assessed in a manner consistent with the Clearinghouse's approach to counterparty risk management as described in Principle 9 of these disclosures. Prior to establishing any new link, CCUS conducts a comprehensive assessment of associated risks, including legal, credit, liquidity, custody and operational risks. This assessment is designed to ensure that any resulting exposures can be effectively managed within the Clearinghouse's Risk Management Framework without introducing undue risk to its financial resources. Where a new link is determined to be appropriate, it is subject to applicable regulatory review and approval, as well as CCUS internal governance processes. Such arrangements are implemented only following appropriate due diligence and oversight to ensure alignment with the Clearinghouse's risk management objectives.

At present, CCUS supports one FMI link, Cboe Futures Exchange ("**CFE**"), to provide clearing services. Exposures under this arrangement are collateralized consistent with the risk exposures of a given Clearing Member's portfolio. Additionally, any FMI links are subject to CCUS's standard counterparty monitoring, as described in CCUS's disclosures for Principle 4. As such, CFE is subject to CCUS's at least annual internal credit rating process and monitored on an ongoing basis through CCUS's monitoring practices each business day. CCUS has a specific credit rating template designed for its Clearinghouse counterparty relationships. Further, CCUS's monitoring also encompasses the monitoring of participating Clearing Members' activity in the arrangements CCUS supports with CFE. In respect of the exposures related to CCUS's FMI link(s), CCUS can view risk both intraday and end-of-day and performs additional risk management activities, such as backtesting. CCUS's FMI link(s) employ risk management practices of similar caliber to that of CCUS.

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.

As described under CCUS's disclosures for Key Consideration 1 of this Principle, CCUS has established a link with CFE which is regulated in the United States. This arrangement is governed by contractual agreements and operates within applicable regulatory frameworks. The Clearinghouse maintains a high degree of legal certainty with respect to the enforceability of its Rules and contractual rights in connection with the arrangements with CFE.

In establishing any new FMI link, the Clearinghouse conducts comprehensive due diligence, including legal, operational, credit, liquidity and custody risk assessments, as well as regulatory review. This process is designed to ensure that any FMI link arrangement is supported by an appropriate legal framework and that associated risk can be identified, assessed and managed.

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.*
This Key Consideration is not applicable to CCUS because it is not a central securities depository.
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.*
This Key Consideration is not applicable to CCUS because it is not a central securities depository.
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.*
This Key Consideration is not applicable to CCUS because it is not a central securities depository.
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.*
This Key Consideration is not applicable to CCUS because it is not a central securities depository.
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.*
This Key Consideration is not applicable to CCUS at this point in time as CCUS has not established any links with other CCPs. If CCUS were to establish a link with any CCP, it would follow the approach described under CCUS's disclosures for Key Consideration 1 of this Principle.
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.*

This Key Consideration is not applicable to CCUS at this point in time as CCUS has not established any links with other CCPs. If CCUS were to establish a link with any CCP, it would follow the approach described under CCUS's disclosures for Key Consideration 1 of this Principle.

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.

This Key Consideration is not applicable to CCUS because it is not a trade repository.

3.21. 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.

CCUS is required under CFTC Regulation §39.38(a) to efficiently and effectively design its operating structure to meet the needs of its Clearing Members and the markets it serves. As such, CCUS considers the needs of its participants and the markets it serves by efficiently and effectively designing its:

- Clearing and settlement arrangements;
- Operating structure and procedures;
- Scope of products cleared; and
- Use of technology.

CCUS's operating structure is intended to facilitate reliable clearing and settlement services across the products it supports. This approach is designed to enable market participants to manage their risks in a prudent and efficient manner, supported by a consistent clearing framework.

The Clearinghouse's structure provides market participants with the benefits of access to a range of risk management tools and controls designed to support the prudent management of exposures. CCUS supports ongoing engagement with market participants, enabling the Clearinghouse to assess whether its services and design continue to meet the needs of the markets it serves. Effective communication across all functions facilitates timely identification of emerging risks and supports the delivery of efficient clearing and settlement services.

The Clearinghouse regularly assesses whether its service and risk management practices meet the needs of its participants, including through ongoing engagement and communication with market stakeholders. This engagement occurs through a range of channels, including advisory forums, industry associations and participation in industry events, which provide opportunities to gather feedback and respond to evolving market developments. The Clearinghouse's governance framework as described in CCUS's disclosures for Principle 2, incorporates input from market participants and other stakeholders through established advisory and governance bodies and committees. These forums are designed to facilitate constructive, risk-focused dialogue and to ensure that stakeholder perspectives are considered in a manner that supports the safety and efficiency of CCUS and the stability of the broader financial system.

Stakeholder input informs the Clearinghouse's ongoing development and enhancement of its services, enabling CCUS to respond effectively to market needs. Open communication channels support the exchange of views on industry developments and risk management practices, contributing to Clearinghouse's ability to deliver effective and responsive clearing services. Where the Clearinghouse introduces new services or makes material changes to existing offerings that may affect its risk profile, CCUS seeks input from relevant stakeholders through appropriate forums. Such changes are subject to applicable regulatory

processes, including public rule filings where required, which provide transparency and an opportunity for market feedback. The rule filing process is transparent to market participants and rule changes and additions to the CCUS Rulebook are publicly available on the CCUS and CFTC websites.

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.

As described throughout these disclosures, the Clearinghouse operates under governance arrangements that establish measurable and achievable objectives designed to support prudent risk management and align with defined service standards. These arrangements are intended to ensure that objectives are appropriately set, monitored and achieved in a manner consistent with CCUS's operational and risk management priorities.

The Board recognizes the critical role of the Clearinghouse in the financial system and provides active oversight to promote the safety and soundness of its operations. As such, the statement of risk appetite as described in the disclosures for Principle 17 and adopted by the Board and other relevant governance committees and bodies, places a strong emphasis on maintaining the operational resilience and financial integrity of the Clearinghouse, and serves as a foundation for its risk management approach. CCUS's risk management practices, as defined in the Risk Management Framework and other policies and procedures, are aligned with the risk appetite and are supported by a strong risk culture. This approach emphasizes disciplined risk management, accountability and continuous oversight, and is intended to support the effective and efficient operation of the Clearinghouse while prioritizing its safety and stability.

CCUS continually assesses the effectiveness and efficiency of its risk management practices through the ongoing performance of its core operations and by monitoring outcomes against defined service standards. These assessments are designed to ensure that the Clearinghouse consistently meets established performance expectations and maintains the reliability of its clearing and settlement services.

These objectives are designed to support the continuity of clearing and settlement services, and adhere to key operational standards, for Clearing Members and market participants under both normal and stressed conditions, while safeguarding the Clearinghouse against adverse events and maintaining a prudent and resilient risk management framework for the markets CCUS serves.

Key Consideration 3:

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

The Board has ultimate governance and oversight responsibility for the Clearinghouse, with a primary objective of ensuring that its operations prioritize safety and efficiency and support the stability of the broader financial system. The Board is supported by its governance committees and bodies, which perform oversight functions and reinforce these priorities through regular review of the Risk Management Framework, policies, procedures, controls and activities. Through periodic reporting and review processes, the Board maintains visibility into the Clearinghouse's risk management practices and their effectiveness. This includes receiving regular updates on risk exposures, operational performance and the implementation of CCUS's Risk Management Framework, as well as reviewing the statement of risk appetite on a periodic basis.

CCUS also maintains internal mechanisms to support the ongoing assessment of its efficiency and effectiveness, including structured review processes aimed at continuous improvement. At the enterprise level, the CGM Enterprise Risk Management Policy applies to CCUS and establishes three lines of defense to manage enterprise risk, including operational risk: governance, management and independent assurance. The first line of defense owns the risks and is responsible for managing the risks effectively within the risk appetite. The second line of defense is comprised of the risk and oversight functions, responsible for providing independent challenge and oversight regarding risk management. The third line of defense is the Internal Audit function and is responsible for providing independent and objective assurance on the effectiveness of the overall risk management framework-associated policies and activities across both first- and second-line functions. The independent Internal Audit function conducts risk-based assessments to evaluate the adequacy and effectiveness of key activities and controls. Findings from these reviews are reported through the organization's governance framework to support oversight and accountability as further described in CCUS's disclosures in Principles 2 and 17.

3.22. 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.

CCUS is committed to utilizing internationally accepted communication procedures and standards in its daily operations to support efficient clearing, settlement and recordkeeping processes. These standards facilitate interoperability and consistency across systems and market participants, including in areas such as trade processing, payments and settlement. The Clearinghouse's use of recognized communication standards supports its ability to facilitate efficient payment, clearing and settlement processes in accordance with CFTC Regulation §39.38(d).

FIXML Messaging, Reporting and Participant Access

CCUS uses FIXML messaging to support the communication of customer gross margining and position-related data to Clearing Members in a structured, machine-readable format. This includes the transmission of information used for position reporting, position reconciliation, settlement cycle calculations and margin calculations in accordance with CFTC Regulations §39.13(g)(8)(i) and §39.13(c)(1)(i). CCUS provides market participants with a comprehensive set of definitions, data fields and report templates to reference that can easily be loaded into their systems. These capabilities facilitate system-to-system integration and support Clearing Members' internal risk management, reconciliation and operational processes.

In addition, the Clearinghouse provides Clearing Members with access to trade, position and financial data through a secure participant portal. Through this portal, Clearing Members can access and generate standardized reports in commonly used formats, including reports relating to:

- Asset Movements
- Account Summary
- Contract Data
- Position Summary
- Settlements
- Standing Requirements
- Trade Register
- FCM Generated Statements

These reports are available on an ad-hoc or as needed basis, including intraday and end-of-day cycles, and support reconciliation, risk monitoring and operational processing.

CCUS also offers programmatic access to certain data and reporting outputs through an API service for public files. These interfaces enable Clearing Members to retrieve public data files, including those relating to settlements, margin parameters, contract reference data and other operational information, in an automated manner to support integration with internal systems. Position reports reflect holdings across instruments and are maintained for as long as positions remain open. Trade register reports provide detailed transaction-level

information to support reconciliation and lifecycle management activities, including updates to previously reported transactions where applicable.

Together, these messaging, portal-based and programmatic access mechanisms are designed to support transparency, operational efficiency and the ability of Clearing Members to monitor and manage their exposures.

Communication Standards

CCUS is committed to utilizing internationally recognized communication standards in its operations and fully complying with applicable regulatory requirements, including DCO Core Principle M: Information Sharing and CFTC Regulation §39.22, among others. In support of these objectives, the Clearinghouse monitors relevant industry developments and incorporates widely adopted standards and practices into its communication frameworks where appropriate. CCUS's use of standardized messaging, reporting formats and programmatic interfaces is designed to support interoperability with market participants and infrastructure, and promote consistency, transparency and operational efficiency. These practices facilitate effective information sharing and enable Clearing Members to integrate clearing data into their internal systems in a reliable, efficient and timely manner. Through its ongoing engagement with industry practices and standards, the Clearinghouse seeks to maintain alignment with evolving market expectations and to support the efficient functioning of clearing, settlement and risk management processes.

3.23. 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.

CCUS is committed to transparency in its operations and in the obligations of its Clearing Members and market participants. The Clearinghouse maintains clear and comprehensive rules, policies and procedures that are made available to participants and, where applicable, to the public through CCUS's rule framework and related disclosures. The CCUS Rulebook is publicly disclosed on the CCUS website.[33] These rules and procedures are designed to reflect prudent risk management practices under both normal and stressed market conditions and to provide clarity regarding the actions the Clearinghouse may take in both routine and non-routine circumstances.

As described under CCUS's disclosures for Key Consideration 6 of Principle 2, the CCUS Rulebook grants the Board emergency authority to act swiftly when circumstances arise that jeopardize, or could jeopardize, the fair and orderly settlement process or the integrity of any contract. Under CCUS Rule 207, the Board or, when time does not permit convening the Board, an Officer of the Clearinghouse acting with the approval and consultation of the Chief Compliance Officer, may institute temporary emergency rules and procedures. This authority reinforces CCUS's governance structure by supporting the safety and efficiency of the Clearinghouse and contributes to the stability of the broader financial system.

The Clearinghouse promotes clarity and transparency through ongoing engagement with market participants and other stakeholders. Communication channels and participant forums, such as the Risk Advisory Working Group, provide opportunities for feedback on existing and proposed rules and procedures, supporting continuous improvement and ensuring that the rule framework remains clear and operationally effective. Substantive changes to CCUS Rulebook are subject to internal governance review and approval processes, and where required, are submitted to the relevant regulatory authorities. This periodic review serves to confirm that CCUS's rules, policies and procedures continue to be consistent with the relevant legal framework. CCUS files changes to its Rulebook and internal policies with the CFTC pursuant to Part 40 of the CFTC regulations. These filings are available to the public on the CCUS and the CFTC websites. CCUS generally files such changes pursuant to CFTC Regulation §40.6, which provides for a 10-day review period during which the CFTC may issue a stay of the certification or extend the review period if the CFTC requires additional time to evaluate the rule filing. CCUS issues Clearing Notices for new rules and policies and changes to existing rules and policies that could affect Clearing Members are published on the Clearinghouse's website.

These processes provide transparency into rule changes and offer opportunities for market participant feedback. Rule changes may be driven by a range of factors, including market developments, enhancements to clearing processes, stakeholder input, and evolving regulatory requirements.

[33] See https://cdn.cboe.com/resources/membership/Cboe-Clear-US-Rulebook.pdf.

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.

CCUS's operating structure is intended to facilitate reliable clearing and settlement services across the products it supports. This approach is designed to enable market participants to manage their risks in a prudent and efficient manner, supported by a consistent clearing framework. The Clearinghouse's structure provides market participants with the benefits of access to a range of risk management tools and controls designed to support the prudent management of exposures. Key objectives include maintaining appropriate levels of system security, performance, reliability, functionality and capacity to meet the needs of market participants. Details on the clearing systems of which Clearing Members' market participants interface are available on the CCUS website.[34]

The Clearinghouse provides information to Clearing Members regarding system functionality and participant interfaces through its participant communication channels and supporting documentation. This information is designed to enable effective connectivity and integration with Clearing Members' internal systems. As described in Key Consideration 1 of this Principle, CCUS maintains the ability to implement changes to its systems as necessary to support its operations and risk management objectives. Where such changes may affect participant interfaces or operational processes, CCUS communicates relevant updates to Clearing Members through established notification channels, including publicly available notices on CCUS's website and direct communications.[35]

The rights and obligations of Clearing Members, as well as the risks associated with membership and participation in the clearing and settlement processes, are set out in CCUS's Rulebook and related materials, which are made available to participants and, where appropriate, to the public on CCUS's website. The Clearinghouse also provides information regarding clearing membership requirements and processes through its participant-facing resources.[36]

CCUS supports ongoing engagement with market participants, enabling the Clearinghouse to assess whether its services and design continue to meet the needs of the markets it serves. CCUS conducts regular one-on-one meetings with Clearing Members through its Risk Advisory Working Group. Effective communication across all functions facilitates timely identification of emerging risks and supports the delivery of efficient clearing and settlement services.

[34] See https://www.cboe.com/solutions/clearing/us/membership and https://www.cboe.com/solutions/clearing/us/technology.

[35] See http://www.cboe.com/solutions/clearing/us/notices/ccus-clearing.

[36] See https://www.cboe.com/solutions/clearing/us.

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.

The Clearinghouse supports Clearing Members' understanding of its rules, procedures and the risks associated with membership and participation in clearing and settlement processes through a range of training and educational resources. These include ad hoc training sessions, user documentation, reporting templates and detailed technological specifications, and other resources designed to accommodate different operational needs and levels of experience. Clearing Members may also request additional guidance or support on an as needed basis, including with respect to specific systems, processes and operational requirements.

As part of the onboarding process, the Clearinghouse provides targeted education to prospective Clearing Members to ensure a clear understanding of the obligations associated with membership. This includes engagement on risk management expectations, operational requirements and compliance with CCUS Rules and procedures. Prior to acceptance as a Clearing Member, prospective Clearing Members are required to demonstrate their ability to meet these obligations, including their capacity to manage the risks associated with their clearing activities. This process is designed to promote transparency, preparedness and the effective integration of new participants into the clearing framework.

As previously described, CCUS discloses information related to clearing membership on its website, which is intended to provide a clear understanding of the rules, procedures, technical requirements and risks associated with participation in clearing and settlement processes. The CCUS website landing page for clearing services can be found at CCUS Clearing Information. This page includes documents and links to other pages on various topics, particularly CCUS's risk management practices. Information published on the CCUS website includes but is not limited to:

- Margin Methodology
- Financial Safeguards
- Settlement Cycles
- Collateral Custodians
- Deposits and Withdrawals
- SFTP Membership Files
- Codes
- Futures – Ownership Control Reporting
- CCUS Rulebook
- Disclosures, Disclaimers and Policies
- Membership
- Notices
- Licenses
- Fees

Participant Understanding and Remedial Actions
CCUS provides a range of information and engagement opportunities designed to support Clearing Members' understanding of the Clearinghouse Rules, procedures and the risks associated with participation in clearing and settlement activities. These include publicly available materials and ongoing interaction with participants to promote clarity and transparency of the clearing membership framework. Where the Clearinghouse identifies

that a Clearing Member may not have sufficient understanding of its obligations or the risks associated with clearing membership, CCUS may take appropriate remedial actions in accordance with the CCUS Rulebook and governance framework. Such actions are determined based on the relevant facts and circumstances and are designed to address the identified issues, promote compliance and protect the safety and efficiency of the Clearinghouse.

Remedial measures may include enhanced monitoring, engagement with the Clearing Member, or where necessary, the application of disciplinary or enforcement actions, including restrictions or suspension of membership. These actions are intended to ensure that Clearing Members operate in a manner consistent with the Clearinghouse's requirements and the stability of the broader financial system.

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.

Fee information is accessible via the link below and is transparent to the public via the CCUS website:

- CCUS Fees

Fees are assessed for Clearing Member delivery, clearing and/or position transfer. Market participants and the public are notified of fee changes on a timely basis and such changes are published on the CCUS website.

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.

Consistent with CFTC Regulation §39.37(b), CCUS updates the CCUS PFMI Disclosure document following any material changes to its systems or the environment in which it operates or at a minimum every two years. Pursuant to CFTC Regulation §39.37(b)(1), a material change to CCUS's system or the environment in which it operates is a change that would significantly change the accuracy and usefulness of the existing disclosure.

CCUS publishes various data on the CCUS website through the CCUS Quantitative PFMI Disclosure document, which is updated on a quarterly basis.

CCUS discloses a variety of other information on the CCUS website, as discussed throughout its disclosures to this Principle. Information disclosed to the public is published through the CCUS website.

4. List of Publicly Available Resources

The following documents are available on the CCUS website:

- CCUS Rulebook
- CCUS Regulation
- CCUS Default Management Plan
- CCUS Market Notices
- CCUS Clearing Notices
- CCUS Exchange Advisories
- CCUS Regulatory Circulars, Other Notices, Disciplinary Actions
- Cboe Global Markets, Inc. News
- CCUS Clearing Membership
- CCUS Clearing Members
- CCUS Clearing Information
- CCUS Risk Management
- CCUS Settlement Cycles, Collateral Custodians, Deposits and Withdrawals
- CCUS Member Files and Specifications
- CCUS Public Margin Files API Service
- CCUS Client Member Portal (CMP) User Manual
- CCUS Technology
- CCUS Fees
- CCUS Hours and Holidays
- CCUS Contact Us Page
- CCUS PFMI Disclosures