Eric Nield

November 17, 2022

**Re: Formalization of Collateral Risk Management Framework and Updates to Treasury Operations Policies and Procedures and Liquidity Risk Management Framework Pursuant to Section 5c(c)(1) of the Commodity Exchange Act and Commission Regulation 40.6(a)**

**VIA ELECTRONIC PORTAL**
Mr. Christopher Kirkpatrick
Secretary
Commodity Futures Trading Commission
Three Lafayette Centre
1155 21st Street, NW
Washington, D.C. 20581

Dear Mr. Kirkpatrick:

ICE Clear Credit LLC ("ICC") hereby submits, pursuant to Section 5c(c)(1) of the Commodity Exchange Act (the "Act") and Commodity Futures Trading Commission ("Commission") Regulation 40.6(a), a self-certification to formalize the Collateral Risk Management Framework ("CRMF") and to amend the Treasury Operations Policies and Procedures ("Treasury Policy") and the Liquidity Risk Management Framework ("LRMF"). ICC is registered with the Commission as a derivatives clearing organization ("DCO"). ICC intends to implement the changes no sooner than the tenth business day following the filing of this submission with the Commission at its Washington, D.C. headquarters and with its Chicago regional office.

ICC proposes to formalize the CRMF and to make related changes to the Treasury Policy and the LRMF. This submission includes a description of the CRMF and the changes to the Treasury Policy and LRMF. Certification of the changes pursuant to Section 5c(c)(1) of the Act and Commission Regulation 40.6(a) is also provided below.

The proposed changes formalize a standalone CRMF to centralize relevant information on ICC's collateral assets risk management methodology in one document. The proposed changes further remove duplicative information from the Treasury Policy and update references in the Treasury Policy and the LRMF accordingly. Such changes would not amend ICC's methodology but would instead promote transparency and effective operation of the collateral assets risk management model by unifying key information on ICC's collateral assets risk management approach in one document. The revisions are discussed in detail as follows.

**CRMF**

ICC proposes to formalize the CRMF as a standalone document containing its current collateral assets risk management approach. The CRMF begins by introducing ICC's quantitative risk management approach that accounts for the risk associated with fluctuations of collateral asset prices. The document is further divided into six sections that are detailed below.

Section I sets out the computation of the current collateral asset haircut factors. To compute collateral haircut factors, estimations of two risk measures are performed. The more conservative risk measure is chosen to establish the haircut factors that capture potential collateral value losses. The chosen methodology, which consists of quantifying the potential risk exposures by analyzing the distribution of the

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appropriately identified risk factor describing the collateral asset price changes, is set forth in more detail in this section.

The following subsections are specific to currency and sovereign debt haircut factors. Regarding currency haircut factors in Subsection I.a, a two-stage approach is set out to account for the risk associated with fluctuations of collateral asset prices denominated in foreign currencies and its corresponding time series are used for collateral denominated in foreign currencies. The risk of the underlying collateral asset is estimated in its own currency in the first stage, and the risk exposure to an exchange rate conversion is considered by applying a foreign exchange ("FX") haircut factor in the second stage. With respect to sovereign debt haircut factors, Subsection I.b sets out how the fluctuations of the time to maturity yield rates are considered and its corresponding time series are used for sovereign debt collateral. In each subsection, further detail, such as relevant computations, equations, definitions, and considerations, is included to describe how currency and sovereign debt haircut factors are determined.

The final haircut factor rounding process is set out in Subsection I.c. The estimated haircut factors are rounded up to ensure appropriate stability and some conversative bias. Relevant computations, equations and illustrations demonstrate the haircut factor rounding process.

Section II details the current collateral assets risk management model and contains additional risk management information. This section begins by introducing the statistical calibration of the model by estimating an appropriate distribution to a time series of past realizations of the driving factor. One of the main components of the collateral assets risk management model is the distribution that describes the realizations of the asset price determining risk factor. Certain assumptions are also introduced to provide more stable and easy-to-reproduce numerical results.

The model framework is described in more detail in the following subsections. Subsection II.a details certain distributional assumptions appropriate for FX and fixed income ("FI") assets on which the haircut methodology is based. A summary of relevant literature is included; the haircut methodology uses the cited results on distribution families with applications to FX and FI instruments. Subsection II.b and II.c set forth parameter estimations. Subsection II.b expresses how parameter estimates are obtained and used to compute multi-day risk measures. Parameter estimations are performed in stages to facilitate numerical implementation and result replication and to eliminate potential operational risk. The main inputs for the statistical approach are set out and the calibration of the collateral haircut model is discussed. Subsection II.c explains how the variability of a risk factor is described for risk management purposes and sets out the selected measure of variability for all considered time series. Subsection II.d depicts multi-period forecasting, including the analysis that is performed to extend one-day to multi-period forecasts. Subsection II.e discusses how risk measures are obtained which are used for haircut purposes. For each subsection, additional detail, such as relevant parameters, computations, equations, definitions, and figures, is included to describe relevant processes.

Section III contains governance procedures relevant to the CRMF. Collateral haircut factor estimations are executed daily, and the ICC Risk Department reviews the results and determines any updates, at least monthly. Haircut factors can be updated more frequently at the discretion of the ICC Chief Risk Officer ("CRO") or designee. Additional language explains the implementation of updates by relevant departments and the periodic review of the statistical performance of the collateral haircut model, which consists of back-testing of applicable risk factors at least quarterly. A discussion of the back-testing exercise is included related to exploring poor back-testing results and taking remedial actions. The associated governance process is also summarized, including the ICC officers responsible for determining poor back-testing, the steps required following such determination, the groups consulted regarding poor back-testing or remedial action, and additional statistical analyses to measure and monitor the significance of back-testing results.

Section IV provides applications to FX and FI instruments to demonstrate the viability of the model used in the collateral risk management methodology. Subsection IV.a presents an example of the modeling approach applied to cash collateral denominated in a currency different from the required currency. Subsection IV.b presents an example of the modeling approach applied to US Treasury Bonds denominated in US Dollars ("USD"). Subsection IV.c presents an example of the modeling approach applied to US Treasury Inflation Protected Securities ("TIPS") denominated in USD. Each subsection sets out a three-stage approach to estimate risk measures and corresponding haircut factors and includes illustrations and back-testing results. Finally, Section V consists of a list of references and Section VI adds a revision history.

**Treasury Policy**

The proposed changes remove information on ICC's collateral assets risk management approach from the Treasury Policy. Currently, Appendix 6 to the Treasury Policy, titled Collateral Assets Risk Management Framework, ("Appendix 6") contains this information. ICC proposes to remove Appendix 6 and, accordingly, to replace a reference to Appendix 6 with a reference to the CRMF in Section V.B.3.

In general, information from Appendix 6 is included throughout Sections I and III of the CRMF with minor differences in drafting style and without substantive changes. The below list summarizes where the information in Appendix 6 would reside following removal and differences from the CRMF.

- The approach accounting for the risk associated with fluctuations of collateral assets denominated in foreign currencies in Appendix 6, paragraph 1 is moved to the CRMF, Subsection I.a.
- The estimations of two risk measures in Appendix 6, paragraph 2 are moved to the CRMF, Section I.
- Examples related to currencies and sovereign debt from Appendix 6, paragraphs 3 and 4 are moved to the CRMF, Subsections I.a and I.b, respectively.
- A risk measure definition in Appendix 6, paragraph 5 is moved to the CRMF, Section I. A policy reference from Appendix 6, paragraph 5 is removed, as ICC considers it unnecessary given the additional risk management information in the CRMF.
- Information on FX and sovereign debt haircuts in Appendix 6, paragraphs 6-9 is moved to the CRMF, Subsections I.a and I.b, respectively.
- The rounding of estimated haircuts in Appendix 6, paragraph 10 is moved to the CRMF, Subsection I.c. Information on establishing, reviewing, and updating haircuts in Appendix 6, paragraph 10 is moved to the CRMF, Section III.
- Information on updating haircuts during periods of extreme stress in Appendix 6, paragraph 11 is moved to the CRMF, Subsection I.c.

As described above, the remaining CRMF sections include additional information that is not in Appendix 6. The CRMF would more fully describe ICC's collateral assets risk management approach and would not change the methodology in Appendix 6.

**LRMF**

ICC proposes minor changes to the LRMF to update references from the Treasury Policy to the CRMF. Currently, Section 2.4 in the LRMF references information in Appendix 6, including details on the collateral haircut methodology and process for reviewing and updating collateral haircuts. The amended LRMF would reference the CRMF instead of the Treasury Policy which would contain the subject information under the proposed updates.

Core Principle Review:

ICC reviewed the DCO core principles ("Core Principles") as set forth in the Act. During this review, ICC identified the following Core Principles as being impacted:

Financial Resources: The amendments are consistent with the financial resources requirements of Core Principle B and Commission Regulation 39.33. The amendments enhance ICC's ability to manage its financial resources by providing further clarity and transparency on its collateral assets risk management approach. The additional information in the CRMF provides a more detailed explanation of the collateral assets risk management model and methodology, which will facilitate replication and validation by third parties. The changes also enhance the implementation of various processes and procedures associated with the collateral assets risk management methodology to ensure that responsible parties effectively carry out their associated duties. The amendments would thus support ICC's ability to maintain its financial resources and withstand the pressures of defaults, consistent with the financial resources requirements of Core Principle B and Commission Regulation 39.33.

Risk Management: The amendments are consistent with the risk management requirements of Core Principle D. The amendments formalize the CRMF to centralize relevant information on ICC's collateral assets risk management methodology. The amendments remove duplicative information from the Treasury Policy and update references in the Treasury Policy and the LRMF to the CRMF as needed. The changes would not amend ICC's methodology and would promote effective operation of the collateral assets risk management model by unifying key information on ICC's collateral assets risk management approach in one document. The amendments continue to ensure that ICC possesses the ability to manage the risks associated with discharging its responsibilities, consistent with the risk management requirements of Core Principle D.

Treatment of Funds: The amendments are consistent with the treatment of funds requirements of Core Principle F. ICC continues to limit the assets that ICC accepts as collateral to those with low credit, liquidity, and market risks. Further, the CRMF provides a clear framework for ICC to continue to set and enforce appropriately conservative haircuts for acceptable collateral assets and would set out responsible parties. The additional governance procedures in the CRMF ensure that ICC establishes, reviews, and updates haircuts within defined intervals, and more frequently if deemed necessary. The changes thus serve to ensure the safety of funds and assets and to allow ICC to continue to hold such funds and assets in a manner by which to minimize the risk of loss or of delay in ICC's access to the assets and funds.

Amended Rules:

ICC proposes to formalize the CRMF and to amend the Treasury Policy and the LRMF. ICC has respectfully requested confidential treatment for the CRMF, Treasury Policy, and LRMF, which were submitted concurrently with this self-certification submission.

Certifications:

ICC hereby certifies that the CRMF and the changes to the Treasury Policy and LRMF comply with the Act and the regulations thereunder. There were no substantive opposing views to the changes.

ICC further certifies that, concurrent with this filing, a copy of the submission was posted on ICC's website, and may be accessed at: https://www.theice.com/clear-credit/regulation.

ICC would be pleased to respond to any questions the Commission or the staff may have regarding this submission. Please direct any questions or requests for information to the attention of the undersigned at (312) 836-6742.

Sincerely,

Eric Nield
General Counsel