

**Maria Zyskind**  
Staff Attorney

February 11, 2019

**Re: Formalization of the ICE CDS Clearing:  
Back-Testing 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 21<sup>st</sup> 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 ICE CDS Clearing: Back-Testing Framework (“Back-Testing Framework”). 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 Back-Testing Framework that describes ICC’s back-testing approach, back-testing procedures, and guidelines for remediating poor back-testing results. This submission includes a description of the Back-Testing Framework. Certification of the Back-Testing Framework pursuant to Section 5c(c)(1) of the Act and Commission Regulation 40.6(a) is also provided below.

ICC’s Back-Testing Framework includes a discussion of ICC’s back-testing approach to verify that the number of actual losses is consistent with the number of projected losses. Generally, ICC’s back-testing analysis counts the number of occurrences, also referred to as exceedances, when the observed portfolio loss for a given horizon is greater than the model projected risk measure, defined as the sum of the selected initial margin components. The total number of exceedances is evaluated against the desired risk quantile and the model is considered well calibrated if the number of exceedances is consistent with the chosen risk quantile. The Back-Testing Framework also addresses multi-currency portfolios by accounting for the foreign exchange risk exposure and summarizes the associated back-testing analysis, which is performed in the clearinghouse base currency (i.e., US Dollar).

ICC utilizes the Basel Traffic Light System (“BTLS”) to assess the soundness of its risk management model (“model”). The Back-Testing Framework contains a summary of the BTLS, including descriptions and calculations associated with each zone of the BTLS. The BTLS is based on three zones: green, yellow, and red. Each zone is defined by the maximum number of acceptable exceedances. In practice, the more portfolios that fall within the green zone, the sounder the model. The BTLS does not penalize the model for conservativeness.

The Back-Testing Framework contains ICC’s procedures for performing back-testing analyses. The ICC Risk Management Department (“ICC Risk”) performs daily, weekly, monthly, and quarterly portfolio-level back-testing analyses. The Back-Testing Framework sets forth ICC’s calculation of the observed loss, which is referred to as the N-day worst unrealized profit/loss (“P/L”), using the changes in portfolio net asset values (“NAVs”). The initial margin risk horizon is reflected as “N-day” where N≥5 is the initial

margin risk horizon or the Margin Period of Risk (“MPOR”). The back-testing analysis is based on the greatest MPOR, rounded up to the nearest integer, for instruments in the considered portfolio. For example, if an instrument is subject to 5.5-day MPOR estimations, then the back-testing analysis is performed by comparing the model projected risk measure to the N-day worst unrealized P/L with N=6. The model projected risk measure, which is subject to back-testing, is the sum of the following selected initial margin components: integrated spread response, basis risk, and interest rate sensitivity (“back-tested components”). Under the Back-Testing Framework, the remaining components of initial margin are excluded because they are not always market observed and statistically modeled.

ICC back-tests its model with Clearing Participant (“CP”) portfolios and a hypothetical set of portfolios (“special strategy portfolios”) at the 99.5% risk quantile. Under the Back-Testing Framework, back-testing analysis is performed for the model at the 99.5% risk quantile for all CP-related portfolios. The Back-Testing Framework also includes a sample set of special strategy portfolios, which allow ICC to consider a range of hypothetical but realistic portfolios in its back-testing analysis. Back-testing results for the special strategy portfolios are reviewed periodically to identify and assess potential weaknesses in model assumptions.

The Back-Testing Framework describes ICC’s procedures for reporting back-testing results. Daily portfolio back-testing results are reported on a periodic basis for each CP based on the appropriate MPOR. The Back-Testing Framework provides example computations for a sample MPOR of 5 days (i.e., all instruments in the considered portfolio are subject to a 5-day MPOR). For each day in the back-testing period, all components of initial margin are provided, and the back-tested components and non-back-tested components are identified. The sum of the back-tested components is given alongside the unrealized P/L and the associated shortfall. An exceedance summary shows the total number of exceedances in the period and states the maximum number of exceedances that satisfy each zone in the BTLS. Back-testing results for the full period are also reported, and the back-tested components and the N-day P/L results for every back-tested day are computed for each portfolio associated with a given CP.

The Back-Testing Framework discusses the exceedance summaries that are provided when ICC back-tests its model with CP and special strategy portfolios at the 99.5% risk quantile. The Back-Testing Framework notes the reporting frequency, along with the information that is delivered as part of an exceedance summary, such as the number of observations and exceedances for the set of back-testing results and the maximum number of exceedances allowed in each zone in the BTLS. Moreover, in addition to assessing the model’s performance by back-testing, the Back-Testing Framework directs ICC Risk to conduct monthly parameter reviews and parameter sensitivity analyses.

ICC Risk also periodically reports univariate back-testing results, namely, instrument and Risk Factor<sup>1</sup> (“RF”) back-testing results, depending on market conditions. The Back-Testing Framework discusses how back-testing results are computed and reported for SN RFs and index instruments. As noted above, the back-testing analysis is performed for the model at the 99.5% risk quantile and exceedance summary results are generated. The Back-Testing Framework defines the model projected risk measure with respect to univariate back-testing as the sum of the integrated spread response and the interest rate sensitivity (“univariate back-tested components”) and directs ICC Risk to perform several analyses if an exceedance is observed, which include, among others, an analysis of the spread and recovery rate changes. The Back-Testing Framework also contains information regarding ICC Risk’s performance of univariate back-testing analysis in spread log-return space, including the utilization of different mean absolute deviation estimates and an indication of when such analysis may be performed.

The Back-Testing Framework provides guidelines for remediating poor back-testing results. Back-testing results are identified as poor if the number of observed exceedances at the portfolio level falls in the red zone of the BTLS. The Back-Testing Framework discusses various actions to be taken upon the identification of poor back-testing results, which include seeking feedback from the Risk Working Group

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<sup>1</sup> ICC deems each index, sub-index, or underlying single name (“SN”) reference entity a separate RF.

("RWG")<sup>2</sup> and consulting with the Risk Committee on any necessary remedial action. The Back-Testing Framework describes an instance where the number of exceedances falls in the red zone but may not be indicative of poor back-testing results, namely, where overlapping back-testing periods are involved and the effects of one adverse observation are responsible for a cluster of exceedances. The Back-Testing Framework provides the Chief Risk Officer and Risk Oversight Officer with the responsibility and the authority to determine whether the number of exceedances is indicative of poor back-testing results. The Back-Testing Framework also notes the actions to be taken if the number of exceedances falls in the yellow zone, including a review by ICC Risk to determine the cause of the model's worsened performance and, if necessary, a complimentary back-testing analysis without overlapping back-testing periods.

Under the Back-Testing Framework, if poor back-testing results are identified at the portfolio level, individual RF back-testing results are further analyzed. The Back-Testing Framework contains information regarding the analysis if poor back-testing results are identified for certain RFs, including analysis on the spread log-return statistical model assumptions, estimation techniques, and estimated parameters.

To remediate poor back-testing results, the Back-Testing Framework provides ICC Risk with the authority to take various actions depending on the situation, including updating statistical parameters (i.e., parameters estimated by statistical analysis of data sets) and increasing the frequency of parameter updates. The Back-Testing Framework references several situations that may lead to poor back-testing results, along with the actions that ICC Risk may take for remediation, including poor back-testing results associated with distressed SN RFs, poor performance at the portfolio level driven by improper portfolio benefits, and poor back-testing results due to recent changes in the dependence structure among RFs. Under the Back-Testing Framework, ICC Risk may apply additional initial margin while investigating the model's poor performance and, if needed, recommend model enhancements to the Risk Committee and the Board.

#### 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 Principle as being impacted:

**Financial Resources:** The Back-Testing Framework is consistent with the financial resources requirements of Core Principle B and the financial resource requirements set forth in Commission Regulation 39.33. The Back-Testing Framework describes ICC's back-testing approach, back-testing procedures, and guidelines for remediating poor back-testing results. The Back-Testing Framework supports ICC's ability to maintain sufficient margin requirements and enhances ICC's approach to identifying potential weaknesses in the risk methodology by measuring the quality of its model using the BTLS, thereby ensuring that ICC continues to maintain sufficient financial resources to withstand, at a minimum, a default by the two CP Affiliate Groups ("AGs") to which it has the largest exposure in extreme but plausible market conditions, consistent with the requirements of Commission Regulation 39.33.

**Risk Management:** The Back-Testing Framework is consistent with the risk management requirements of Core Principle D and the risk management requirements set forth in Commission Regulation 39.36. The various elements set forth in the Back-Testing Framework assess the ability of the model to reliably forecast risk at the selected risk quantile and ensure that ICC takes appropriate remedial action upon the identification of poor back-testing results. Moreover, the Back-Testing Framework requires the remediation of poor back-testing results; the performance of daily, weekly, monthly, and quarterly portfolio-level back-testing analyses; and the performance of monthly parameter reviews and parameter sensitivity analyses. Such procedures serve to promote the soundness of ICC's risk management model and system and 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.

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<sup>2</sup> The RWG consists of risk personnel from CPs and provides input to help ensure ICC's risk management framework is robust.

Amended Rules:

ICC proposes to formalize the Back-Testing Framework. ICC has respectfully requested confidential treatment for the Back-Testing Framework, which was submitted concurrently with this self-certification submission.

Certifications:

ICC hereby certifies that the Back-Testing Framework complies 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) 836-6854.

Sincerely,

A handwritten signature in cursive script that reads "Maria Zyskind".

Maria Zyskind  
Staff Attorney