

February 4, 2022

To: European Banking Authority

The International Swaps and Derivatives Association, Inc. (ISDA), SIFMA's Asset Management Group (SIFMA AMG) and the European Savings and Retail Banking Group (ESBG) (together, the "Associations") appreciate the opportunity to respond to the Draft Regulatory Technical Standards on Initial Margin Model Validation ("IMMV RTS" or "Consultation"). We acknowledge that extensive consideration has gone into the proposal which is intended to specify supervisory procedures for competent authorities with respect to their oversight of the use of a quantitative initial margin (IM) model like the ISDA SIMM® ("SIMM") by EU regulated entities to meet their obligation to calculate IM in accordance with the requirements in Articles 14 and 16 of Regulation (EU) No 648/2012 of the European Parliament and of the Council of 4 July 2012 on OTC derivatives, central counterparties and trade repositories ("EMIR RTS"). However, we believe there are key areas of the IMMV RTS that require substantive revision to avoid completely or severely limiting the ability for EU regulated firms to use an IM model. In some cases, the IMMV RTS requirements contradict or are more stringent than the EMIR RTS, the BCBS-IOSCO Margin requirements for non-centrally cleared derivatives<sup>1</sup> (the "BCBS-IOSCO Framework") or the areas for evaluation raised in the BCBS, CPMI, IOSCO *Review of margining practices*<sup>2</sup> consultation ("BCBS Consultation") which recognized the relative stability of SIMM during market volatility in early 2020. The IMMV RTS does not merely provide guidance for the assessment of model performance and implementation, but also dictates how the model should be designed, creating jurisdictional inconsistencies in the requirements for an IM model which have global impact, especially considering the broad and well-established use of the SIMM.

Many aspects of the IMMV RTS have been based on methods developed in the context of market risk models, and do not consider the industry and firm-level governance methods for SIMM which have been in practice for more than five years. Although counterparty credit IM has some similarities with market-risk regulatory capital - indeed SIMM was adapted from the FRTB SBA - there are important differences. First, there are two parties to each portfolio, and they have to agree with each other on how much margin to exchange. This is fundamentally different from market risk (where the calculating firm is subject to its own calculation) and creates a clear requirement for the parties to agree IM at the individual portfolio level. Instead, the IMMV RTS suggests a framework by which model shortfalls are monitored and remediated at the entity level. Second, the number of relevant portfolios is much greater with initial margin (one portfolio per netting set) rather than market risk (one portfolio per entity). Because of this, reporting thresholds need to be set appropriately to avoid drowning out real signals with insignificant clutter. Many of the backtesting thresholds proposed in the IMMV RTS would produce large numbers of false positive reports, distracting from the primary policy objective of reducing systemic risk.

We are particularly concerned with the provisions in the Consultation that require analysis or remediation at the entity level, across all netting sets. There are legal, economic and practical reasons why we believe these entity-level requirements are unworkable, and we request they be replaced with portfolio-level

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<sup>1</sup> <https://www.iosco.org/library/pubdocs/pdf/IOSCOPD651.pdf>

<sup>2</sup> <https://www.bis.org/bcbs/publ/d526.pdf>

requirements. We suggest that the IMMV RTS could incorporate the portfolio-level tests in the ISDA SIMM Governance Framework<sup>3</sup>, which have been used successfully across the industry for several years now.

- **Legal:** In their bilateral Initial Margin Credit Support Annexes (CSAs) market participants agree the basis on which the amount of initial margin to be exchanged is calculated by electing to use the regulatory schedule (GRID), ISDA SIMM<sup>®</sup> or another quantitative IM model. Once that election is made and the CSA has been signed, the parties to the CSA are legally bound to calculate the IM required to be exchanged using the elected methodology. Where the parties have elected in their IM CSAs to use ISDA SIMM<sup>®</sup> or another quantitative IM model, in the event that a shortfall on a netting set breaches the remediation threshold (in the case of SIMM, this is as defined under the ISDA SIMM<sup>®</sup> Governance Framework) the parties may subsequently bilaterally agree to exchange additional initial margin to resolve the shortfall and bring the portfolio into compliance with the minimum regulatory required IM amount. However, neither party has any legal basis (whether under the CSAs or otherwise) to make unilateral changes to the amount of IM calculated under the elected margin model based on the cumulative impact of shortfalls which the entity has across its portfolios with other counterparties.
- **Economic:** Global regulatory initial margin requirements are designed to ensure that the IM exchanged at the portfolio level between the counterparties is sufficient to cover a party for the loss that may be incurred due to changes in the exposure during a 10-day closeout period following the default of its counterparty. The segregated IM collected for the portfolio can only be accessed by the non-defaulting party to cover such loss once the conditions for an event of default under Paragraph 7 of the CSA have been met. There are no circumstances under which a counterparty has the right to access segregated IM that it has collected from one counterparty to remediate losses it has incurred following an event of default by another counterparty. Therefore, collecting additional margin from a counterparty to address perceived insufficiencies at the entity level is an inefficient and potentially ineffective method of addressing the actual economic concerns. As IM amounts are calculated and exchanged based on a bilateral netting set and collateral can only be accessed based on the default of the pledgor, analysis of the sufficiency of the IM amount and any remediation can only occur at the netting set level.
- **Practical:** There are practical issues that come with addressing the outcome of an entity level assessment of the performance of an initial margin model. In the case where one party (A) has an entity-level requirement to collect more margin, it would be impossible for their counterparties to validate or cross-check the calculations, since each counterparty would be unaware of the full trade set which party A used to perform that entity-level calculation. A corresponding challenge exists for separately managed accounts (SMAs) since each asset manager acting on behalf of the same fund only has visibility to the portfolio they manage. In either case, this removes the transparency which was a key practical consideration in the design and uptake of SIMM. It also creates potential for errors and mistakes, since the calculation by party A cannot be double-checked, challenged or corrected. There could also be many cases where one party is in breach of the entity-level requirement under the IMMV RTS while its counterparty is in compliance within the entity-level requirement. Such a scenario highlights the impracticalities of enforcing entity-level requirements to bring about bilateral remediation.

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<sup>3</sup> <https://www.isda.org/a/7FiDE/isda-simm-governance-framework-19-september-2017-public.pdf>

In general, we believe the IMMV RTS is overly prescriptive and describes requirements that will be difficult, and in some cases impossible, for both Financial Counterparties (FC) and Non-Financial Counterparties over the clearing threshold (NFC+) (together, the “EU Counterparties”) to meet. The IM model backtesting, remediation and model change assessments are overly sensitive and extremely onerous for all market participants, while not always providing meaningful information on the sufficiency of the IM exchanged.

Some of the requirements in the IMMV RTS go beyond providing guidance for assessing an IM model and instead prescribe how the IM model is required to be designed, including in ways which do not appear to align with model design for ISDA SIMM. In some instances, it is unclear whether the EBA understands SIMM to be compliant with these requirements, and in other cases it appears the IMMV RTS would mandate changes to the ISDA SIMM in order for firms to continue to use the model. At the point EU Counterparties will be required to submit their applications for IM model approval, some firms will have been using SIMM for as many as eight years. Changes to the model will take significant effort to implement, will be most onerous for smaller counterparties and will have global impact. Global consistency is key across users, in order to maintain the ability to reconcile initial margin; and across jurisdictions because many transactions span across borders.

SIMM was designed to limit the cost of use and implementation in order to make it accessible to a wide range of market participants. The IMMV RTS runs counter to that objective, making use of an IM model more complex and costly. From initial consultation with our members, we are concerned that this Consultation will have the effect of dissuading EU parties that came into scope of the regulatory IM requirements on September 1, 2021 (Phase 5) and those that will become subject from September 1, 2022 (Phase 6) from considering the use of any IM model, including ISDA SIMM®. If adopted as proposed, we believe that the IMMV RTS may also have the detrimental effect of forcing EU parties above the €750billion threshold (Phase 1-4) to abandon SIMM and shift to the standardized method specified in Annex IV of the EMIR RTS (i.e. GRID). Together these consequences would have a chilling effect on the use of derivatives in the EU and derivatives trading with EU counterparties, creating a barrier to real world hedging. As we trust this is not the intended consequence of the IMMV RTS, we request careful consideration of the feedback and suggestions provided in our responses to the questions below. ISDA would appreciate the opportunity to meet with the authorities to discuss these concerns and alternatives which might fulfill the need to provide guidance to competent authorities, while limiting the scope and complexity of the requirements necessary to continue use of an industry-wide model which has been broadly adopted by market participants and widely recognized by global regulators as an appropriate and effective method to calculate regulatory IM.

**ISDA SIMM Context:** It may be useful to briefly review the aims and structure of the SIMM. The industry has designed SIMM to consist of two parts:

1. A simplified global methodology
  - a. The model allows counterparties to calculate and validate initial margin calls based upon a common industry model. The model has been designed to accommodate practical operating needs while meeting regulatory requirements.
  - b. The vast majority of regulatory requirements and issues are dealt through the global model and its infrastructure. The model includes operating protocols to facilitate daily margin

calculations, data exchange, and reconciliation between counterparties. A set of global ISDA designed documents form the legal foundation.

2. A firm and industry level governance framework

A basic tenet regarding SIMM is that no one model can cover all risks, and that any model may need to evolve while retaining its practical features. To balance practical industry needs, regulatory requirements, and SIMM platform development, the ISDA SIMM Governance Framework:

- a. Establishes an industry-wide SIMM monitoring framework which analyzes and reports on global SIMM model performance on actual portfolios.
- b. Defines firm-level SIMM monitoring and margin remediation protocols. Each SIMM user must monitor performance on their own portfolios, analyze whether the global SIMM model meets regulatory requirements for each bilateral netting set, and cure any cases where the margin proves insufficient (through portfolio adjustment or add-on margin).

Detailed backtesting routines and protocols are defined for both a. and b.

We believe that both of these elements are needed to balance out practical and regulatory needs for an initial margin model. A more complex methodology would lead to unpredictability, lack of transparency, an inability to replicate or validate margin calls, high operating costs, or margin levels which do not reflect risk. However, any model, especially a simple one, risks not meeting regulatory aims. SIMM's hybrid approach allows the vast majority of bilateral portfolios to be margined simply through the global SIMM methodology, while ensuring that monitoring and remediation protocols address where SIMM margin is insufficient.

**Numbering Scheme for Comments:** Throughout the remaining part of this document, ISDA has adopted a numbering scheme for comments that identifies the article being commented on and assigns a number to that comment. The numbering scheme adopts the following general format [CA.B], where:

- "C" denotes the text that follows is an ISDA comment
- "A" denotes the article number
- "B" denotes the comment number

For example [C7.2] denotes the second ISDA comment on Article 7.

For ISDA comments that do not refer to any specific article but are more general, "A" will be equal to zero.

*Section 1, General Provisions, Articles 1-2 (Q1 to Q5)*

**Q1: What are the stakeholders' views regarding the split between standard and simplified validation processes?**

We appreciate the effort made to propose a simplified validation process for counterparties and counterparty groups with an aggregate average notional amount (AANA) below EUR 750 billion or which are not "institutions". The use of existing regulatory tests which have already been implemented for other purposes by the industry is welcome as it saves the considerable cost in time and money of education and implementation of a new test.

**Q2: What are the stakeholders' views regarding the Euro 750 bn threshold selected?**

[C2.1] We suggest rewording Article 2(1)(ii) and (iii) from "less than EUR 750 billion" to "less than or equal to EUR 750 billion".

As Article 36, 1.(d) of Regulation (EU) No 648/12 applies in case that the aggregate average notional amount (AANA) is above EUR 750 billion, then this clause should be "less than or equal to".

We support use of the Euro 750 bn threshold for delineation of application of the standard vs. simplified validation processes.

**Q3: What are the stakeholders' views regarding Article 2, Par 2, and the 50 Euro bn. threshold selected to allow the switch from simplified to standardised validation processes?**

[C2.2] We request removal of Article 2, paragraph 2.

We do not support the option in Article 2(2) for a competent authority to decide that the standardized approach applies to a Phase 5 following the submission of its initial application. Basing this decision on the "complexity and interlinkages of the counterparty activity in OTC derivatives" is subjective, leaving this decision open to differing interpretation, creating uncertainty for Phase 5 firms going into their IM model selection and could result in different requirements for entities of a Phase 5 group which are subject to approval by different competent authorities.

**Q4: What are the stakeholders' views regarding Article 2, Par 3, that would allow a temporary implementation of the model to subject in the simplified validation process?**

We support the ability for a competent authority to permit immediate use of an IM model or a material extension or change to such model for EU Counterparties subject to the simplified validation process.

**Q5: What are the stakeholders' views regarding section 1? Please specify the issue by article where possible.**

[C1.1] The definition of an "overshooting" in Article 1 should be revised to refer to a "gain in market values" rather than a "loss in market values".

This is because counterparty credit risk increases when the portfolio value increases rather than decreases.

This error also applies to the first line of the final paragraph on page 13 of the consultation; Article 13 (1)(c)(1); Article 14 (1)(b)(v),(vi); Article 14 (7)(c)(ii),(iii); Article 14 (9)(b)(i); and Article 17(9)(b)(i).

## *Section 2, Standardised Supervisory Procedures, Articles 3-23 (Q6 to Q31)*

### *Subsection 1, Standardised supervisory procedures for applications by counterparties, Articles 3-6*

#### **Q6: What are stakeholders' views regarding the methodology applied to identify material changes and extensions in the IM model?**

[C4.1] We request that the provision in Article 4, paragraph 3, be revised to be a 1-day test instead of a 15-day test.

The 15-day test specified in Article 4, paragraph 3 makes more sense for risk capital calculations, and is not very informational for initial margin purposes where the netting sets tend to be more stable. It would be resource intensive and expensive to snap all the portfolios on 15 successive business days and recalculate their SIMMs. Running these consecutive calculations would be quite onerous without being likely to change the ratio. We request this provision be revised to be a one-day test.

#### **Q7: What are the stakeholders' views regarding the threshold selected (5% and 10%) in order to trigger the process?**

[C4.2] We respectfully propose that paragraph 3 of Article 4 be clarified to define the change of initial margin calculation to include all model and methodology changes (including calibration methodology), but to exclude IM changes due to changes in calibration input market data.

We note a potential problem in relation to calibration level changes which are not caused by model or methodology changes. Article 16 of EU Regulation 2016/2251 places an obligation on firms to recalibrate their IM model at least annually, and other jurisdictions have similar requirements. Those requirements would be hard to fulfill if pre-approval were required for natural (non-model related) changes to calibrated parameters due to changed market conditions. Otherwise, there could be a significant burden on competent authorities to approve calibration-related changes within a tight timeframe or else their regulated entities would be forced onto the standard GRID because they would not be able to meet their regulatory obligation to recalibrate annually.

This proposal would permit annual recalibrations to proceed on schedule without triggering a re-validation. The reason for this request is to assist the competent authorities in complying with Article 16 of the IM regulations.

We do note that the threshold levels of 5% and 10% are reasonable in relation to model or methodology changes.



[C4.3] We request that Article 4(2)(c) be removed.

Article 4(2)(c) allows competent authorities to assess whether an IM amount change greater than or equal to 5% and less than 10% is material. The option for each competent authority to determine whether a change is material will create uncertainty and potentially inconsistent determinations for different counterparties with respect to the same version of ISDA SIMM®.

[C4.4] We request that Article 4(4) be revised in accordance with a possible proposed wording: “For counterparties belonging to a group, the changes referred to in paragraph 2 shall be calculated at the group level where it is practicable and appropriate to do so”.

Articles 4(4) and 25(4) state that the conditions in paragraph 2 to determine the materiality of extensions and changes are calculated at the group-level for counterparties belonging to a group. There are circumstances unique to Phase 5 and 6 firms which are relevant to the expectation that such conditions could be analyzed at the group level. Please see our request [C25.3] in response to Q33 with respect to Article 25(4).

[C4.5] We request that Article 4(5) be removed.

Article 4(5) says competent authorities shall inform applying parties of the effective materiality of changes and extensions so they know whether validation is required before implementation. The text suggests such a determination would be prompted by a counterparty’s application or notification of change. Per Annex 1, Part 1, Section 2 model change notification would only be required in the event that new risk modelling techniques are introduced. Therefore, IM model users may not submit an application for model change or extension approval unless they already understood such a materiality decision had been made by the competent authority. If no new modeling techniques are introduced, then notice (which might also serve as a prompt for the authority to advise on materiality) would not be submitted if the change was less than the 10% specified in Article 4(2)(d).

[C4.6] In the case where Articles 4(2)(c) and 4(5) are not removed, we request that in the case of ISDA SIMM® a joint authority determination be made based on the documentation submitted by ISDA, so that all SIMM users subject to EU requirements could be informed by ISDA of the requirement to submit an application for model change approval.

This proposed alternative is as a replacement for Article 4(2)(c) and 4(5).

**Q8: What are the stakeholders’ views regarding the selected extensions and changes in the Annex I Part I and II?**

[CA.1] We request that paragraph 1 of Annex 1, Part 1, Section 1 be removed.

The extension requirements in Part 1, Section 1, Paragraph 1 of Annex 1 are more suitable to market risk capital calculations than initial margin calculations. Major EU Counterparties are global banks with offices in many jurisdictions. It is unclear why use of the IM model by a trading desk in a different location, or where different risk systems are used, would warrant an extension of the model approval.

[CA.2] We request paragraphs 5(i) and 5(ii) of Annex 1, Part 2, Section 2, be removed.

With respect to Part II, Section 2, Para 5(i) and 5(ii), front office pricing models may change frequently and at reasonably short notice. As the processes are subject to internal controls, we believe it is excessive and onerous to require firms to notify their competent authority every time a change is made to their pricing models. This goes beyond the requirements for Market Risk models and would also present a burden to the competent authority to review these notifications, particularly given such reviews would lead to no action being taken by the competent authority because the processes are subject to internal controls.

**Q9: What are the stakeholders' views regarding the documentation to be provided for the application under the Standardised supervisory process.**

[C0.1] We would like to re-emphasize the importance of proposal [C4.2], in our answer to question 7 above. [C4.2] would mitigate the extended time period imposed by Article 6(1)(d) to use a recalibrated initial margin model that does not have significant model or methodology changes.

Article 6(1)(d) potentially creates two main issues for firms:

- (1) **Extended timeline to use a new version of the model:** Internal model validation can take several weeks. If the approval from internal model validation must be completed before the 60-day advance notification to the regulator, then the time from the model being ready for internal model validation review to the model being ready for use by the firm will be at least 3-4 months. This timeline assumes that the competent authority provides the approval within the 60-day notification period.
- (2) **Use of multiple versions of the model:** if approval is not provided by the competent authority during the 60-day notice period, then the applicant may not be approved to use a new version of the model on its effective date, and may fall back to a previously approved version of the model.

The potential issues presented by (1) run counter to the views expressed in the BCBS Consultation, which suggests regulatory evaluation on the timely introduction of recent market stress into a non-cleared margin model. As explained in ISDA's response to the BCBS Consultation<sup>4</sup>, a compressed cycle for model recalibration is dependent on global regulators relaxing internal model validation and regulatory approval and notification requirements. If EU authorities support the ability to recalibrate an IM model on a more timely or frequent basis as market conditions warrant, then the reapproval requirements should be reconsidered to allow more flexibility in the case that the expedited application of a recalibrated model is appropriate.

The potential issues presented by (2) may mean that firms use different SIMM versions. It is essential that all SIMM users use the latest version of SIMM starting on its effective date. If two parties are not using the same version of SIMM they can have irreconcilable differences in their IM amounts.

<sup>4</sup>[https://www.isda.org/a/ZC6gE/IIF-ISDA\\_BCBS-CPMI-IOSCO\\_Margin\\_Practices.pdf](https://www.isda.org/a/ZC6gE/IIF-ISDA_BCBS-CPMI-IOSCO_Margin_Practices.pdf)



**Q10: What are the stakeholders' views regarding the section 2 subsection 1 in general? Please specify the issue by article where possible.**

We have made specific proposals in our answers to question 6 to 9 and these proposals are numbered [C4.1] to [C4.5] and [CA.1] to [CA.2] in order that each comment is clearly identified.

*Subsection 2, Standardised supervisory procedures for granting validation, Articles 7-23*

Outsourcing and use of validation results (Articles 7-9)

**Q11: What are the stakeholders' views regarding the outsourcing provisions proposed by Article 7 in the RTS?**

We appreciate that the circumstance in which a third-party model and/or a third-party service provider is employed are given consideration in proposed Article 7. ISDA SIMM<sup>®</sup> is used by all groups that came into scope of the IM requirements in Phases 1-4 and is expected to be used by a large number of Phase 5 and 6 firms as well, provided the regulatory approval and governance requirements do not impose an undue burden.

[C7.1] We would appreciate confirmation that EU authorities agree that ISDA's role in the design and calibration of SIMM satisfies the requirements of Article 7.

ISDA is prepared to support firms that select ISDA SIMM<sup>®</sup> as their IM model by providing the relevant documentation necessary to meet the documentation requirements of Article 6(1)(f).

We expect that many of the Phase 5 and 6 firms that decide to use ISDA SIMM<sup>®</sup> will employ the services of one of the 49 market infrastructure providers and administrators which are licensed by ISDA to provide SIMM-related services. Based on feedback from licensed SIMM vendors<sup>5</sup>, we understand that many of these providers intend to support their EU clients in accordance with the requirements in Article 7(c), (d) and (e). However, the complexity of the backtesting requirements as drafted may make it difficult for some vendors to offer these services. These capabilities will need to be built and extensively tested before EU counterparties will know the extent to which their chosen vendor can assist them to meet their regulatory obligations for use of an IM model.

[C7.2] We request that Article 7(d) be removed.

Some Phase 5 and 6 firms would prefer to use the day-to-day IM calculations of each of their dealer counterparties by agreeing with each of them that the relevant dealer will act as the calculation agent for the purpose of calculating the regulatory IM amount which the Phase 5 or 6 firm is required to collect for the relevant bilateral portfolio. Where the Phase 5 or 6 firm's dealer counterparty is using a model validated under EU, US or other appropriate regulation, the Phase 5 or 6 firm should be able to rely on the IM calculation without separately having to validate the dealer's model. This aligns with Article 14(1) of the EMIR RTS which permits both parties to use the model developed by one party. It would also solve the following issues.

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<sup>5</sup> <https://www.isda.org/2016/09/15/isda-simm-licensed-vendors/>

It is unclear whether in this case of delegation to the dealer counterparty that, the competent authority would expect that under Article 7(d), the client counterparty would be required to have access to the audit of the IM model calculation processes and controls of each of its dealer counterparties who have agreed to provide their calculations. A counterparty dealer's SIMM governance rests on proprietary information, including but not limited to:

- discussions with regulators
- internal and regulatory audits
- internal decision-making processes
- pricing model assumptions
- issuer ratings
- information about other counterparties and their portfolios

Requiring the client counterparty to access all information, apart from a set of particulars on the makeup of the bilateral portfolio in question, would prevent dealers from agreeing to calculate IM or monitoring IM on behalf of their counterparties.

[C7.3] We request that Article 7(e) be removed.

Article 7(e) requires full access to be granted to competent authorities in relation to all relevant information. If this means that the dealer would be responsible for satisfying the documentation required by its client's competent authority, then this would also prevent dealers from agreeing to calculate IM on behalf of their counterparties, eliminating an approach which is of interest to some parties.

In the case of delegation for day-to-day IM calculations to the dealer counterparty, the competent authority for the delegating party should be allowed to defer to the competent authority, or other regulatory body overseeing the dealer's model use, to assess the adequacy of the model calculation process and controls. These are not relevant to the EU counterparty's need to understand the mechanics and risks of the IM model it has employed.

**Q12: What are the stakeholders' views regarding the use of validation results proposed by Article 8 in the RTS?**

We support the option provided to competent authorities in Article 8 to either rely on their own prior assessment to validate an initial margin model for additional applicants or to rely on the assessment conducted by another competent authority subject to the IMMV Regulation. This measure will greatly reduce the effort required by competent authorities with respect to applications for the use of ISDA SIMM® and allow for more timely approvals.

**Q13: What are the stakeholders' views regarding the possibility to rely on the assessment of a third country competent authority and the treatment proposed by Article 8 in the RTS?**

We strongly support the addition of the option in Article 8 for a competent authority to rely on the model validation assessment of a third country competent authority.

Assessment of senior management, the implementation unit and audit function (Articles 10-12)

**Q14: What are the stakeholders' general views regarding the senior management requirements as stated in article 10? Also, please highlight specific issues.**

[C10.1] We request that Article 10 be amended to recognize the option for delegation of responsibility for 2(b), (c) and (e) to a management body or committee established under the organization structure established by senior management.

Article 10 assigns certain responsibilities to senior management while allowing other tasks to be overseen by the management body or the committee designated by it. Although ultimate responsibility will always roll up to senior management, tasks such as taking corrective actions for model weaknesses, addressing recommendations from audit or model implementation or validation units, and intimate familiarity with backtesting results may also be assigned within an organization to a management body or a committee under its oversight.

**Q15: What are the stakeholders' general views regarding the model implementation unit requirements as stated in article 11? Also, please highlight specific issues.**

[C11.1] We request that Article 11(1)(a) be removed.

Article 11(1)(a) specifies that the model implementation unit must be independent from the units responsible for originating, renewing or trading exposures. As IM is reliant on funding, most major dealers have intentionally positioned their model implementation units in the front office, in proximity to their XVA desks. This placement also allows for the model implementation unit to be independent from the model validation team, as required by U.S. regulations. Our members believe it is not operationally feasible or appropriate to relocate model implementation units away from the front office.

[C11.2] We request clarification regarding the requirement under Article 11(1)(d).

Article 11(1)(d) requires the model implementation unit to report to senior management. But it is unclear what the requirements of Article 11(1)(d) mean in practice as ultimately all areas of a firm report to senior management.

[C11.3] Could the EBA confirm that the current process by firms to reconcile IM calculations against their counterparties' calculations on a daily basis in order to agree the amount to be exchanged would count as "analysis and reports" of the IM model output under Article 11(1)(f)?

Article 11(1)(f) says that the model implementation unit is responsible for producing reports on the output of the IM model, controlling input data integrity and analysing the output of the IM model. But, it is unclear if firms and their counterparties reconciling their IM calculations would count as “analysis and reports” of the IM model output?

**Q16: What are the stakeholders’ general views regarding the audit requirements as stated in article 12? Also, please highlight specific issues.**

We do not have any particular concerns with regard to the audit requirements stated in article 12.

Internal validation (Article 13)

**Q17: What are the stakeholders’ general views regarding the internal validation requirements as stated in article 13? Also, please highlight specific issues.**

[C13.1] We request that the subclause (i) in Article 13(1)(c) be removed.

Article 13(1)(c)(i) suggests a requirement to conduct internal validation when backtesting shows large overshooting. The criteria to determine a ‘large’ overshoot is not clear. Also, backtesting is already part of validation and firms run backtesting every quarter, as stipulated in Article 14(1)(b) and 17(1)(b), to assess the performance of the initial margin model. As such, this subclause seems to be neither practical nor necessary.

[C13.2] We request that the definition of third-party undertaking in 13(4) be amended to include the counterparty to the portfolio.

An EU Counterparty can designate a third-party undertaking for purposes of internal validation per Article 13(3), but 13(4) does not recognize the counterparty to the portfolio for this purpose.

**Q18: What are the stakeholders’ views regarding the split between the general structure of the model and the actual implementation of the model for the validation as stated in article 13(2)?**

We agree with the split between the general structure of the model and the implementation of the model for validation as stated in Article 13(2).

Static Backtesting (Article 14)

**Q19: What are the stakeholders’ views regarding the thresholds suggested to trigger for the CAs notification, as described in paragraph 5 of article 14?**

[C14.1] ISDA proposes that paragraph 14(5) be re-worded so that competent authorities shall verify that the counterparty communicates to them the result of the static backtesting program, including the analysis referred to in Article 14(6), for each netting set that is classified as ‘red’ and has a shortfall of at least EUR 25 million.

The threshold of 11 overshootings is very low for a set of 1040 observations. For reference, based on ISDA's conservative choice of the Normal distribution for the 10-day moves in the value of a portfolio, the  $N_{g,s}$  threshold is 22 overshootings and the  $N_{r,s}$  threshold is 45 overshootings. See Appendix A for the assessment by ISDA that the choice of normal distribution is indeed conservative.

In the case of an idealized and perfect IM model where the chance of an overshooting is always exactly 1.0%, then the chance (again conservatively assuming Normal distributions) that a portfolio has 11 or more overshootings is 43%. This would mean that using a threshold of 11 a firm would have to report 43 out of 100 portfolios on average to the competent authority even though the model was operating correctly for these portfolios.

This is much too tight a threshold and would result in a large amount of clutter in reports, which would obscure actual problems.

**Q20: What would be the stakeholders' choice on the value of  $K_s$ , as described in paragraph 7 of article 14?**

This definition appears sensible and reasonable.

**Q21: What would be the stakeholders' choice on the distribution of  $X_i$  applied? Could you please specify the first four moments (mean, standard deviation, standardized skewness and standardized excess kurtosis)? Additionally, could you please describe the distribution  $X_i$ , e.g., by means of an analytical approximation or a plot of the empirical distribution density, with the normal distribution included as comparison?**

[C14.2] We suggest that the wording in paragraph 14(7)(a) be changed from "based on proper empirical evidence" to "using a reasonable choice" to reflect this situation.

We believe that the choice for the distribution of  $X_i$  should be a normal distribution. The choice of a normal distribution is conservative, as demonstrated in Appendix A. Furthermore, it is essential that stakeholders use the same distribution, otherwise they will not agree on which portfolios require remediation, or how to remediate them. Remediation can only take place with the agreement of both parties to the portfolio. Because the normal distribution is conservative, it seems a reasonable choice for this purpose, regardless of whether it is a perfect fit for the empirical distribution of financial returns.

**Q22: What would be the stakeholders' choice on the values of  $N_{g,s}$  and  $N_{r,s}$ . Would you please provide a concise description of the methodology to obtain  $N_{g,s}$  and  $N_{r,s}$ ?**

[C14.3] We suggest using the standard BCBS definition from "Supervisory Framework for the use of 'backtesting' in conjunction with the internal models approach to market risk capital requirements" (BCBS Paper 22, January 1996), which is

$$Probability (0 \leq N_{g,s}) < 0.95 \leq Probability (0 \leq N_{g,s} + 1)$$

for  $N_{g,s}$ , and for  $N_{r,s}$  is

$Probability(O \leq N_{r,s}) < 0.9999 \leq Probability(O \leq N_{r,s} + 1)$ .

Note that this approach is conservative in preferring  $N_{g,s}$  over  $N_{g,s} + 1$ .

The intuitive sense of the formulas provided in the IMMV RTS is reasonable. But the precise expression as written has no integer solution in general since  $O$  and  $N_{g,s}$  are integer valued. The proposed amendment builds on the draft regulatory text and helps make it precise and well-defined.

Conservatively assuming a normal distribution for  $X_i$  (as described in Q21), ISDA has used these definitions to calculate, under static backtesting with 1040 observations, that  $N_{g,s}$  is 22 overshootings, and  $N_{r,s}$  is 45 overshootings. These thresholds are determined using the methodology described in section 10.3 of the annual backtesting document that is circulated to the community of global regulators.

Note also that there is a typo in the expression for  $L_d$  in Article 14(7)(c)(iii) where the sum should be taken from  $i = d$  to  $i = d + MPOR - 1$  (not to  $i = d + MPOR$ ).

**Q23: What are the stakeholders' methods applied to transactions maturing in less days than the MPoR?**

These transactions are not treated differently under SIMM. The expectation is that for such transactions, the initial margin would be conservative, but the amount of hypothetical PnL could be overestimated since the trade matures before the MPoR. If there are overshootings reported, then the backtesting analysis may attribute the cause to the overestimated PnL.

**Q24: What are the stakeholders' views on the static backtesting proposal as stated in article 14?**

[C14.4] We request that Article 14(1)(a)(i) be removed.

This request is in line with the response to Q15 on the independence of the "implementation unit" in Article 11(1)(a). Paragraph 1(a)(i) is neither necessary nor practical and we request that it be removed.

[C14.5] We request that under Article 14(1)(b) that quarterly monitoring be allowed to use a rolling window for testing to allow some out-of-sample testing using more recent market data.

Article 14(1)(b) requires firms to use the calibration period of the model not only for annual backtesting but also for quarterly monitoring. This contradicts the current process for industry-wide quarterly monitoring of ISDA SIMM® which runs on a moving window to include the most recent period. The draft standard prohibits the out-of-sample testing which is a beneficial feature of monitoring and the draft standard creates a test which is much easier to 'pass' than current practice. This requirement also runs counter to the recent BCBS, CPMI and IOSCO *Review of Margining Practices* which encourages non-centrally cleared IM models to look into the timely remediation of IM shortfalls in market stress periods. If this requirement were to stand, firms would need to conduct a different internal process for the quarterly monitoring in the EU than they do in other jurisdictions and which they are conducting for industry-wide quarterly monitoring of SIMM. It is crucial that consistent



standards for calibration, model monitoring, and remediation are used across the industry. Without such consistency cross-jurisdiction trading and regulatory compliance would be hampered.

[C14.6] We request that the option to use greeks-based or grid-based approximations be allowed in paragraph 2(a).

Under Article 14(2)(a), most firms would find it impossible to revalue all their trades on each of the approximately 1000 historical scenarios. Therefore, firms need the option to use greeks-based or grid-based approximations for backtesting to be possible.

[C14.7] We also propose that a possible alternative wording for Article 14(2)(a) could be: “it applies a reasonably close match for the pricing methods, model parameterisations, market data and any other technique used in the end-of-day valuation process;”

This re-wording addresses both the concern in [C14.6] above and a second issue. The draft contains a sub-clause about valuation adjustments i.e., “it reflects only changes in valuation adjustments that are included in the counterpart’s initial margin model and that are calculated on a daily basis”. This could also be problematic in practice since, for example, many firms will include FVA adjustments in their pricing models, even though those risks are mostly not captured in SIMM. The sub-clause should be removed to allow additional risk factors to be captured and FVA adjustments to be made in official pricing models.

[C14.8] We propose that Article 14(3) be amended to apply to only ‘red’ portfolios with shortfall greater than EUR 5 million.

Article 14(3) requires an EU Counterparty to analyze *all* overshootings. This is too large a number of shortfalls to be examined in detail even in the case that the model is performing perfectly (that is, it meets the 99% 10-day horizon requirement for model coverage). For instance, if a party had 100 portfolios and 1040 observation dates, then with a perfect model we would expect 1040 overshootings every quarter. For large firms, this requirement would divert available resourcing away from analysis of real problems; for smaller firms it would be unfeasible. Applying Article 14(3) to only ‘red’ portfolios with shortfall greater than EUR 5 million should achieve the desired regulatory objective, while focusing on portfolios which have genuine issues.

As pertains to Article 14(7)(a), ISDA uses the normal distribution for  $X$  when calculating R/A/G thresholds for backtesting SIMM. As mentioned in Q21, it is essential that firms use the same distribution for  $X$ . Otherwise they will not agree on which portfolios require remediation, or how to remediate them. Remediation can only take place with the agreement of both parties to the portfolio.

[C14.9] We request that Article 14(8) and 14(11)(b) be deleted.

Article 14(8), 14(9)(b)(iii), (10) and (11)(b),(c) all refer to “all the netting sets” for assessment and redress of total shortfalls. As discussed in the introductory remarks to this document, bilateral remediation can only be done at the portfolio level, so these references would be better expressed by referring to “each netting set” instead. Since it is difficult to recast paragraphs 8 and 11(b) into an equivalent netting-set test, we request that these should be deleted.

A further problem with Article 14(8) is that if the intention is that no more than 0.01% of portfolios should be ‘red’, this condition will often not hold, since there are often some red portfolios (as recognized by paragraphs 9 and 10).

[C14.10] We request use of a standard definition under Article 14(9), where the *shortfall* is the smallest amount of extra initial margin required to make the portfolio be classed as ‘green’.

The instruction for determining what constitutes a shortfall in Article 14(9) refers to less than 1% of the total margin, which is not consistent with Article 15 of the Regulations which is “based on a one-tailed 99 percent confidence interval”. The proposed definition of shortfall is more consistent with that regulatory requirement.

[C14.11] We propose that Article 14(9)(b)(iii) be changed to have the test that the shortfall for a ‘red’ netting set should be less than EUR 50 million.

In Article 14(9)(b)(iii), an absolute threshold may make more sense than a relative one, since it would direct attention to larger portfolios rather than to smaller ones. The EUR 50 million threshold is the same minimal threshold as that used in Article 29 of the IM regulations.

[C14.12] We recommend that Article 14(10) be replaced by the new netting-set shortfall test described in [C14.11].

Article 14(10) is a test of backtesting success which requires that the total initial margin of red portfolios should be less than 1% of the total initial margin of green portfolios. It is another entity-level test.

It is important to highlight that a firm using a third-party initial margin model does not have the ability to change the model or recalibrate it; and the criteria for change to the model must consider not only the materiality and persistence of the issues, but also how widespread these issues are based on the data from firms that use the model. If the tests suggest there is the need for remedial action on the netting set, the firms should consider a potential action which would be appropriate and feasible; and to implement such actions if bilaterally agreed by both parties.

#### Dynamic Backtesting (Article 17)

#### **Q25: What are the stakeholders’ views regarding the thresholds suggested to trigger for the CAs notification, as described in paragraph 5 of article 17?**

[C17.1] We request that Article 17(5) be amended to apply to only ‘red’ portfolios that have a shortfall of at least EUR 25 million.

Our feedback on Article 17(5) is the same as that for Article 14(5) captured under [C14.1]. The threshold is too tight and would be better positioned for any netting set classified as ‘red’ which has a shortfall of at least EUR 25 million.

As with our response to Article 14(5), the threshold of 3 overshootings is too low for a set of 250 observations considering the Amber threshold is 5 and the Red threshold is 10. Even if the model is performing perfectly, a threshold of 3 would catch a large percentage of (46%) of portfolios, obscuring actual problems in firms' reporting to competent authorities.

**Q26: What would be the stakeholders' choice on the value of  $K_d$ , as described in paragraph 7 of article 17?**

This definition appears sensible and reasonable.

**Q27: What are the stakeholders' views regarding the dynamic backtesting as set in article 17?**

[C17.2] We request that firms be allowed to use ten-day actual (A10) in addition to one-day actual (A1) method specified in the Article 17(1)(b)(iii).

Both methods are currently used in fairly equal proportion by market participants for SIMM monitoring, and ISDA supports this through the publication of risks weights for both approaches. Finally, we note that both methods are recognized as valid in the comments on pages 65, 66 of the Consultation.

[C17.3] We request that Article 17(3) be amended to apply to only 'red' portfolios with shortfall greater than EUR 5 million.

Our feedback on Article 17(3) is the same as that for Article 14(3) captured under [C14.8]. This requirement to determine the cause of all overshootings would produce too many false alarms. We request this requirement be limited to red portfolios.

[C17.4] We suggest that the wording in paragraph 17(7)(a) be changed from "based on proper empirical evidence" to "using a reasonable choice".

Our feedback in regard to 17(7)(a) aligns with our response to Article 14(7)(a) captured under [C14.2] for the ten-day actual method. For the one-day actual method, we note that there is no dependence on the distribution of  $X$  for the thresholds  $N_{g,d}$  and  $N_{r,d}$ , since  $O$  has a binomial distribution which does not depend on the distribution of  $X$ . So the choice of  $X$  is immaterial.

[C17.5] In Article 17(7)(c) and (d), we suggest using the more precise definition of  $N_{g,d}$  and  $N_{r,d}$  as given in [C14.3] for the same reasons.

[C17.6] We request removal of Article 17(8).

As with Article 14(8), this is an entity-level test and it is also too stringent and unlikely to be satisfied in practice.

[C17.7] We request use of a standard definition, where the *shortfall* is the smallest amount of extra initial margin required to make the portfolio be classed as 'green', and the test in Article 17(9) be amended to apply to 'red' portfolios with a shortfall of at least EUR 50 million.

As with Article 14(9), the instruction for determining what constitutes a shortfall in Article 17(9) refers to less than 1% of the total margin, which is not consistent with Article 15 of the IM Regulations which is “based on a one-tailed 99 percent confidence interval”.

[C17.8] We recommend that the test of backtesting success under Article 17(10) be replaced with the netting-set shortfall test described in [C17.7].

As with Article 14(10), the Article 17(10) test of backtesting success requires that the total initial margin of red portfolios should be less than 1% of the total initial margin of green portfolios. This is another entity-level test. We recommend this requirement be replaced with the netting-set shortfall test described in [C17.7].

[C17.9] Regarding Article 17(11), we request that if both parties to a portfolio can only perform a dynamic backtest, the outcome of the dynamic backtest should form the basis of bilateral agreement for the exchange of additional margin in the event that issues with the initial margin model are identified during testing. If either party can conduct the static backtesting, then static backtesting should form the basis for firms to bilaterally agree to exchange additional margin.

The static backtesting is stated in Article 14 as the means to check that the initial margin model has been calibrated and is operating effectively. Hence the static backtesting results, where they are available, should form the basis of bilateral exchange of additional margin for a portfolio to address any issues relating to an improperly calibrated or ineffective initial margin model. This approach also has the benefit of being inherently less procyclical.

**Q28: What are the stakeholders’ views regarding the treatment of the Valuations Adjustments within the requirement of the backtesting programme as set in article 14 and the monitoring programme of article 17?**

[C17.10] We request that the option to use greeks-based or grid-based approximations be allowed under Article 17(2)(a).

Similar to the request made for Article 14(2)(a) and captured under [C14.6], under Article 17(2)(a) some firms might benefit from the flexibility to calculate values using reasonable approximations for system or performance reasons. It would be useful to allow the option to use greeks-based or grid-based approximations.

[C17.11] We suggest a possible alternative wording for Article 17(2)(a) as: “it applies a reasonably close match for the pricing methods, model parameterisations, market data and any other technique used in the end-of-day valuation process;”

This addresses both the issue raised in [C17.10] and a problem with the sub-clause about valuation adjustments. This subclause could also be problematic in practice since, for example, many firms will include FVA adjustments in their pricing models, even though those risks are mostly not captured in SIMM. This is consistent with the comments captured under [C14.7] and gives more assurance that the initial margin is sufficient.

The initial margin model is mandated to include risk factors that are sufficient to measure all material price risks inherent in transactions to predict the change in value of a portfolio over a 10-day period with 99% confidence. On the other hand, pricing models should be as accurate as reasonably possible to determine the market-value of the derivative contract. Reflecting only the risk factors included in the entity's initial margin model within the pricing models reduces the validity of the testing benchmark and may limit both the assurance that the calculated IM will cover a realized P&L move and the potential for the backtesting exercise to identify risk factors not in SIMM as drivers for backtesting exceptions.

**Q29: What are the stakeholders' views regarding the requirement in the backtesting programmes as set in Articles 14 and 17? Should the requirements be specified in terms of IM collected only?**

We have made specific proposals in our answers to question 19 to 28 and these proposals are numbered [C14.1] to [C14.12] for Article 14 and [C17.1] to [C17.11] for Article 17 for ease of identification.

We agree with the current draft of the IMMV RTS on the validation of the IM without specification of either IM collected or IM posted to keep flexibility in the process.

Modelling Assumptions (Articles 18-23)

**Q30: What are the stakeholders' views regarding Articles 18 through 23? Please specify the issue by article where possible.**

Many aspects of Articles 18 to 23 are seemingly aimed at changing or improving model assumptions, coverage or granularity. Generally, we assume that no single model can cover all issues. In addition, model simplicity remains a key goal from a practical, operational, and transparency objective. While the global SIMM methodology covers the vast majority of portfolios sufficiently, we recognize that issues such as model assumptions, risk factor selection, nonlinearities, calibration proxies, etc. could cause some instances where raw SIMM outputs prove insufficient to meet regulatory requirements. Hence the industry has designed the ISDA SIMM Governance Framework, especially the firm-level monitoring and remediation obligations, to deal with those situations through bilateral portfolio adjustments or margin add-ons.

Given the tension between theoretical coverage and practical implementation, operation and reconciliation, we believe that the approach that combines the following provides the best achievable balance:

- (1) A simplified, easy to operate, understand and remediate global model to deal with the vast majority of portfolios, combined with,
- (2) A robust and consistent model performance monitoring and shortfall remediation protocol,
- (3) Applied consistently globally

In subsequent paragraphs, we specify the issues by article that we have identified.

[C19.1] We request that the final clause (“and that incorporation of that risk factor in the institution’s pricing model is justified due to its material impact on the pricing accuracy.”) under Article 19(2) be removed.

With respect to Article 19(2), the IMMV RTS should not prevent firms from including certain risk factors in their pricing models. Pricing models should be as accurate as reasonably possible, irrespective of any approximations used in IM models. As noted above, simplifying the pricing models reduces the validity of the testing benchmark and may limit the assurance that the calculated IM will cover a realized P&L move.

[C20.1] We request that the removal of Articles 20(1)(b) and 20(3).

Article 20(1)(b) requires an IM model user to assess the materiality of the time effect. In common with the FRTB Sensitivity-Based Approach, SIMM does not include theta effects. We believe this exclusion to be reasonable, due to the short 10-day period of risk, and furthermore it is a requirement of the U.S. margin regulations, which mandate the use of “instantaneous price shock[s]”<sup>6</sup>. Given the need for a globally consistent model across jurisdictions, SIMM cannot incorporate the time effect and therefore we believe there is no value in measuring or assessing its materiality. Accordingly, we request the removal of Articles 20(1)(b) and 20(3).

[C20.2] We request that the sub-paragraph text under Article 20(1)(c) retain the initial phrase “that the counterparty captures all material risk linked to the nonlinear profile of options and other products” and removes the subsequent text.

Article 20(1)(c) goes beyond the requirement in the IM Regulations and the BCBS-IOSCO Framework to include material risks. It mandates what the model should do, rather than providing guidance on how to assess the model.

[C21.1] We request clarification that the data proxies mentioned in Article 21, and in Article 16(10) of the IM Regulations, would refer in the case of SIMM to proxies used as part of the calibration process and not to the SIMM risk bucket structure in general.

With respect to Article 21(1), we believe that IM models should be able to use representative time series in order to have a more robust and future-proof data set. ISDA SIMM does not use proxy data in the calibration, rather it chooses the most liquid or representative series available. For instance, in the credit product class, the SIMM calibration uses the 1000 most traded names from DTCC trade information warehouse data. The use of an IM model at the firm level is a two-step process: the coverage of the IM model itself is paired with testing against actual prices through monitoring. Risks not reflected in the model are captured by the monitoring process and bilateral remediation, providing broad coverage. We consider that the bucket structure of models such as SIMM and the FRTB SBA are not proxies under this definition and would welcome confirmation of that.

[C22.1] We recommend that Article 22 be reworded to replace the clause “set in place processes to identify illiquid positions and positions with limited price transparency and to capture their risks in the

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<sup>6</sup>80 Fed. Reg. 74903 (November 30, 2015)



initial margin model conservatively” with the clause “included in the MPOR the estimated period needed to replace each of the non-centrally cleared OTC derivative contracts within the netting set or hedge the risks arising from them, taking into account the level of liquidity of the market and the size of the position”.

The MPOR liquidity adjustment, as set out in Regulation Article 15(2), appears to us as the more important liquidity adjustment and we believe that it would be helpful for the RTS to emphasize it. The MPOR adjustment applies particularly to large portfolios where its impact on the margin may be material. By comparison Regulation Article 14(2)(f) naturally involves small-scale positions which are less significant for the overall performance of the model.

Within a portfolio, whether a particular set of trades represents an “illiquid position” is a subjective issue. Application of this subjective view creates conflict and uncertainty when trading, reconciling initial margin, or forecasting liquidity impacts of initial margin when trading across counterparties, global and intra-EU jurisdictions.

SIMM applies concentration multipliers to address liquidity in various risk factors according to prescribed, empirical rules. We believe this is the most practical to deal with potential position illiquidity.

If a particular structured derivative transaction is illiquid, SIMM breaks down that transaction in terms of applicable risk factors. SIMM applies concentration multipliers to each risk factor. Through this mechanism, SIMM reflects the associated liquidity related to the hedging and closeout of any position. In a closeout, the surviving counterparties would actively hedge and unwind both the affected positions and offsetting risks in a coordinated manner. Hence, focusing on capturing concentration risks for each risk factor should suffice.

[C23.1] We recommend that Article 23(1)(a) be removed.

Article 23(1)(a) refers to implied correlations which affect the valuation of trades, rather than IM modelling. As such, this point is already covered by Article 19 (Risks not in IM model) and is duplicative.

[C23.2] We recommend that the EBA discuss the impact of the proposed model requirements with other global authorities, and request that Article 23(2)(a) be removed.

Article 23(2)(a) requires quarterly review of model correlation parameters. This seems excessive and contradicts the EMIR model requirements and BCBS-IOSCO Framework which require calibration at least annually, by instead requiring partial recalibration quarterly. The effort required to review model correlation parameters quarterly would be similar to performing an annual recalibration on a quarterly basis. Due to the extended timeframe required to have model changes approved internally and by competent authorities, there would always be a 4-5 month lag time to apply changes to the correlations.

As ISDA SIMM is the predominant industry method for calculation of IM both within and across borders, changes can only be applied on a global basis. The introduction of required quarterly recalibrations in the EU will have the practical effect of forcing counterparties in every other global

jurisdiction to adopt a new version of SIMM, as required, seek approval or provide notice to other global authorities for more frequent model changes.

[C23.3] We suggest generalizing Article 23(1)(b) to all parameters as follows “that the initial margin does not rely on parameter assumptions that are not appropriately supported by market data”, and moving Article 23(1)(b) to Article 18(1), and then removing the rest of Article 23 (i.e., Article 23(1)(a) and Article 23(2)).

Article 23(2)(b) requires assessment of the impact the potential effect that alternative, historically observed high and low correlations could produce in the initial margin calculation. Correlations are unlike other parameter types in that there is no directionality to prudence: depending upon a portfolio’s sensitivity to two risk factors, a higher correlation could lead to higher or lower IM calculation (as could a lower correlation). Where present in an IM model, it is correct that their suitability should be demonstrated just like any other parameter; this requirement is addressed in Article 18 covering included parameters and Article 19 covering omitted risk factors. We suggest generalising point (b) of 23(1) to all parameters and moving it to Article 18(1) and removing the rest of this article for the following reasons:

- Paragraph 1(a) repeats the requirements in Article 19(1) and 19(3) that ensure all material risk factors are included or their omission justified; assessment of sensitivity to implied correlation changes is no different from sensitivity to any other risk factor. Article 14(2) of the EMIR RTS covers all the *significant* risks and is clear that the list of risk factors in its points (a) to (i) is not exhaustive. There is no need to single out implied correlation here, and doing so suggests that other risk factors not explicitly mentioned do not require the same analysis. Being redundant and unhelpful, this point should be removed.
- Paragraph 1(b) is already largely covered in point (a) of Article 18(1) but could be generalised and inserted between points (a) and (b) of 18(1) as “that the initial margin does not rely on parameter assumptions that are not appropriately supported by market data”.
- Paragraph 2 introduces a new requirement to review correlations – uniquely among risk factors or parameter types – on a quarterly basis. This goes too far beyond the requirements in the EMIR RTS to calibrate at least annually and neither the frequency or special treatment is justified anywhere else in the regulations. In any event, the quarterly static and dynamic testing requirements of Articles 14 and 17 will surely highlight any instances where IM is insufficient due to inadequate correlation modelling, so the analysis required in 2(a) and 2(b) does not produce any information relevant to assessing the sufficiency of the IM model. This paragraph should be removed.

A better way to test for imprudent reflection of correlation would be to perform the Static Backtesting of Article 14 including the out-of-sample period after the calibration was performed; that is, using the market data scenarios which would be used if the model were to be recalibrated as of the static backtesting portfolio date. Using a sliding recent period for Static Backtesting would do more to ensure robust validation of all parameters, including correlations.

**Q31: What are the stakeholders' views regarding the section 2 subsection 2 in general? Please specify the specific issue by article where possible.**

In general, we believe the requirements in Articles 7 to 23 are overly prescriptive. In certain cases, they deviate significantly from the processes currently established by firms using ISDA SIMM®. In some cases, they are not possible to implement. In other cases, they would require major changes to firms' model validation processes and controls – creating significant cost and effort and forcing global firms to either follow the EU model validation requirements for all jurisdictions or else maintain separate processes and controls for compliance with EU requirements. Either way, it will put EU counterparties at a disadvantage to their non-EU affiliates and other global counterparties, driving many to use the regulatory schedule instead of ISDA SIMM®. We also note that in certain cases, the terms also deviate from the current global model. Fragmenting SIMM at either the global model level or the governance/remediation level would affect the practical implementation of the global model, reconciliation of initial margin, remediation of portfolios and level playing field across jurisdictions.

It is therefore imperative that proposals that are not practicable are eliminated or revised substantially to avoid the unintended consequence of undermining the use of quantitative IM models in the EU. These provisions are discussed in detail in response to questions 11 to 30.

*Section 3, Simplified Supervisory Procedures, Articles 24-29 (Q32 to Q34)*

**Q32: What are the stakeholders' views regarding section 3 in general? Please specify the issue by article where possible.**

[C0.2] The simplified requirements create a burden to Phase 5 and 6 firms and to the regulatory community. They are disproportionate to the risk, considering the exchange of variation margin which applies broadly and the relatively low levels of IM likely to be exchanged compared to portfolios between Phase 1-4 firms. Changes to the global SIMM model (or any global IM model) will almost always originate from the centralized administration process yet any such change will require regulators to review hundreds of separate validation applications, prepared individually by each EU Counterparty with supporting detailed independent verification. This process would be especially burdensome to Phase 5 and 6 firms, which will be less likely to have enterprise model and model governance infrastructure in place.

If such requirements on Phase 5 and 6 firms must remain intact, we ask that regulators mitigate the burden by either:

- (a) replacing the granular requirements with a more general obligation to provide evidence as to how they are meeting the IMM V RTS governance requirements, presented once then updated annually as needed; or
- (b) making it easier for third parties or dealer counterparties to shoulder some of the calculation, monitoring and remediation processes.

Phase 5 and 6 firms face a choice of:

- (1) Investing in infrastructure required to use models and processes such as those in SIMM and suffer a relatively high cost for a firm operating at low scale.
- (2) Apply GRID margin on its calls. Its counterparties will probably reciprocate and apply GRID margin in calls on the Phase 5 or 6 firm. The result is a liquidity draw on the Phase 5 or 6 firm, and higher trading costs related to margin funding.
- (3) Hedge less perfectly, using products not subject to IM rules or part of AANA.
- (4) Outsource calculations to a third-party provider or to its dealer counterparty, who may have sufficient resources and capabilities to meet either Simplified or Standard procedures.

We believe option (4) presents the best choice for firms who cannot achieve (1), above.

In order to facilitate outsourcing, we ask that regulators loosen requirements which dissuade third-party providers or dealers from taking on some tasks on behalf of their client counterparties. Each of the comments in this paper represents a suggestion to help ease practical constraints, but special attention should be paid to [C7.1], [C7.2] and [C7.3].

[C0.3] We request that the requirements cater for considerations specific to separately managed accounts by acknowledging and accommodating for the practical limitations.

The requirements of the IMMVS RTS are particularly challenging to administer for SMAs. The requirement to obtain initial and ongoing entity-level regulatory validation of an IM model means that SMAs would have to individually seek approval for each of its managers' SIMM models. But that is not practically viable as it would mean each of its managers giving the client proprietary/sensitive data (which they may be unable to do). And the alternative – each manager separately seeking regulatory approval on the client's behalf – equally doesn't work as managers generally do not engage directly with clients' regulators on their behalf. Whilst the outcome of this position is the same as highlighted for other parties – making SIMM impossible for SMAs to use – we think this highlights a specific detriment for EU managed funds. We believe the situation requires further regulatory dialogue with asset managers and beneficial owners to determine a workable solution.

**Q33: What are the stakeholders' views regarding the thresholds selected (10% and 20%) to trigger the process for model changes and extensions in Article 25 for the simplified assessment?**

We support the higher thresholds of 10% and 20% for material extensions and changes to an IM model that have been proposed for parties subject to the simplified supervisory procedures.

[C25.1] We suggest Article 25(2)(c) and 25(5) be removed.

In accordance with our feedback on Article 4(2)(c), we do not support the subjective approach in Article 25(2)(c) whereby each competent authority may determine whether a change between 10% and 20% is material enough to require model change approval. In accordance with our feedback on Article 4(5), Article 25(5) poses the same challenge by which a party would need to know the materiality decision under Article 25(2)(c) of their competent authority in order to prompt the application for approval following a materials change.

[C25.2] In the case where Articles 25(2)(c) and 25(5) are not removed, we request that in the case of ISDA SIMM® a joint authority determination be made based on the documentation submitted by ISDA, so that all SIMM users subject to EU requirements could be informed by ISDA of the requirement to apply for model change approval.

This proposed alternative is as a replacement for Article 25(2)(c) and 25(5).

[C25.3] We request that Article 25(4) be revised in accordance with a possible proposed wording: “For counterparties belonging to a group, the changes referred to in paragraph 2 shall be calculated at the group level where it is practicable and appropriate to do so”.

This request is in line with the similar request for Article 4(4) captured under [C4.4]. Article 25(4) states that the conditions in paragraph 2 to determine the materiality of extensions and changes are calculated at the group-level for counterparties belonging to a group. There are couple of circumstances unique to Phase 5 and 6 firms which are relevant to the expectation that such conditions could be analyzed at the group level. First, we expect a greater use of GRID or a combination of SIMM and GRID for these portfolios, and therefore any group level calculation would only be relevant for entities within the group that have previously applied for approval to use the same IM model. The calculations would only include the portfolios or portions of the portfolios for which there is a bilateral agreement in place to utilize that IM model.

It is also important to recognize that some Phase 5 entities and a large percentage of Phase 6 entities have their derivatives portfolios managed by asset managers. A single entity, such as a pension fund or endowment (each a “beneficial owner”), might have multiple asset managers to execute different strategies on their behalf. Each such relationship is referred to as a separately managed account (SMA). An asset manager will manage the IM calculations on behalf of each SMA and does not have access to any information on the trading activities conducted on behalf of a beneficial owner by other asset managers. Therefore, an asset manager can neither conduct nor outsource the aggregation of the analysis for the conditions in paragraph 2 for all SMAs of a beneficial owner. Rather the calculations would be conducted for an individual SMA or that SMA combined with the SMA of any affiliates which have managed accounts with the same asset manager.

With respect to its reference in Article 25(2)(a), (b), we reiterate our request captured under [CA.1] in the response to Q8 that Annex 1, Part 1, Section 1, Paragraph 1 be removed as these conditions are more suitable to market risk capital calculations than initial margin calculations.

**Q34: What are the stakeholders’ views regarding the scope of the documentation requirements in Articles 27 and 28 for the simplified assessment?**

As noted above, the simplified approach should be materially simpler than the standardized approach. The concessions with respect to documentation for the simplified assessment only carve out (i) technical and process documents for the model (ii) a report of the independent review or validation and (iii) records of current and previous versions of the validated method.

As ISDA provides model documentation to all SIMM users and we expect that any application for model reapproval would reference the relevant versions of the model, the only meaningful documentation difference is the report for independent validation.

*Section 4, Transitional and Final Provisions, Articles 30-31 (Q35 to Q37)*

**Q35: What are the stakeholders' views regarding the transitional provision in Article 30? Are the two years of transition suggested sufficient to have a first validation of the models in place?**

[C30.1] In the event that the competent authorities object to the use of an initial margin model by a firm, we request clarification in Article 30 that the firm would be afforded a cure period to adjust any insufficiencies in its model application/implementation.

In respect of the proposed two-year transitional period, Article 30 does not make clear whether an applicant will be afforded a cure period to adjust any insufficiencies in its model application/implementation.

[C30.2] In the event that the competent authorities object to the use of an initial margin model by a firm, we request clarification in Article 30 that the firm would be afforded a transition period to adjust its internal policies and procedures, and to negotiate the change to IM calculation with its counterparties.

[C30.3] We request that the IMMV RTS specifically acknowledge that in the event an EU counterparty does not receive from its competent authority (i) initial approval for an IM model which it started using prior to the application of the IMMV RTS or (ii) reapproval for a model which it received prior approval from its competent authority, that the application of GRID apply only to derivative transactions entered into after a final determination has been made by the competent authority to deny the approval and adequate time has been afforded to renegotiate CSAs.

An EU Counterparty which applies to its competent authority for approval to use ISDA SIMM will have existing portfolios where transactions were entered based on SIMM, as governed by bilaterally negotiated Credit Support Annexes (CSA). Applying GRID retroactively to existing trades subject to regulatory IM can create liquidity impacts which can ripple through the industry.

Note that an EU Counterparty does not have the contractual right to change the IM model and increase the IM amount for its existing regulatory margin portfolios. If approval or reapproval of ISDA SIMM was not granted, the firm would need to renegotiate its CSAs, and could only call for IM based on another method once agreement had been made with each counterparty.

Applying GRID to existing trades could result in:

- (1) Counterparties to an affected EU counterparty reciprocating and charging the affected EU counterparty GRID initial margin in the event that the affected EU counterparty changes its negotiated CSAs to reflect a sudden initial margin call using GRID.
- (2) Counterparties to the affected EU counterparty would face materially increased margin burdens, which may far exceed margin and funding assumptions in planning before the approval event or



transactions took place. Liquidity would flow out of the affected EU counterparty's trading partners, potentially causing issues with regulatory liquidity constraints such as NSFR.

- (3) A substantial liquidity drain for the EU counterparty itself, potentially hampering its activity. This could lead to a default of the affected EU counterparty.
- (4) Regulators seeing a vicious cycle of liquidity events. These draws on liquidity could cross jurisdictions. For instance, US, Japanese and other non-EU regimes could face liquidity impacts from a large and active EU entity.

ISDA analysis has shown that the GRID initial margin amounts may typically be 11 times higher than under a model-based initial margin regime<sup>7</sup>. Analysis ISDA conducted in 2018 with respect to potential Phase 5 counterparties showed that GRID amounts were on average 2.4 times higher.

**Q36: What are the stakeholders' views regarding the final provision in Article 31? Is the phase-in of 1, 2 and 3 years appropriate, considering the population of counterparties in the scope of the validation requirement?**

[C31.1] We suggest the text should say "above EUR 50 billion" in accordance with Article 36(1)(e) in amending Delegated Regulation (EU) 2016/2251 supplementing Regulation (EU) No 548/2012.

Article 31 refers to an AANA that is at least EUR 50 billion for the application of Section 3 from the date which is 2 years from the date of entry into force of the IMMV Regulation.

We support the final provision in Article 31 which provides for a 1-, 2- and 3-year phase-in of the IMMV requirements based on the established IM phase-in thresholds of EUR 750 billion (Phases 1-4), EUR 50 billion (Phase 5) and EUR 8 billion (Phase 6).

**Q37: What are the stakeholders' views regarding the transitional and final provisions in general? Are there aspects that should further be considered?**

[C0.4] We would like to recommend that a Phase 5 or 6 firm that is not subject to an IM exchange requirement as of the date of application of the IMMV RTS, should not be required to submit an application for use of the IM model that it is using for monitoring.

Because of the type and frequency of trading undertaken by Phase 5 and 6 counterparties, a large percentage of these counterparties or groups are not anticipated to breach the relevant EUR 10 million or EUR 50 million IM threshold in the near term, if ever, following the application of the initial margin requirements. These counterparties will instead monitor their IM exposures over the long term. As such, they will employ an IM model for monitoring but not for IM exchange. As they have no regulatory obligation to exchange IM, we believe they should neither be subject to the approval requirement for an IM model.

[C0.5] We recommend that counterparties that are not subject to an IM exchange requirement upon the date of application of the IMMV RTS be permitted to submit an application for initial model approval to their competent authority prior to the first instance in which initial margin is required to be exchanged

<sup>7</sup> <https://www.isda.org/a/4AiDE/march-26-simm-for-non-cleared-paper-appendix.pdf>

and that the two-year period for review by the competent authority commences from such application date.

We believe it is not practical for Phase 5 and 6 firms to apply for and maintain approval to use in IM model solely for monitoring exposure against the IM threshold. Analysis from ISDA<sup>8</sup> suggests that over 78% of Phase 6 firms are unlikely to be required to exchange IM in the near term, if ever, due to the volume and types of derivatives they are trading (e.g. physically settled FX forwards). The monitoring of IM prior to an exchange requirement may be conducted through the use of a vendor for the Phase 5 or 6 firm and also by the dealer counterparty that will already be subject to an IM model approval requirement either in the EU or their local jurisdiction.

[C0.6] We request that counterparties which are part of a group which newly breaches the EUR 8 billion level during an AANA calculation period during or after 2023 also be permitted to submit an application for initial model approval to their competent authority prior to the first instance in which initial margin is required to be exchanged and that the two-year period for review by the competent authority commences from such application date.

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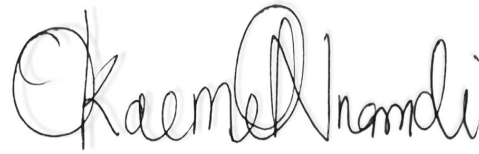
<sup>8</sup> <https://www.isda.org/a/JBWTE/IM-Phase-5-and-6-Estimates-10.16.19.pdf>

The Associations greatly appreciate the opportunity to provide feedback on the IMMV Consultation. We look forward to further engagement on proposed requirements and thank you in advance for consideration of our recommendations.

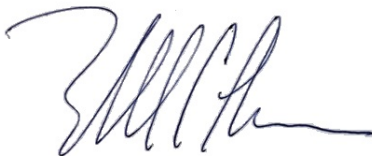
Kind regards,

A handwritten signature in black ink, appearing to read 'Tara Kruse'.

Tara Kruse  
*Global Head of Infrastructure, Data & Non-Cleared Margin*  
**The International Swaps and Derivatives Association, Inc.**

A handwritten signature in black ink, appearing to read 'Nnamdi Okaeme'.

Nnamdi Okaeme  
*Head of SIMM*  
**The International Swaps and Derivatives Association, Inc.**

A handwritten signature in black ink, appearing to read 'William Thum'.

William Thum, Esq.  
*Managing Director and Associate General Counsel*  
**Asset Management Group**

/s/

Sebastian Stodulka  
*Head of Regulatory Affairs*  
**European Savings and Retail Banking Group**

/s/

Matteo Cuda  
*Capital Market Advisor*  
**European Savings and Retail Banking Group**

### **About the Associations**

Since 1985, ISDA has worked to make the global derivatives markets safer and more efficient. Today, ISDA has over 970 member institutions from 77 countries. These members comprise a broad range of derivatives market participants, including corporations, investment managers, government and supranational entities, insurance companies, energy and commodities firms, and international and regional banks. In addition to market participants, members also include key components of the derivatives market infrastructure, such as exchanges, intermediaries, clearing houses and repositories, as well as law firms, accounting firms and other service providers. Information about ISDA and its activities is available on the Association's website: [www.isda.org](http://www.isda.org). Follow us on [Twitter](#), [LinkedIn](#), [Facebook](#) and [YouTube](#).

SIFMA's Asset Management Group (SIFMA AMG) brings the asset management community together to provide views on U.S. and global policy and to create industry best practices. SIFMA AMG's members represent U.S. and global asset management firms whose combined assets under management exceed \$45 trillion. The clients of SIFMA AMG member firms include, among others, tens of millions of individual investors, registered investment companies, endowments, public and private pension funds, UCITS and private funds such as hedge funds and private equity funds. For more information, visit: <http://www.sifma.org/amg>.

About ESBG (European Savings and Retail Banking Group) ESBG is an association that represents the locally focused European banking sector, helping savings and retail banks in 18 European countries strengthen their unique approach that focuses on providing service to local communities and boosting SMEs. An advocate for a proportionate approach to banking rules, ESBG unites at EU level some 885 banks, which together employ 656,000 people driven to innovate at 48,900 outlets. ESBG members have total assets of €5.3 trillion, provide €1 trillion billion in corporate loans, including SMEs, and serve 150 million Europeans seeking retail banking services. ESBG members are committed to further unleash the promise of sustainable, responsible 21<sup>st</sup> century banking. For more information, visit: [www.wsbi-esbg.org](http://www.wsbi-esbg.org)

*APPENDIX A: Influence of choice of daily return distribution on green and amber threshold limits*

1. Introduction

In the EBA Consultation Paper on Initial Margin model validation, the EBA raised the question of the choice of the distribution of daily PnL returns,  $X$ . There was the implicit concern that a poor choice for  $X$  might produce inaccurate green and amber thresholds.

In particular, the ISDA SIMM backtesting RAG thresholds assume a normal distribution for  $X$ , whereas it is well known that actual returns of financial assets have thicker tails than the normal distribution.

This short document will consider the choice of distribution and show that the normal distribution is actually conservative for this purpose.

2. Testing

To assess the impact of the choice of daily distribution  $X$ , six possible candidates were considered for testing. The six candidate distributions were (in order of increasing excess kurtosis)

| Distribution                                  | Density   | Kurtosis (excess)     | EVT Shape param $\xi$  |
|---|---|-----------------------|------------------------|
| Normal  | $f(x) = \frac{1}{\sqrt{2\pi}} \exp\left(-\frac{x^2}{2}\right)$  | 0                     | 0                      |
| Student-t ( $\nu = 7$ )                       | $f(x) = \frac{\Gamma\left(\frac{\nu+1}{2}\right)}{\sqrt{\nu}\Gamma\left(\frac{\nu}{2}\right)\Gamma\left(\frac{1}{2}\right)} \left(\frac{1}{1+\frac{x^2}{\nu}}\right)^{\frac{\nu+1}{2}}$ | $\frac{6}{\nu-4} = 2$ | $\frac{1}{\nu} = 0.14$ |
| Student-t ( $\nu = 4.5$ )                     | (as above)  | 12                    | 0.22                   |
| Student-t ( $\nu = 3$ )                       | (as above)  | Undefined             | 0.33                   |
| Cauchy, equivalent to Student-t ( $\nu = 1$ ) | $f(x) = \frac{1}{\pi(1+x^2)}$   | Undefined             | 1                      |

The Student-t and Cauchy distributions were chosen because they have heavier tails than the normal distribution, which may be a more accurate reflection of financial prices' daily movements. The tail-shape parameter,  $\xi$ , from Extreme Value Theory is also shown for information. Distributions with heavier tails have larger values of  $\xi$ .

The Cauchy distribution has particularly heavy tails, so that its mean and variance are not even defined. But this does not prevent the calculation of IM thresholds.

For each distribution, we followed the guidelines in the EU RTS document.

Define  $Y$  as the sum of a number of independent copies of  $X$ ,

$$Y = \sum_{i=1}^{MPOR} X_i,$$

and then calculate the IM threshold  $K$ , defined as the solution to the equation

$$\mathbb{P}(Y \leq K) = 99\%.$$

(Note that this depends on the distribution of  $X$ , so that distributions with heavier tails will have larger values of  $K$ .)

Then we define  $O$  as the number of days on which  $Y_d > K$ , where each overlapping return  $Y_d$  is defined as

$$Y_d = \sum_{i=d}^{d+MPOR-1} X_i.$$

We then define the thresholds  $N_g$  and  $N_r$  as

$$\mathbb{P}(O \leq N_g) < 0.95 \leq \mathbb{P}(O \leq N_g + 1),$$

And

$$\mathbb{P}(O \leq N_r) < 0.9999 \leq \mathbb{P}(O \leq N_r + 1).$$

Here  $N_g$  is the upper limit for exceedances for a green portfolio, and  $N_r$  is the upper limit for exceedances for an amber portfolio.

The values of  $N_g$  and  $N_r$  were calculated using Monte Carlo simulation in the case where there were 1,040 observations over overlapping 10-day periods.

### 3. Results

The results of the experiment are shown in the table below.

| Distribution              | Upper Green Threshold<br>$N_g$ | Upper Amber Threshold<br>$N_r$ |
|---------------------------|--------------------------------|--------------------------------|
| Normal                    | 22                             | 45                             |
| Student-t ( $\nu = 7$ )   | 22                             | 47                             |
| Student-t ( $\nu = 4.5$ ) | 23                             | 49                             |
| Student-t ( $\nu = 3$ )   | 25                             | 55                             |
| Cauchy                    | 29                             | 62                             |



We see that the Normal distribution is conservative, in that it has the lowest values for the two thresholds over all the tested distributions.

The fact that the high- $\nu$  case is similar to the normal is not a coincidence, since the Student-t distribution converges to the normal distribution for large values of the  $\nu$  parameter.

This shows that the assumption of normal returns is benign in this situation and only creates an error in the conservative direction. That is, the normal assumption makes it more likely than other assumptions that a backtested portfolio would be classified as amber or red.

The distribution with the heaviest tails, Cauchy, has threshold levels which are significantly higher than those coming from the normal distribution. This shows that the Cauchy assumption would be significantly more aggressive than the normal assumption for testing purposes.

*APPENDIX B: Suggested text revisions for Articles 14 and 17*

*Article 14*

*Internal validation of model calibration - static backtesting;*

1. In assessing that the performance of the model is monitored on a continuous basis, as required by Article 14(3) of Delegated Regulation (EU) 2016/2251, competent authorities shall verify all of the following requirements:

(a) that the unit of the counterparty responsible for the static backtesting programme, in accordance with Article 13 paragraph 2(b), complies with ~~both of~~ the following requirements:

~~(i) it is independent from the trading units responsible for originating, renewing or trading exposures;~~

(ii) it assesses the performance of the initial margin model via static backtesting;

(b) that, when carrying out the assessment referred to in point (a)(ii), the counterparty performs the following steps in sequence, at the least at the end of each quarter, and at least for each netting set for which the derogation referred to in Article 29 of Delegated Regulation (EU) 2016/2251 is not applied at the time of the application of the following steps, and applying the initial margin computed at the end of the period applied for the backtesting:

(i) it identifies the MPoR used for the calculation of the initial margin in accordance with Article 15(1) of Commission Delegated Regulation (EU) 2016/2251;

(ii) it identifies ~~the~~ an up-to-date period of equal length and similar construction to ~~that is~~ used for the calibration of the initial margin model's parameters in accordance with Article 16(1) of Commission Delegated Regulation (EU) 2016/2251;

(iii) for each date included in the period identified in point (ii), it identifies a corresponding following date distancing as many business days as the MPoR by that date;

(iv) for each date, and for all risk factors that are used to price the netting set in its current composition, it calculates the return observed between that date and the corresponding date identified in point (iii);

(v) for each date, it computes a change loss by applying the returns obtained in point (iv) to the current value of the corresponding risk factors and measuring the change of the market values of the non-centrally cleared OTC derivative contracts in the netting set.

(vi) it builds a time series of the changes losses obtained as a result of point (v), and it shall count the number of overshootings.

2. Competent authorities shall verify that in the course of computing the change in the market value of the non-centrally cleared OTC derivative contracts in the netting set, referred to in paragraph 1(b) point (iv), the counterparty meets all of the following requirements:

(a) it applies [a reasonably close match to](#) the ~~same~~ pricing methods, model parametrisations, market data and any other technique as those used in the end-of-day valuation process, ~~and it reflects only changes in valuation adjustments that are included in the counterpart's initial margin model and that are calculated on a daily basis;~~

(b) that it documents the basis for determining the change in the market value of the non-centrally cleared OTC derivative contracts in the netting set and the end-of-day valuation process for positions covered by the initial margin model;

(c) that it ensures that, where the model does not cover all of the asset classes referred to in Article 17(2) of Delegated Regulation (EU) 2016/2251, the change in the market value of the non-centrally cleared OTC derivative contracts in the netting set only encompasses the change in the market value of the non-centrally cleared OTC derivative contracts in the netting set stemming from instruments covered by the initial margin model.

[36](#). Competent authorities shall verify that all the netting sets are classified in the following manner:

(a) a netting set shall be considered “green” where the number of overshootings resulting from paragraph 1(b) is lower than or equal to the number  $N_{g,s}$  obtained by the counterpart in accordance with paragraph [74](#);

(b) a netting set shall be considered “red” where the number of overshootings resulting from paragraph 1(b) is greater than the number  $N_{r,s}$  obtained by the counterpart in accordance with paragraph 7;

(c) a netting shall be considered “amber” where it is neither green nor red in accordance with points (a) and (b).

[74](#). Competent authorities shall verify that the counterparty determines the numbers  $N_g$ , and  $N_{r,s}$  referred to in paragraph [64](#), applying the following steps:

(a) They assume, ~~based on proper empirical evidence using a reasonable choice~~, a distribution  $X$  of the changes in the value of the netting set over a period of 1 business day and construct the distribution  $Y$  of those changes over a period of days equal to the MPoR applied in the initial margin model calibration as follows:

$$Y = \sum_{i=1}^{MPOR} X_i$$

Where all  $X_i$  are distributed like  $X$  and are independent one from the other.

(b) They obtain the value of  $K$  as the value for which the following condition is met:

$$Probability(Y \leq Ks) = 0.99$$

(c) The number  $N_{g,s}$  shall be the number for which the following condition is met:

$$\text{Probability}(O \leq N_{g,s}) \leq 0.95 \leq \text{Probability}(O \leq N_{g,s} + 1)$$

Where  $O$  is a random variable counting the number of overshootings that occur in a period that is as long as the one identified in paragraph 1(b)(ii), when comparing a time series of the changes losses over MPoR overlapping-business-days against the initial margin over MPoR business days and assuming:

- (i) A model for which the initial margin over MPoR business days has been set to  $K_s$ ;
- (ii) To each business day  $d$  in the period identified in paragraph 1(b)(ii), it corresponds a daily change loss  $X_d$  distributed as  $X$ ;
- (iii) For each business day  $d$  in the period identified in paragraph 1(b)(ii), it corresponds the following change loss over MPoR business days:

$$L_d = \sum_{i=d}^{d+MPOR-1} X_i$$

where:

- $X_i$  are the daily changes as described in point (ii)

(d) The number  $N_r$ , shall be the number for which the following condition is met:

$$\text{Probability}(O \leq N_r) \leq 0.9999 \leq \text{Probability}(O \leq N_r + 1)$$

Where  $O$  is defined as in the point (c).

5. Competent authorities shall verify that the counterparty determines the “shortfall” for each amber or red netting set as the smallest additional amount of initial margin which would be required to classify the netting set as green.

63. Competent authorities shall verify both of the following:

- (a) that the counterparty analyses, for all ‘red’ portfolios with a shortfall of at least EUR 5 million, all overshootings in detail, in order to determine their causes;
- (b) that the counterparty documents the result of the analysis referred to in point (a).

74. Competent authorities shall verify that, with regard to the analysis of the overshootings referred to in paragraph 6(a), the counterparty carries out at least all of the following:

- (a) it analyses whether and which market movements or risk factors or parameters caused the overshooting;
- (b) it analyses whether any modelling issues, or missing risk factors, or aggregation of risk numbers contributed to the overshooting;

(c) it analyses whether process failures, including positions not being properly captured or missing updates of data, contributed to or caused the overshooting.

~~85. Competent authorities shall verify that the counterparty communicates to them the result of the static backtesting, including the analysis referred to in paragraph 6, for each netting set which is classified as 'red' and has a shortfall of at least EUR 25 million. where more than 10 overshootings are observed over the relevant period.~~

~~8. Competent authorities shall verify that the number of all the netting set defined as 'green', 'amber' and 'red' in accordance with paragraph 6 is compatible with the quantiles used to define those thresholds.~~

~~9. Competent authorities shall assess that the counterparty performs all the following steps:~~

~~(a) The counterparty identifies all dates for which there has been an overshooting in a red netting set.~~

~~(b) For each date identified in point (a), the counterparty applies the following steps:~~

~~(i) For each red netting set, it calculates the difference between the initial margin applied for the purpose of this backtesting, and the change in market values of the non-centrally cleared OTC derivative contracts in the netting set on the given date.~~

~~(ii) It sums all the differences calculated in accordance with point (i) across red netting sets.~~

~~(iii) The counterparty verifies that the number resulting from point (b) is lower than 1% of the total initial margin computed for the static backtesting for all the netting sets in the scope of initial margin model computation.~~

~~910. Competent authorities shall assess that the shortfall total initial margin for the any netting sets defined as 'red' in accordance with paragraph ~~63~~(b) is not greater than EUR 50 million.~~the 1% of the total initial margin for the netting sets defined as 'green' in accordance with paragraph 6(a).~~~~

~~1011. Competent authorities shall verify that, in accordance with Article 14(2)(k) of Delegated Regulation (EU) 2016/2251, the following are considered an event triggering a model change, recalibration or other remediation action:~~

~~(a) The occurrence of an overshooting for which the analysis referred to in paragraph ~~47~~ identifies a material weakness or inaccuracy in the initial margin model,~~

~~(b) The number of all the netting set defined as 'green', 'amber' and 'red' in accordance with paragraph 6 is not compatible, in accordance with paragraph 8, with the quantiles used to define those thresholds,~~

~~(c) The breach of any thresholds identified in paragraph 9.~~

Article 17

*Dynamic Backtesting programme*

1. In assessing that the performance of the model is monitored on a continuous basis, as required by Article 14(3) of Delegated Regulation (EU) 2016/2251, competent authorities shall verify all of the following requirements:

(a) that the unit of the counterparty responsible for the dynamic backtesting programme, in accordance with Article 11(f), complies with ~~both of~~ the following requirement:

~~(i) it is independent from the trading units responsible for originating, renewing or trading exposures;~~

(i) it assesses the performance of the initial margin model via dynamic backtesting;

(b) that, when carrying out the assessment referred to in point (a)(ii), the counterparty performs the following steps in sequence at the least at the end of each quarter, and at least for each netting set for which the derogation referred to in Article 29 of Delegated Regulation (EU) 2016/2251 is not applied at the time of the application of those steps:

(i) It identifies the dates corresponding to the most recent 250 business days, where available;

(ii) for each date identified in point (i), it identifies the non-centrally cleared OTC derivative contracts within the netting set on that date, it calculates the value of those contracts on that date and the subsequent business day, and it obtains the change in those values;

(iii) it determines the initial margin for that netting set over ~~a 1~~ either a 1-business-day or 10- business-day MPoR by either computing the initial margin over that MPoR or rescaling the initial margin resulting from the model with the actual MPoR of the netting set by means of an appropriate methodology, subject to periodic review as part of the internal validation process;

(iv) for each date identified in point (i), it compares the change in the values of the non-centrally derivative contracts resulting from point (ii) with the initial margin resulting from the model for that netting set using 1 or 10 business day as MPoR, and it counts the overshootings.

2. Competent authorities shall verify that in the course of computing the change in the market value of the non-centrally cleared OTC derivative contracts in the netting set, referred to in paragraph 1(b) point (ii), the counterparty complies with all of the following requirements:

(a) it applies a reasonable close match for the ~~same~~ pricing methods, model parametrisations, market data and any other technique as those used in the end-of-day valuation process, ~~and it reflects only changes in valuation adjustments that are included in the counterparty's initial margin model and that are calculated on a daily basis;~~

(b) that it documents the basis for determining the change in the market value of the non-centrally cleared OTC derivative contracts in the netting set and the end-of-day valuation process for positions covered by the initial margin model;

(c) that it ensures that, where the model does not cover all of the asset classes referred to in Article 17(2) of Delegated Regulation (EU) 2016/2251, the change in the market value of the non-centrally cleared OTC derivative contracts in the netting set only encompass the change in the market value of the non-centrally cleared OTC derivative contracts in the netting set stemming from instruments covered by the initial margin model;

**63.** Competent authorities shall verify that all the netting sets are classified in the following manner:

(a) a netting set shall be considered “green” where the number of overshootings resulting from paragraph 1(b) is lower than or equal to the number  $N_{g,d}$  obtained by the counterparty in accordance with paragraph [74](#);

(b) a netting set shall be considered “red” where the number of overshootings resulting from paragraph 1(b) is greater than to the number  $N_{r,d}$  obtained by the counterparty in accordance with paragraph [74](#);

(c) a netting shall be considered “amber” where it is neither green nor red in accordance with points (a) and (b).

**74.** Competent authorities shall verify that the counterparty determines the numbers  $N_g$  and  $N_r$  referred to in paragraph 6, [by applying Article 14 paragraph 4 if a 10-business-day MPOR is used, otherwise by](#) applying the following steps: (a) They assume, based on proper empirical evidence, a distribution  $X$  of the changes in the value of the netting set over a period of 1 business day, where all  $X_i$  are independent one from the other.

(b) They obtain the value of  $K$  as the value for which the following condition is met:

$$Probability (X \leq K_d) = 0.99$$

(c) The number  $N_{g,d}$  shall be the number for which the following condition is met:

$$Probability (O \leq N_g) < 95\% \leq Probability (O \leq N_{g,d} + 1) = 0.95$$

Where  $O$  is a random variable counting the number of overshootings when comparing daily changes against the initial margin over a 1-business day MPoR that occur in a period that is long as the one identified in paragraph 1 and assuming:

(i) A model for which the initial margin over a 1-business MPoR has been set to  $K_d$ ;

(ii) All daily changes over the period to be distributed as  $X$ ;

(d) The number  $N_r$  shall be the number for which the following condition is met:

$$Probability (O \leq N_r) \leq 0.9999 \leq Probability (O \leq N_{r,d} + 1)$$



Where  $O$  is defined as in the point (c).

5. Competent authorities shall verify that the counterparty determines the “shortfall” for each amber or red netting set as the smallest additional amount of initial margin, added as a constant to each daily-observed margin, which would be required to classify the netting set as green.

63. Competent authorities shall verify both of the following:

- (a) that the counterparty analyses, for all ‘red’ portfolios with a shortfall of at least EUR 5 million, all overshootings in detail, in order to determine their causes;
- (b) that the counterparty documents the result of the analysis referred to in point (a).

74. Competent authorities shall verify that, with regard to the analysis of the overshootings referred to in paragraph 6(a), the counterparty carries out at least all of the following:

- (a) it analyses whether and which market movements or risk factors or parameters caused the overshooting;
- (b) it analyses whether any modelling issues, or missing risk factors, or aggregation of risk numbers contributed to the overshooting;
- (c) it analyses whether process failures, including positions not being properly captured or missing updates of data, contributed to or caused the overshooting.

85. Competent authorities shall verify that the counterparty communicates to them the result of the dynamic backtesting programme, including the analysis referred to in paragraph 3, for each netting set which is classified as ‘red’ and has a shortfall of at least EUR 25 million.~~where more than two overshootings are observed over the relevant period.~~

~~8. Competent authorities shall verify that the number of all the netting set defined as ‘green’, ‘amber’ and ‘red’ in accordance with paragraph 6 is compatible with the quantiles used to define these thresholds.~~

~~9. Competent authorities shall assess that the counterparty performs all the following steps:~~

- ~~(a) The counterparty identifies all dates for which there has been an overshooting in a red netting set.~~
- ~~(b) For each date identified in point (a), the counterparty applies the following steps:
  - ~~(i) For each red netting set, it calculates the difference between the initial margin applied for the purpose of this backtesting and the change in market values of the non-centrally cleared OTC derivative contracts in the netting set on the given date.~~
  - ~~(ii) For each date, it sums all the differences calculated in accordance with point (i) across red netting sets.~~~~

~~(iii) The counterparty verifies that the number resulting from point (b) is lower than 1% of the total initial margin computed for the dynamic backtesting for all the netting sets in the scope of Initial Margin model computation.~~

~~910. Competent authorities shall assess that the total initial margin shortfall for any the netting sets defined as 'red' in accordance with paragraph 6(b) is not greater than the 1% of the total initial margin for the netting sets defined as 'green' in accordance with paragraph 6(a) EUR 50 million.~~

~~1011. Competent authorities shall verify that, in accordance with Article 14(2)(k) of Delegated Regulation (EU) 2016/2251, the following are considered an event triggering a model change, recalibration or other remediation action:~~

~~(a) The occurrence of an overshooting for which the analysis referred to in paragraph 47 identify a material weakness or inaccuracy in the initial margin model,~~

~~(b) The number of all the netting set defined as 'green', 'amber' and 'red' in accordance with paragraph 6 is not compatible, in accordance with paragraph 8, with the quantiles used to define these thresholds,~~

~~(c) The breach of any thresholds identified in paragraphs 9 and 10, unless either party to the netting set is able to perform static backtesting on the netting set in accordance with Article 14, in which case the results of that static backtesting should take priority.~~