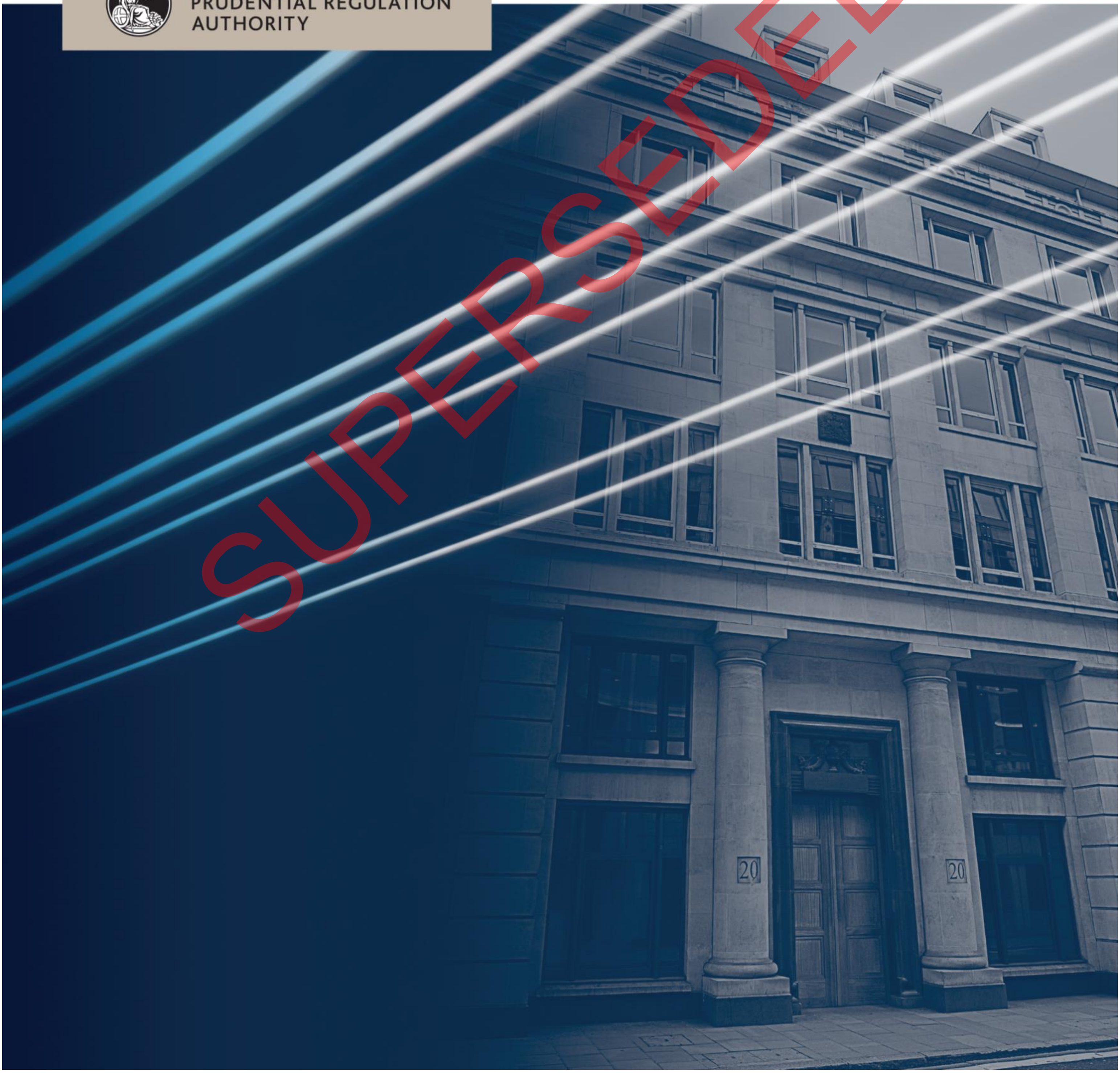
Supervisory Statement | SS12/13

Counterparty credit risk

October 2020

(Updating July 2016)

BANK OF ENGLAND
PRUDENTIAL REGULATION AUTHORITY



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Prudential Regulation Authority | 20 Moorgate | London EC2R 6DA

Contents

1 Introduction

1.1 This supervisory statement is aimed at firms to which CRD IV applies.[1] This statement:

- clarifies the Prudential Regulation Authority's (PRA's) expectations as to the inclusion of securities financing transactions in the calculation of the credit valuation adjustment capital charge;
- clarifies the identification of qualifying central counterparties;
- sets out the factors which the PRA expects such firms to take into account when applying for certain permissions related to the counterparty credit risk regulatory framework; and
- sets out the PRA's approach to post approval changes to counterparty credit risk advanced model approaches.

1.2 This statement should be considered in addition to the requirements in CRR Articles 162 and 382; the Counterparty Credit Risk section of the PRA Rulebook and the high-level expectations outlined in 'The PRA's approach to banking supervision'.[2]

2 Factors which the PRA expects firms to take into account when applying for certain permissions related to the counterparty credit risk regulatory framework.

Use of 'Internal CVA model' for the calculation of the maturity factor 'M'

2.1 This section sets out the PRA's expectations for granting a firm permission to use its own one-sided credit valuation adjustment internal models (an 'Internal CVA model') for the purpose of estimating the Maturity factor 'M', as proposed under CRR Article 162(2), paragraph (h).

2.2 The Maturity factor 'M' is intended to increase own funds requirements to reflect higher risks associated with medium and long-term over the counter (OTC) derivative portfolios where the exposure profile of contracts extends beyond one year. The adjustment is only applicable to firms using the Internal Model Method (IMM) for the calculation of exposure values.

2.3 Subject to permission being granted by the PRA, as the relevant competent authority, firms may replace the formula for the Maturity factor 'M', as set out in CRR Article 162(2), paragraph (g), with the 'effective credit duration' derived from the firm's Internal CVA model.

2.4 Internal CVA models are complex by nature and modelling practices vary significantly across the industry. The PRA considers the creation of an acceptable model resulting in an appropriate credit duration to be challenging. Accordingly, the PRA expects firms to demonstrate a strong case for permission to be granted.

2.5 A firm that wishes to make an application under CRR Article 162(2), paragraph (h) should provide a satisfactory justification for the use of an internal CVA model for estimating the maturity factor 'M'. The PRA does not consider the reduction of the own funds requirements for counterparty

1 Capital Requirements Directive (2013/36/EU) (CRD) and Capital Requirements Regulation (575/2013) (CRR) – jointly 'CRD IV'.
2 Available at: https://www.bankofengland.co.uk/prudential-regulation/publication/pras-approach-to-supervision-of-the-banking-and-insurance-sectors.

credit risk to be a reasonable justification. The PRA will also require highly conservative modelling assumptions within a firm's Internal CVA model for the purpose of CRR Article 162(2), paragraph (h).

2.6 To apply for the CRR Article 162(2), paragraph (h) permission, firms should contact the PRA.

Permission to set the maturity factor 'M' to 1 for the Counterparty Credit Risk default charge

2.7 This section sets out the PRA's expectations for granting a permission to firms that use the Internal Model Method (IMM) and/or that use an internal Value-at-Risk (VaR) model for specific risk associated with traded debt instruments to set to 1 the Maturity factor 'M' defined in CRR Article 162.

2.8 CRR Article 162(2), paragraph (i) allows a firm using the IMM to set the Maturity factor 'M' to 1 provided the firm's internal VaR model for specific risk associated with traded debt instruments reflects the effect of rating migration. This is subject to the PRA's permission.

2.9 Internal VaR models for specific risk associated with traded debt instruments are not designed to capture the effects of rating migrations. The risk captured by these models is based on a ten-day time horizon which does not appropriately reflect the dynamics of rating migrations, which occur on an irregular and infrequent basis. This deficiency was one of the main reasons for the introduction of a separate risk measure for the capture of both default and migration risk, based on a one-year time horizon (the 'IRC' model, CRR Article 372). Since the challenges of appropriately capturing credit rating migrations in an internal VaR model are significant, the PRA expects firms to demonstrate a strong case for the granting of the permission set out in CRR Article 162(2), paragraph (i).

2.10 A firm that wishes to make an application under CRR Article 162(2), paragraph (i) should provide a satisfactory justification for the use of its internal VaR to capture the risks associated with rating migration. The reduction of the own funds requirements for counterparty credit risk is not considered by the PRA to be a reasonable justification. The PRA expects highly conservative modelling assumptions for the capture of rating migrations within a firm's internal VaR model for the purpose of satisfying the requirements of CRR Article 162(2), paragraph (i).

2.11 To apply for the permission proposed under CRR 162(2), paragraph (i), firms should contact the PRA.

3 Inclusion of securities financing transactions in the scope of the CVA capital charge

3.1 This section sets out the PRA's determination of when risk exposures arising from securities financing transactions (SFTs) should be deemed material and be included in the scope of the own funds requirements for credit valuation adjustment (CVA) in accordance with CRR Article 382(2).

3.2 SFTs are not defined in the regulation. The PRA considers that, for these purposes, SFTs should include:

- repurchase transactions; and
- securities or commodities lending or borrowing transactions.

3.3 SFTs generally need not be included within the scope of a firm's CVA charge since they are typically accounted for based on their substance as secured lending arrangements. However, firms can be exposed to CVA risk as a result of SFT transactions. For example, the transfer of an asset and its forward sale (which underpin the legal form of the SFT) would be recognised as a derivative in the event of a subsequent deterioration in the creditworthiness of the counterparty to the SFT. The PRA considers that this CVA risk may be material where the following three conditions are met:

- the SFT's counterparty has demonstrated a recent deterioration of its creditworthiness;
- a severe deterioration of the SFT's counterparty's creditworthiness would lead to a previous transfer being accounted for as a sale and therefore the recognition of a derivative that would be included in the scope of the CVA charge; and
- the SFT transactions do not benefit from adequate credit risk mitigation. An example would be where the SFTs are not included in a master netting agreement that has the effect of reducing exposure to credit risk.

3.4 Where these conditions are met, firms must include SFT transactions in the scope of own funds requirements for CVA risk. The PRA may review firms' methodology for determining the inclusion of these SFT transactions in the scope of own funds requirements for CVA risks

4 Calculating own fund requirements for exposures to central counterparties: identifying qualifying central counterparties

4.1 The following will be qualifying central counterparties (QCCPs):

- all CCPs listed on the Bank of England's register of Recognised Clearing Houses (RCHs); and
- those third country CCPs that currently provide clearing services to UK credit institutions, or their subsidiaries.

4.2 The Bank of England's register of RCHs is available on the following link: www.bankofengland.co.uk/financialstability/Pages/fmis/supervised_sys/rch.aspx.

4.3 A list of authorised CCPs and information on recognised CCPs can be found on the European Securities and Markets Authority website at www.esma.europa.eu/page/Central-Counterparties. Authorised or recognised CCPs on the register will be considered to be QCCPs.

4.4 The PRA expects firms to notify the PRA if notification has been received that a CCP no longer reports its hypothetical capital (Kccp). The PRA will consider the reasons why the CCP has stopped calculating Kccp and issue a notice considering whether the reasons are valid, allowing firms to apply the treatment set out in Article 310 of the CRR.

4A Monitoring of model limitations

4A.1 Article 286(4) of the CRR states that firms using the IMM must have in place a formal process through which senior management shall be aware of the limitations and assumptions of the model and the impact those limitations and assumptions can have on the reliability of the model output.

4A.2 In complying with these requirements the PRA expects that all firms should be able to make readily available a single, comprehensive inventory of limitations and assumptions that may affect the output of the IMM to senior management, the PRA and other stakeholders. This should include all limitations and assumptions identified during the validation of the individual models which make up the IMM framework, as well as overarching limitations and assumptions which affect the calculation of Effective Expected Positive Exposure (EEPE) under both the current and stress period calibration. The inventory should include, but is not limited to, assumptions and limitations associated with the following:

- risk factors used by the business in the pricing of transactions included in the scope of the IMM, whose variability is not captured in the forecasting distribution used to calculate the exposure;
- the number of paths used, and the granularity of the time grid on which those paths are realised, should the firm use Monte Carlo simulation to estimate the exposure;
- any fixed parameters or constants determined by expert judgement which are used in the models to generate the forecast distribution under either the current or stressed calibration;
- collateralised exposure including the duration of the margin period of risk, and whether firms may continue to make (but not receive) trade-related cashflow payments during all or part of that period;
- the treatment of margining, and whether models recognise margin for which a firm may have called but not yet received from its counterparty as a result of the ordinary settlement cycle;
- calibration of models including the selection of calibration instruments, the length of historical time periods, or the use of proxy data;
- identification of a stress period which coincides with a period of increased credit default swap or other credit spreads for a representative selection of counterparties as per CRR Article 292(3); and
- the value assumed for any assets consistent with a jump to default of the underlying obligation as per CRR Article 291(5)(e).

4A.3 The PRA expects that firms should have in place a process for estimating the potential impact that limitations and assumptions may have on the key model outputs of exposure and capital requirements. The impact of a model assumption should be assessed relative to plausible alternative assumptions. The sophistication of the methodology used and the frequency of estimation, should be commensurate with the materiality of the limitation or assumption. Where quantitative models are used then these should be reviewed by a team independent from the model developer with a degree of rigour commensurate with materiality. Where the potential impact of an assumption or limitation on the total CCR capital requirement calculated using the IMM is material, firms should apply a prudent capital add-on in order to compensate for the risk. Capital add-ons for model limitations may be offset against other model risk-related capital add-ons, for example any capital buffer derived through backtesting, only to the extent that they can be clearly shown to derive from the same underlying limitation.

4A.4 The PRA expects that firms should take into account the effect of collateral when assessing the potential impact of model limitations and assumptions. Collateral reduces the absolute level of exposure to a counterparty but at the same time increases the relative materiality of any understatement of risk. This is particularly true for exposures covered by excess collateral beyond the amount needed to offset the current exposure, for example where a firm recognises the effect of initial margin posted by the counterparty. The PRA expects firms to ensure that the recognition of collateral in IMM does not reduce exposure to a level at which the output of the model is subject to excessive model risk.

4A.5 In meeting this expectation, for exposures covered by excess collateral required to meet a regulatory obligation calculated in accordance with Chapter I, Section 4 of Commission Delegated Regulation (EU) 2016/2251,[3] the PRA will expect firms to floor the *EEPE* as per equation [1] below.

$$[1]\ EEPE = \max\left[EEPE_{modelled}\ ,\ EEPE_0\left(0.05 + 0.95e^{-IM/1.9EEPE_0}\right)\right]$$

where $EEPE_{modelled}$ is the *EEPE* estimated by the model recognising all collateral; $EEPE_0$ is the *EEPE* recognising only collateral sufficient to offset the current market value; and *IM* is the volatility-adjusted value of excess collateral available over and above the amount required to offset the current market value. This floor should be applied at the level of each individual netting set.

4A.6 As well as monitoring the potential impact on the total CCR capital requirement calculated using the IMM, firms are expected to routinely identify individual counterparties and specific product types for which the impact of model limitations and assumptions may be particularly acute. Firms should have in place a process to ensure that credit officers and other stakeholders are made aware when there is a risk that exposure to a counterparty is materially understated as a result of deficiencies in the model. Senior management should be aware of any product types included in the IMM despite the presence of a model limitation which makes the model inherently unsuitable for estimating exposure for that particular product.

4B Treatment of unsettled margin

4B.1 Firms with permission under CRR Article 285 are required to capture the effects of margining within the calculation of Effective Expected Positive Exposure, which is derived from the profile of estimated Expected Exposure (EE). The PRA considers that firms are not required to estimate the initial EE recognising only collateral which has settled at the time of calculation. One example where it could, depending on circumstances, be appropriate to calculate initial EE on the basis of collateral which has not yet settled, is where the delay in settlement of collateral arises as a result of the ordinary collateral call and settlement cycle. A firm which calculates the initial EE on the basis of collateral which has not yet settled would be expected to monitor the impact of this modelling choice on an ongoing basis and hold capital against any understatement of economic risk. Firms would not be expected to recognise collateral in the initial EE which has been called for but disputed or otherwise delayed.

5 Annual SIF attestation of counterparty credit risk internal models

5.1 The PRA expects an appropriate individual in a Significant Influence Function (SIF) role to provide to the PRA on an annual basis written attestation that:

- the firm's internal approaches for which it has received a permission comply with the requirements in Part 3 Title II of the CRR, and any appropriate PRA counterparty credit risk supervisory statements; and

- where a model has been found not to be compliant, a credible plan for a return to compliance is in place and being completed.

3 Or third country requirements deemed to be equivalent under Article 13 of Regulation (EU) 648/2012.

5.2 Firms should agree the appropriate SIF for providing compliance attestations with the PRA, noting that the PRA would not expect to agree more than two SIFs to cover all the firm's counterparty credit risk internal models as described in Part Three Title II of the CRR.

6 Counterparty credit risk advanced model approaches: process for post-approval changes

6.1 This section describes the PRA's approach for post-approval changes to Counterparty Credit Risk Internal Model Method (IMM) as defined in Section 6 of Title II, Chapter 6 of the CRR and Internal Models approach for Master netting agreements ('Repo VaR') as defined in Article 221 of the CRR, including extensions of the scope of approval, and roll out of portfolios according to the roll-out plan; it suggests the documentation the PRA would seek to support the proposed change and provides an overview of the PRA's response to these advised changes.

6.2 The framework for post-approval model changes outlined here forms one integral element of the wider regime for calculating counterparty credit risk using advanced methods but does not encompass the entirety of the regime. To run this regime effectively, the PRA will deal with firm-driven actions (such as model changes) and also undertake other work (such as reviews and thematic work).

6.3 The PRA regards the post-approval regime as critical to maintaining confidence in the high standards which firms have been set during their initial CRR permission applications. An effective post-approval framework, which is the objective of the proposals in this paper, will provide this assurance while firms' models are adjusted over time, without imposing a disproportionate burden on firms and on the PRA.

6.4 The PRA will ask for prior information only for the most material changes (defined in paragraph 6.10) to their IMM or Repo VaR model, as described in paragraph 6.13. The PRA envisages that this will typically result in only a few pre-notifications on average per year per firm, even from the largest firms. For details about the changes, the PRA will rely to the extent it can on information generated internally by the firms. This should foster a pragmatic, 'no surprises', and proportionate regime.

6.5 Other changes should be reported in summary form only and after implementation. The arrangements allow for firms to agree *de minimis* thresholds below which no report needs to be made at all.

6.6 The PRA will review in due course, with input from the industry, how the process is operating.

Defining Materiality

6.7 Firms should notify the PRA of significant changes to IMM or Repo VaR models prior to these changes being implemented for capital purposes. The permission will offer some broad guidelines around factors which constitute significant change. The starting point is the assumption that firms will proactively advise supervisors of significant events or issues affecting the operation of the advanced model with the onus on the firm to judge what is significant.

6.8 The PRA's approach to assessing the significance of issues will be based on the materiality of changes, which in turn will be governed by the substance of the change as relevant to the firm rather than measurement against a predefined set of parameters. Once notified, the firm supervisor will evaluate the proposed change on a case by case basis. It is expected that both the firm and its respective supervisor will in the course of time reach a common understanding of the type of change that warrants consultation and approval.

6.9 Changes to a firm's model can be categorised as low or high impact depending on the level of materiality. This spectrum at one end denotes simple, minor changes which do not warrant prior consultation with the PRA. The other end is characterised by significant, high-impact changes which will need to be reported in advance and require PRA approval. These boundaries will encompass a middle range of changes that will be reported but which may or may not warrant PRA review.

Examples of change

6.10 Changes may involve several aspects of the advanced model framework. The following are examples of changes the PRA deems to be significant and therefore requiring prior approval by the PRA (please note that this is not an exhaustive list):

(a) Development of new models to cover products currently not in the scope of the permission, eg equity derivatives, interest rate derivatives.

(b) A model change resulting in a change in Counterparty Credit Risk (CCR) capital requirements for the UK consolidation group greater than 5% in both directions (that is, either increase or decrease of capital) or a change in gross EAD (for clarity the EAD should be calculated gross of netting, margin and collateral) of 5% in both directions. While the PRA would be open to suggestions from firms as to their preferred level for this threshold, or the basis on which it is calculated, the final parameter would need to be agreed between the firm and the PRA. As a benchmark the PRA intends that a change in CCR capital requirements of 5% should be considered significant or a change in gross EAD of 5% should be considered significant.

(c) A model previously deemed immaterial becomes material if it will calculate EAD greater than 5% of gross EAD or contribute more than 5% of CCR related capital requirement.

(d) Changes to the calculation system. These could include:

- (i) Structural changes to the system used to generate exposure profiles.
- (ii) Re-development/optimisation of existing routines which could lead to significant changes in the output of the model.

6.11 The following are examples of changes the PRA deems to be less significant and therefore require post-notification to the PRA (please note that this is not an exhaustive list):

(e) Extension of current models to new product types (product types currently not in the scope of the permission) eg swaps, caps, swaptions, etc.

(f) Changes to currently approved models. These may be related to:

- (i) Introduction of new risk factors (eg introduction of a new market risk factor in the simulation engine such as new currencies, new interest rate curves. It is not expected that this will cover increases in the granularity of particular risk factor curves).
- (ii) Changes to the evolution process of existing risk factors.
- (iii) Calibration methodology.
- (iv) Changes to the pricing functions used.

(g) Changes to the models due to changes in the composition of the portfolios and products traded (eg changes due to merger and/or acquisitions).

(h) A significant change to the outputs of the model resulting from a series of changes that in isolation may not be significant but cumulatively have a significant effect.

6.12 Firms may agree more detailed materiality thresholds with the PRA, if they wish.

Parallel running and the experience requirement

6.13 Depending on the materiality of changes, the requirements with regards to parallel running as defined under Article 289(2) of the CRR may change. The PRA does not intend to apply any formal requirement for parallel running to changes of IMM and Repo VaR systems. The PRA would, however, expect firms themselves to include parallel running to the extent they deem necessary as part of their normal general project management disciplines when introducing new or enhanced risk management tools.

6.14 It is expected that firms will demonstrate that the model is appropriate through backtesting. Firms are expected to back-test the advanced model and the relevant components that input into the calculation of EAD using historical data movements in market risk factors considering a number of distinct time horizons out to at least one year. The backtesting should cover a range of observation periods representing a wide range of market conditions.

Change to the governance process

6.15 This section describes the process firms are expected to follow when pre-notifying or post-notifying a model change.

Pre-notifying a change

- **Step 1**. The firm should advise the PRA about future proposed changes as far in advance as possible. In addition to this, during IMM reviews the firm will be expected to advise the PRA of its current thinking on future changes, across the group. The firm should expect that a decision by the PRA regarding pre-approval of a change can take up to six months.

- **Step 2**. The firm should submit a short description of the change.

- **Step 3**. The firm should conduct a self-assessment of the change against the relevant CRR rules, noting any areas of non-compliance with details of how and when these gaps will be closed and set out which CRR rules are not considered relevant.

- **Step 4**. If the change is recognised to be significant as per paragraph 6.10 prepare and submit the material set out in Appendix B.

- **Step 5**. Send the material from Steps 2, 3 and 4 to the PRA. The material needs to be sent sufficiently far in advance of the proposed change to allow time to review it prior to implementation. If the PRA chooses to review the change, it may ask for additional information and if necessary meetings or on-site visits. The PRA is content for firms to provide internal documentation for this purpose provided this addresses clearly and sufficiently the process requirements set out above.

Post-notifying a change

6.16 Where the change belongs to category (a), (b), (c), (d) in paragraph 6.11 the firm can notify the PRA after it has occurred. The firm should provide the following:

(a) a short description of the change, including the date on which the change was implemented;

(b) confirmation that the change has been reviewed through the firm's internal governance processes; and

(c) confirmation that a self-assessment of the change against the CRR rules has been completed and has not identified any areas of non-compliance.

6.17 After the post-notification, the PRA might request additional information, including internal documentation consistent with the relevant parts of Appendix B.

6.18 The PRA is also prepared to respond constructively to proposals from firms on a cumulative *de minimis* figure for immaterial models, changes to which will not require post-notification. The PRA envisages this total figure being in the region of a 5% increase or decrease in the CCR related capital requirement or EAD of the model for the UK consolidation group. Accordingly, a firm may nominate a number of models, each of which account for no more than a 5% change in the CCR related capital requirement or EAD and which in total account for no more than a 5% change in CCR related capital or EAD, for which neither pre-notification nor post-notification is ordinarily necessary.

Fees

6.19 There will be some circumstances where a fee will be applied — for example, when a firm is extensively changing the scope of its model approval or following a merger or acquisition that impacts the materiality of business in scope of an advanced approach permission.

Self-assessment

6.20 The self-assessment process described in paragraph 6.15, Step 3 needs only be an assessment against CRR rules that are relevant to the change in question. While it is the firm's responsibility to decide on the method of conducting the self-assessment, the PRA expects the self-assessment to be sufficiently rigorous to allow the firm to identify areas of non-compliance. In the case where areas of non-compliance have been identified the PRA expects firms to provide a detailed process for becoming compliant in the areas identified.

6.21 It is important to highlight that a high-level 'gap analysis' or a process that places reliance on the firm's governance process or on the firm's developmental process to deliver a compliant approach is unlikely to form an adequate self-assessment.

PRA response

6.22 To pre-notified changes: Following pre-notification, the PRA will make a prompt initial assessment of the material and determine whether a full review is needed or not. If a full review is not judged necessary, then the firm may make the change as planned. If a full review is judged necessary, then the firm will be informed, any on-site review work executed and a decision reached. In very limited circumstances, to be agreed on a case by case basis, the PRA may be prepared to allow firms to implement the proposed change in the interim, subject to an additional element of conservatism being applied.

6.23 Decision options for pre-notified changes are: 'approve', 'approve with hard ongoing conditions' and 'reject'. Firms will be given the opportunity to address issues prior to a formal decision being issued.

6.24 To post-notified changes: The PRA may take no action, or may select a change or portfolio for subsequent review as part of the review process.

6.25 The PRA's relationship with other EEA regulators is governed by Articles 115, 116 and, if necessary, by Articles 112 and 113 of the CRD as well as by the associated technical standards.

6.26 Updating the Direction: In the spirit of accuracy and transparency, any revisions to the permission decision should be reflected in the permission document and published as a subsequent version of the original. Generally, changes to the scope will warrant a change to the permission and require formal action. However, not every model change will warrant an update, even if it is a significant change. Following review of a significant change, there may follow a recommendation to add conditions.

Pillar 2

6.27 Depending on the magnitude of the effect on the firm's capital position, the change may also trigger a review of the firm's capital position under Pillar 2, possibly resulting in the request for a submission of a fresh ICAAP.

6.28 The firm should not rely on the PRA to ensure that a notified change is compliant and should not assume that the lack of an immediate response to a submission positively indicates that the change is compliant: responsibility for compliance rests with the firm.

Summary

6.29 The PRA observes that the assessment of significant changes cannot be a mechanistic approach given the individual characteristics of each firm. The PRA recognises that there will be a process of learning and refinement on both sides in terms of reaching an understanding of what is considered to be significant.

6.30 A diagram covering the key steps is attached as Appendix A.

Appendices

A	**IMM and Repo VaR post-approval model changes process**
B	**Documentation required for material changes**

Appendix A: IMM and Repo VaR Post-Approval Model Changes Process

For all model changes, firms are expected to complete the pro-forma, which can be found on the Bank of England's website at www.bankofengland.co.uk/pra/Pages/authorisations/crr/applying.aspx.

Firms keep PRA aware of any plans that affect IMM and Repo VaR recognition, eg at the regular semi-annuals visits

Pre-notification:

Changes referring to category a), b), c), d) as set out in paragraph 6.10 plus any other change to the existing IMM or Repo VaR framework identified as significant.

Firm will: Prepare a short description of the changes; and conduct a self-assessment of the change against CRR rules.

Provide documentation consistent with Appendix B.

Provide all the documentation to the PRA sufficiently in advance to allow the PRA the option of reviewing the change prior to implementation.

PRA makes prompt assessment:
- Whether a further review is needed.
- Whether a decision is needed.

PRA chooses action (undertake review, take decision).

Firm addresses any point raised.

Changes are implemented once PRA is content.

Post-notification:

Changes referring to category a), b), c), d) as set out in paragraph 6.11 plus any other change to the existing IMM or Repo VaR framework identified as non-significant.

Firm will: Prepare a short description of the changes; and conduct a self-assessment of the change against CRR rules.

Inform PRA:

- of the changes, providing a short description;
- confirming that the self-assessment against CRR rules has been conducted;
- confirm the changes have been reviewed through the firm's governance process.

Note that if the PRA does not respond to the post-notification this does not necessarily signify that the change is compliant. Responsibility for compliance rests within the firms.

PRA decides on further follow up (if any)

Appendix B: Documentation required for material changes

As detailed under paragraph 6.15 (step 4) if the changes to the IMM or Repo VaR model are recognized to be material, further documentation will be necessary for review from the PRA. The following list represents minimum expectations which should be met when applying for material changes. The PRA may ask for further information and/or documentation on a case by case basis. This section is divided in two main categories:

- Changes to models
- Changes to the counterparty risk system

Changes to models (new model being introduced or changes to existing models)

The following is the minimum information that should be provided for changes to models.

- CRR self-assessment. This should include an assessment against any requirement relevant to the changes made and sign-off from a Significant Influence Function attesting that the model is fit for purpose and meets regulatory requirements.
- Distribution of risk for an appropriate parallel run period for the transactions covered by the model changes according to the following categories (each table should include number of trades, Positive MtM, EAD, PFE, regulatory capital using the old model, regulatory capital using the new model):

  (i) Product (if more than one) for number of trades; positive MtM; and exposure and capital measures calculated gross of netting;

  (ii) Counterparty Credit Rating (ie Probability of Default rating);

  (iii) Industry;

  (iv) Country/Geographic region.
- Independent validation report relevant to the changes to models.
- Back-testing results for an appropriate parallel run period.
- Sign off minutes for model approval from the relevant committees.

The following information should be provided if documentation previously submitted has changed as a result of the changes to models.

- Technical documentation outlining the methodology used to model and calibrate risk factors. This documentation should also include the methodology used to estimate the relationship between risk factors, eg correlation.
- Technical documentation for the methodology used to price the product(s) modelled.
- Technical documentation for the modelling of collateral if modelled jointly with exposures.

- Technical documentation outlining the implementation of netting/margining rules for the new model.
- Updated policy for:
  - (i) Back-testing
  - (ii) Stress Testing
  - (iii) Wrong Way Risk
  - (iv) Collateral management
  - (v) Validation policy

Changes to the counterparty risk system

If changes to the system occur in conjunction with material changes to models the latter would result in a separate submission of documents as outlined in the section 'Changes to models (new model being introduced or changes to existing models)'. The following is the minimum information that should be provided for changes to the counterparty risk system.

- CRR self-assessment. This should include an assessment against any requirement relevant to the changes made and sign-off from a Significant Influence Function attesting that the model is fit for purpose and meets regulatory requirements.
- Distribution of risk: distribution of risk, over an appropriate parallel run period, for the transactions covered by changes according to the following categories (each table should include number of trades, positive MtM, EAD, PFE, regulatory capital prior to and after changes being applied):
  - (i) Product (if more than one) for number of trades; positive MtM; and exposure and capital measures calculated gross of netting;
  - (ii) Counterparty Credit Rating (ie Probability of Default rating);
  - (iii) Industry;
  - (iv) Country/Geographic Region.
- Operational arrangements (in the form of internal documentation or policies as relevant):
  - (i) Description of the Control Unit in charge of design of model (including organizational chart);
  - (ii) Description of the Control Unit in charge of implementation into production system (including organizational chart);
  - (iii) Description of the Control Unit in charge of initial and ongoing validation of Counterparty Risk Exposure Model (including organizational chart);
  - (iv) Data integrity assessment and policy around data quality;

(v) Sample reports of the output of the model (as used and seen by model users);

(vi) Impact on trading limits (ie change in credit policy with regards to allocation/management of credit limits).

- Back-testing analysis and results for an appropriate parallel running period.

The following information should be provided if documentation previously submitted has changed as a result of the changes to the counterparty risk system.

- Updated policy for:

(i) Stress Testing

(ii) Wrong Way Risk

(iii) Back-testing

(iv) Collateral

(v) Validation (covering both initial and ongoing validation)

Annex: Changes to SS12/13

This annex details changes made to SS12/13 following its initial publication in December 2013.

October 2020

This SS was updated following publication of Policy Statement (PS) 22/20 'Counterparty credit risk: Treatment of model limitations in banks' internal models'.[4] The changes set out the PRA's expectations with regards to the monitoring of model limitations in the Internal Model Method, as consulted on in CP17/19.[5] Additionally the statement has been updated to include PRA expectations regards to the treatment of unsettled margin, following the publication of PRA guidance on Monday 30 March 2020.[6] These revisions are found in Chapter 4A and Chapter 4B.

The PRA also made minor formatting changes throughout this SS to improve readability, including renumbering footnotes.

July 2016

This SS was updated to provide clarifications to the reporting requirements for model changes. In addition, the process for informing the PRA of non-compliance has been clarified: specifically paragraphs 5.1, 5.2, 6.5, 6.7, 6.15, 6.16, 6.25, 6.27 and Appendices 1 and 2. Additionally, amendments were made for qualifying central counterparties (QCCPs). The amendments also clarify that further information on central counterparties (CCPs) can be found on the European Securities and Markets Authority (ESMA) website, and adjusts the notification arrangements when a CCP no longer reports its hypothetical capital (Kccp). These revisions are found in Chapter 4.

The PRA will keep the policy under review to assess what changes would be required due to intervening changes in the UK regulatory framework, including as a result of the referendum on 23 June 2016.

4 October 2020: https://www.bankofengland.co.uk/prudential-regulation/publication/2019/counterparty-credit-risk-treatment-of-model-limitations-in-banks-internal-models.

5 July 2019: https://www.bankofengland.co.uk/prudential-regulation/publication/2019/counterparty-credit-risk-treatment-of-model-limitations-in-banks-internal-models.

6 https://www.bankofengland.co.uk/-/media/boe/files/prudential-regulation/publication/2020/exposure-value-for-internal-models-method-counterparty-risk.pdf.