FEDERAL HOUSING FINANCE BOARD

12 CFR Parts 930 and 932

FEDERAL HOUSING FINANCE AGENCY

12 CFR Part 1277

RIN 2590–AA70

Federal Home Loan Bank Capital Requirements

AGENCY: Federal Housing Finance Board; Federal Housing Finance Agency.

ACTION: Final rule.

SUMMARY: The Federal Housing Finance Agency (FHFA) is issuing this final rule to adopt as its own portions of the regulations of the Federal Housing Finance Board (Finance Board) pertaining to the capital requirements for the Federal Home Loan Banks (Banks). The final rule carries over most of the existing Finance Board regulations without material change, but substantively revises the credit risk component of the risk-based capital requirement, as well as the limitations on extensions of unsecured credit. The principal revisions to those provisions remove requirements that the Banks calculate credit risk capital charges and unsecured credit limits based on ratings issued by a Nationally Recognized Statistical Rating Organization (NRSRO), and instead require that the Banks use their own internal rating methodology. The final rule also revises the percentages used in the tables to calculate the credit risk capital charges for advances and non-mortgage assets. FHFA retains the percentages used in the existing table to calculate the capital charges for mortgage-related assets, but revises the approach to identify the appropriate percentage within the table. FHFA also has revised the table numbers in the final rule to align with the **Federal Register**'s new formatting standards, which were revised after publication of the proposed rule.

DATES: This rule is effective on January 1, 2020.

FOR FURTHER INFORMATION CONTACT: Scott Smith, Associate Director, Division of Bank Regulation, *Scott.Smith@FHFA.gov,* 202–649–3193; Julie Paller, Principal Financial Analyst, Division of Bank Regulation, *Julie.Paller@FHFA.gov,* 202–649–3201; Neil R. Crowley, Deputy General Counsel, *Neil.Crowley@FHFA.gov,* 202–649–3055; or Vickie R. Olafson, Assistant General Counsel, *Vickie.Olafson@FHFA.gov,* 202–649–3025 (these are not toll-free numbers), Federal Housing Finance Agency, 400 Seventh Street SW, Washington, DC 20219. The telephone number for the Telecommunications Device for the Hearing Impaired is 800–877–8339.

SUPPLEMENTARY INFORMATION:

I. Background

A. The Bank System

The eleven Banks are wholesale financial institutions organized under the Federal Home Loan Bank Act (Bank Act).[1] The Banks are cooperatives. Only members of a Bank may purchase the capital stock of a Bank, and only members or certain eligible housing associates (such as state housing finance agencies) may obtain access to secured loans, known as advances, or other products provided by a Bank.[2] Each Bank is managed by its own board of directors and serves the public interest by enhancing the availability of residential mortgage and community lending credit through its member institutions.[3]

B. Federal Home Loan Bank Capital and Capital Requirements

In 1999, the Gramm-Leach-Bliley Act (GLB Act)[4] amended the Bank Act to replace the subscription capital structure of the Bank System. It required the Banks to replace their existing capital stock with new classes of capital stock that would have different terms from the stock then held by Bank System members. Specifically, the GLB Act authorized the Banks to issue new Class A stock, which is redeemable on six months' notice, and Class B stock, which is redeemable on five years' notice. The GLB Act allowed Banks to issue Class A and Class B stock in any combination and to establish terms and preferences for each class or subclass of stock issued, consistent with the Bank Act and regulations adopted by the Finance Board.[5] The classes of stock to be issued, as well as the terms, rights, and preferences associated with each class of Bank stock are governed by a capital structure plan, which is established by each Bank's board of directors and approved by FHFA.

The GLB Act also amended the Bank Act to impose on the Banks new total, leverage, and risk-based capital requirements similar to those applicable to depository institutions and other housing government sponsored enterprises (GSEs), and directed the Finance Board to adopt regulations prescribing uniform capital standards for the Banks.[6] The Finance Board carried out that statutory directive in 2001 when it published a final capital rule, and later adopted amendments to that rule.[7] In addition to addressing minimum capital requirements, the rules established minimum liquidity requirements for each Bank and set limits on a Bank's unsecured credit exposure to individual counterparties and groups of affiliated counterparties.[8] These Finance Board regulations remain in effect and have not been substantively amended since 2001.

The GLB Act amendments to the Bank Act also defined the types of capital that the Banks must hold—specifically permanent and total capital. Permanent capital consists of amounts paid by members for Class B stock plus the Bank's retained earnings, as determined in accordance with generally accepted accounting principles (GAAP).[9] Total capital is made up of permanent capital plus the amounts paid by members for Class A stock, any general allowances for losses held by a Bank under GAAP (but not allowances or reserves held against specific assets or specific classes of assets), and any other amounts from sources available to absorb losses that are determined by regulation to be appropriate to include in total capital.[10] As a matter of practice, however, each Bank's total capital consists of its permanent capital plus the amounts, if any, paid by its members for Class A stock.

The Bank Act requires each Bank to hold total capital equal to at least 4 percent of its total assets. The statute separately requires each Bank to meet a leverage requirement of total capital to total assets equal to 5 percent, but

[1] *See* 12 U.S.C. 1423, 1432(a).

[2] *See* 12 U.S.C. 1426(a)(4), 1430(a), 1430b.

[3] *See* 12 U.S.C. 1427.

[4] Public Law 106–102, 113 Stat. 1338 (Nov. 12, 1999).

[5] *See* 12 U.S.C. 1426; 12 CFR part 1277.

[6] *See* 12 U.S.C. 1426(a). In 2008, the Housing and Economic Recovery Act of 2008 (HERA) amended the risk-based capital provisions in the Bank Act to allow FHFA greater flexibility in establishing these requirements. Public Law 110–289, 122 Stat. 2654, 2676 (July 30, 2008) (amending 12 U.S.C. 1426(a)(3)(A)).

[7] *See* Capital Requirements for Federal Home Loan Banks, 66 FR 8262 (Jan. 30, 2001) (''Final Finance Board Capital Rule''); and Amendments to Capital Requirements for Federal Home Loan Banks, 66 FR 54097 (Oct. 26, 2001). The Finance Board regulations are found at 12 CFR part 932.

[8] *See* Final Finance Board Capital Rule, 66 FR 8262; Amendments to Capital Requirements for Federal Home Loan Banks, 66 FR 54097. *See also* Final Rule: Unsecured Credit Limits for Federal Home Loan Banks, 66 FR 66718 (Dec. 27, 2001) (amending 12 CFR 932.9).

[9] *See* 12 U.S.C. 1426(a)(5).

[10] *Id.* Neither the Finance Board nor FHFA has approved including within a Bank's total capital any other amounts that are available to absorb losses, and no Bank has any such general allowances for losses as part of its capital.

provides that in determining compliance with this leverage requirement, a Bank must calculate its total capital by multiplying the amount of its permanent capital by 1.5 and adding to this product any other component of total capital.[11]

The GLB Act also required each Bank to meet a risk-based capital requirement by maintaining permanent capital in an amount at least equal to the sum of its credit risk and market risk, and the Finance Board further required each Bank to maintain permanent capital to support its operations risk.[12] Under the Finance Board's implementing regulations, a Bank must calculate a credit risk capital charge for each of its assets, off-balance sheet items, and derivative contracts to determine its risk-based capital requirement. The basic charge is based on the book value of an asset, or other amount calculated under the rule, multiplied by a credit risk percentage requirement (CRPR) for that particular asset or item, which is derived from one of the tables set forth in the rule. Generally, the CRPR varies based on the rating assigned to the asset by an NRSRO and the maturity of the asset.[13] The market risk capital charge is calculated separately, as the maximum loss in the Bank's portfolio under various stress scenarios, estimated by an approved internal model, such that the probability of a loss greater than that estimated by the model is not more than one percent.[14] The operational risk capital charge equals 30 percent of the combined credit and market risk charges for the Bank, although the regulations allow a Bank to demonstrate that a lower charge should apply, provided that FHFA approves its alternative approach and other conditions are met.[15]

C. The Dodd-Frank Act and Bank Capital Rules

Section 939A of the Dodd-Frank Wall Street Reform and Consumer Protection Act (Dodd-Frank Act) requires federal agencies to: (i) Review regulations that require the use of an assessment of the credit-worthiness of a security or money market instrument; and (ii) to the extent those regulations contain any references to, or requirements based on, NRSRO credit ratings, remove such references or requirements.[16] In place of such NRSRO rating-based requirements, agencies are instructed to substitute appropriate standards for determining creditworthiness. The Dodd-Frank Act further provides that, to the extent feasible, an agency should adopt a uniform standard of creditworthiness for use in its regulations, taking into account the entities regulated by it and the purposes for which such regulated entities would rely on the creditworthiness standard.

Several provisions of the Finance Board capital regulations include requirements that are based on NRSRO credit ratings, and thus must be revised to comply with the Dodd-Frank Act provisions related to use of NRSRO ratings.[17] Specifically, as already noted, the credit risk capital charges for certain Bank assets are calculated in large part based on the credit ratings assigned by NRSROs to a particular counterparty or specific financial instrument. In addition, the rule related to the operational risk capital charge allows a Bank to calculate an alternative capital charge if the Bank obtains insurance to cover operational risk from an insurer with an NRSRO credit rating of no lower than the second highest investment grade rating. Finally, the capital rules addressed by this rulemaking also establish unsecured credit limits for the Banks based on NRSRO credit ratings of their counterparties. The final rule brings each of these provisions into compliance with the Dodd-Frank Act by removing the references to NRSRO credit ratings and replacing them with the provisions described below.

D. The Proposed Rule

Neither the Finance Board nor FHFA has amended the capital regulations since their adoption in 2001. FHFA issued the proposed rule principally to remove the references to NRSRO credit ratings, relocate the Finance Board's capital regulations to the FHFA chapter of the regulations, and make certain other amendments to the risk-based capital provisions of the regulations.[18] FHFA proposed to adopt most of the provisions of the Finance Board regulations as its own without substantive change. Thus, the proposed rule would have carried over the Finance Board regulations addressing a Bank's total capital requirement and risk-based capital requirement without change, and would have made only modest revisions to the Finance Board regulations addressing market risk, operational risk, and reporting requirements.[19] FHFA proposed to rescind as moot § 932.1 of the Finance Board regulations, which required agency approval of the Banks' initial market risk models, and to rescind § 932.8, which established a contingency liquidity requirement for the Banks, because FHFA intended to address liquidity requirements as part of a separate rulemaking.[20] The proposed rule would have made significant substantive revisions to only two provisions of the Finance Board regulations: § 932.4, regarding the determination of a Bank's credit risk capital requirement; and § 932.9, regarding limits on unsecured credit exposures. In both cases, the proposed rule would have replaced requirements based on NRSRO credit ratings with requirements based on a Bank's own internal credit rating methodologies, and also would have added new provisions in response to developments in the marketplace relating to derivative contracts, specifically, the Dodd-Frank Act mandate for clearing certain derivative transactions. With respect to the credit risk capital charges, the proposed rule also would have revised the CRPRs used in the current regulation's tables to calculate the credit risk capital charges for advances and for non-mortgage assets, off-balance sheet items, and derivative contracts. With respect to the unsecured credit limits,

[11] *See* 12 U.S.C. 1426(a)(2). *See also* 12 CFR 932.2.

[12] *See* 12 U.S.C. 1426(a)(3)(A); 12 CFR 932.3 (Finance Board implementing regulation). In 2008, HERA amended this provision to require that FHFA establish risk-based capital regulations that ensure that each Bank operates in a safe and sound manner, with sufficient permanent capital and reserves to support the risks that arise from its operations and management.

[13] *See* 12 CFR 932.4. The capital charges for advances and certain other ''unrated assets'' are not based on actual or imputed NRSRO credit ratings.

[14] *See* 12 CFR 932.5.

[15] *See* 12 CFR 932.6.

[16] *See* section 939A, Public Law 111–203, 124 Stat. 1887 (July 21, 2010) (15 U.S.C. 78o–7 note).

[17] *See* Advance Notice of Proposed Rulemaking: Alternatives to Use of Credit Ratings in Regulations Governing the Federal National Mortgage Association, the Federal Home Loan Mortgage Corporation, and the Federal Home Loan Banks, 76 FR 5292, 5294 (Jan. 31, 2011).

[18] *See* Proposed Federal Home Loan Bank Capital Requirements, 82 FR 30776 (July 3, 2017). FHFA previously repealed the Finance Board regulations governing the classes of capital stock that the Banks may issue and the requirements for their capital structure plans, and incorporated the substance of those provisions, with certain amendments, into its own regulations, at 12 CFR part 1277, subparts C and D. *See* Final Rule on Federal Home Loan Bank Capital Stock and Capital Plans, 80 FR 12753 (Mar. 11, 2015).

[19] *See* 12 CFR 932.2 (total capital), 932.3 (risk-based capital), 932.5 (market risk), 932.6 (operational risk), 932.7 (reporting requirements).

[20] Since the date of the proposed rule, FHFA has issued an advisory bulletin addressing Bank liquidity management, AB 2018–07 (Aug. 27, 2018), and does not currently intend to pursue a separate rulemaking on that topic. The advisory bulletin is available at: *https://www.fhfa.gov/SupervisionRegulation/AdvisoryBulletins/Pages/Federal-Home-Loan-Bank-Liquidity-Guidance.aspx.* The advisory bulletin also rescinds prior supervisory guidance that FHFA had issued in March 2009 on the topic of liquidity management. As proposed, the final rule rescinds the contingency liquidity provision currently located at 12 CFR 932.8 of the Finance Board regulations.

the proposed rule also would have codified the substance of certain FHFA regulatory interpretations that have addressed the application of the unsecured credit limits in particular situations. The proposed rule would not have changed the basic percentage limits used to calculate the amount of unsecured credit a Bank can extend to a single counterparty or group of affiliated counterparties.

E. Overview of Comments on the Proposed Rule

The proposed rule provided a comment period of 60 days, which closed on September 1, 2017. FHFA received only one comment letter on the proposed rule, which was a joint letter from the eleven Banks. The paragraphs immediately below provide brief descriptions of the principal issues addressed by the Banks' comment letter. Those issues are discussed in greater detail within the relevant provisions of the section-by-section discussion of the final rule, set out at Section II, below. Office of the Federal Register standards now require tables be numbered consecutively within the section. Accordingly, FHFA has also revised the tables to § 1277.4 that were labelled 1.1, 1.2, 1.3, 1.4, and 2 in the proposed rule to Tables 1, 2, 3, 4, and 5, respectively, in the final rule, and will be referenced as such in the preamble.

Capital charges. The Banks contended that the proposed rule would have set capital charges for certain categories of assets higher than they should be, given the historical performance of those asset types. With respect to advances, the Banks questioned the proposed increases in capital charges, which would have increased modestly for all maturities over those in the current rule. The Banks asserted that FHFA should instead reduce the capital charges for advances in light of their historical performance and the Banks' priority security interest in collateral pledged to secure the advances. With respect to derivative contracts between a Bank and its members, the Banks asked that FHFA retain the current capital provision for those contracts, under which the capital charge is the same as that for an advance with the same maturity. The proposed rule would have treated derivative contracts with Bank members in the same manner as derivative contracts with other counterparties, which carry higher capital charges. The Banks reasoned that retaining the current capital treatment for derivative contracts with their members was appropriate, given that all such derivative contracts are fully secured in the same manner as their advances, and that the Banks are exposed to less credit risk on such transactions than is the case with derivative contracts with dealer counterparties. The proposed rule had included a zero percent capital charge for obligations issued by the Enterprises while those obligations are backed by the direct financial support of the United States Treasury Department. The Banks asked that FHFA extend that provision to all other GSEs, regardless of whether they received such federal support.

The Banks also questioned the proposed CRPRs for collateralized mortgage obligations (CMOs), most of which would be higher than the CRPRs for mortgage-backed securities structured as pass-through instruments. The Banks contended that the current market value and historical performance of the senior tranches of CMOs support a capital requirement similar to that imposed on pass-through securities. The Banks requested, therefore, that the final rule treat all categories of CMOs the same as the corresponding categories of pass-through securities, unless a particular CMO exhibits the characteristics of a subordinated tranche and the performance of an unsecured investment. In a similar fashion, the Banks disagreed with the proposed rule's treatment of multifamily mortgage backed securities (MBS) and commercial mortgage backed securities (CMBS), notwithstanding that the proposed rule would not have changed the capital charges for those instruments from the charges imposed by the current regulations. The Banks contended that multifamily MBS perform more like single family residential mortgage securities and should, therefore, be subject to similar capital charges. As an alternative, the Banks suggested that FHFA create separate CRPR tables for both multifamily MBS and for CMBS, noting that both of these security types have performed better than unsecured or subordinated debt instruments.

The Banks also requested that FHFA revise the operational risk capital requirement, which requires each Bank to maintain permanent capital equal to 30 percent of the sum of its credit and market risk requirements, and which can be reduced to no less than 10 percent of that amount if FHFA approves a Bank's alternative methodology for quantifying operational risk. The Banks asked that FHFA remove the 10 percent lower bound for approved alternative methodologies, reasoning that a fixed minimum is not necessary if FHFA has approved a Bank-developed methodology. The Banks further asked that FHFA provide analytical support for the 30 percent and 10 percent thresholds, which FHFA had proposed to carry over from the Finance Board regulations without change.

Unsecured extensions of credit. The Banks raised three issues relating to the proposed limits for unsecured extensions of credit. The first issue relates to FHFA's proposal to eliminate the special treatment currently afforded to extensions of unsecured credit to GSEs. The current rule allows a Bank to extend unsecured credit to a GSE in an amount equal to 100 percent of the lesser of the total capital of the Bank or the GSE counterparty. The proposed rule would have reduced the general limit for all GSEs (other than those operating with explicit financial support of the United States) by treating them in the same manner as any other counterparty, meaning that the maximum limit for extensions of unsecured credit to a GSE could not exceed 15 percent of the lesser of the total capital of the Bank or the GSE, or 30 percent when including overnight exposures. The Banks asked that FHFA retain a special unsecured limit for all GSEs, and not just for those operating with direct government support. The second issue sought clarification of an exception within § 1277.7(g)(2) of the proposed rule, which would have excluded cleared derivative transactions from being subject to the unsecured credit limits, by extending it to include as well any posted collateral associated with the cleared derivative transactions. The third issue pertained to the reporting period for total secured and unsecured extensions of credit, which the Banks asked be changed from monthly to quarterly to be consistent with the change in the reporting periods that FHFA proposed for both the market and credit risk-based capital requirements.

Derivatives and collateral. A number of the Banks' comments focused on the proposed capital treatment of cleared derivatives, as well as of the collateral relating to a derivative contract that is either held or posted by the Banks. These comments requested that FHFA clarify that, for purposes of determining the current credit exposure on a cleared derivative contract under § 1277.4(i)(1)(i) of the final rule, the mark-to-market value of the contract be characterized as a *de minimis* amount. The Banks also requested that FHFA modify § 1277.4(i)(2) of the proposed rule, which specified alternative means for determining the potential future credit exposure on a derivative contract, to allow the use of the initial margin models used by Derivatives Clearing Organizations (DCOs). The Banks also asked that FHFA not assess any capital charge against the amount of the collateral posted by a Bank to a DCO that exceeds the Bank's current credit exposure to the DCO, reasoning that the credit risk capital charge should include only the potential future credit exposure, and not also the initial margin required and held by the DCO as collateral. The Banks also asked that the final rule clarify that the collateral posted by a Bank should be valued without reduction for any discounts or haircuts imposed by agreement or regulation, and that FHFA retain the proposed provision that would require that collateral held by a Bank be valued after such discounts. The Banks further requested that the final rule provide that the capital charge on collateral pledged by a Bank only reflect the incremental CRPR attributable to the risk of the collateral custodian because the pledged collateral would already be subject to its own capital charge by virtue of being an asset on the Bank's balance sheet. The Banks raised one other issue relating to the credit risk capital requirement for uncleared derivative contracts, asking that the final rule exclude any capital charge applicable to collateral held by the Bank that is used to reduce the current, and possibly also the potential future, exposures.

Other Comments. Most of the other comments addressed lesser issues or were more technical in nature. With respect to the capital treatment for private label MBS, the Banks requested that FHFA clarify that their internal credit ratings for such assets should be based on potential future losses to the amortized cost of the asset. The Banks also requested that FHFA modify the proposed language to require that a Bank address any deficiencies in its methodology identified by FHFA, rather than allowing FHFA, on a case-by-case basis, to direct a Bank to change the calculated credit risk charge on particular assets. Another Bank comment suggested that FHFA be consistent in its treatment of guarantors under both the capital and unsecured credit provisions, some of which mandate that a Bank use the creditworthiness of the guarantor in applying a regulation and others of which are permissive and allow a Bank to use creditworthiness of the counterparty or the guarantor in applying other regulations. Specifically, the Banks asked that FHFA amend the unsecured credit limits to allow the Banks to choose either the counterparty or its third-party guarantor when determining its maximum unsecured credit exposure to the counterparty. The Banks also requested that FHFA clarify that the term ''remaining maturity'' contained in Table 2 means the ''weighted average life of the asset.'' The Banks also asked that FHFA shorten the historical observation period that the Banks must use when running their internal market risk models. Section 1277.5(b)(4)(ii) of the proposed regulation carried over the substance of the Finance Board regulation, which requires that the observation period begin in 1978, and the Banks asked that FHFA allow them to commence the period in 1992, to be consistent with other FHFA guidance.

II. Section-by-Section Analysis of the Final Rule

A. Definitions—§ 1277.1

The proposed rule included definitions for seven new terms, which are: ''collateralized mortgage obligation,'' ''derivatives clearing organization,'' ''eligible master netting agreement,'' ''non-mortgage asset,'' ''non-rated asset,'' ''residential mortgage,'' and ''residential mortgage security.'' FHFA received no comments on these definitions and is adopting them as proposed. The Banks' comment letter asked that the final rule also define the terms ''internal market-risk model'' and ''internal cash-flow model.'' Both terms are used, but not defined, in 12 CFR 932.5 of the Finance Board regulations (the market risk capital requirement) and were carried forward into the corresponding provisions of the proposed rule. FHFA agrees that defining these terms would add clarity to the regulation by describing the time dimension of the analysis that is to be done with each of the two model approaches under the market risk provisions of the regulation. FHFA has defined ''internal market-risk model'' as a model that is used to assess the effect on portfolio value from an instantaneous shock to interest rates, volatilities, and option adjusted spreads, and has defined ''internal cash-flow model'' as a model that is used to assess the evolution in portfolio value and cash-flows over a time-path of such shocks that could extend out for a period of years.

In response to another comment questioning the need for the Banks to hold capital against any excess collateral that a Bank has posted to a DCO, FHFA has added the term ''bankruptcy remote'' to § 1277.4(e)(5)(ii)(C) and also has defined that term. As defined, ''bankruptcy remote'' describes collateral that a Bank has pledged to a DCO counterparty but that would not be included in that counterparty's estate under any insolvency or similar proceedings. If any excess collateral pledged to a DCO is held in a manner that is bankruptcy remote a Bank need not hold capital against that amount. If the excess collateral pledged to a DCO is held in a manner that is not bankruptcy remote, the Bank would have to hold capital against it, as provided by § 1277.4(e)(5)(ii)(C). The final rule also includes a new definition of ''residential mortgage asset,'' which includes individual one-to-four family residential mortgage loans, pools of such loans, and residential mortgage pass-through securities. FHFA has added that definition to distinguish between the types of mortgage-related assets for which CRPRs are derived from categories in the top half of Table 4 and CMOs, for which CRPRs are derived from the categories in the lower half of Table 4.

B. Total Capital and Risk-Based Capital Requirements—§§ 1277.2 and 1277.3

FHFA is adopting proposed §§ 1277.2 and 1277.3, each of which is identical in substance to the corresponding provision in the Finance Board regulations, as final without change. Section 1277.2 sets forth the minimum total capital and leverage ratios that each Bank must maintain under section 6(a)(2) of the Bank Act.[21] Section 1277.3 sets forth a Bank's risk-based capital requirement and requires each Bank to hold at all times an amount of permanent capital that is equal to or greater than the sum of its credit risk, market risk, and operational risk capital requirements.[22] In turn, §§ 1277.4, 1277.5, and 1277.6 establish, respectively, the requirements for calculating a Bank's credit risk, market risk, and operational risk capital charges, as described below.

C. Credit Risk Capital Requirements—§ 1277.4

1. Overview of Proposed § 1277.4

The principal revisions to the current credit risk capital requirements included in proposed § 1277.4 would have changed how a Bank determines the CRPRs used to calculate capital charges for its non-mortgage assets,

[21] 12 U.S.C. 1426(a)(2).

[22] FHFA believes that this approach remains consistent with the amendments made by HERA to the risk-based capital requirements in the Bank Act. As amended, the Bank Act provides the Director with broad authority to establish by regulation risk-based capital standards for the Banks that ensure the Banks operate in a safe and sound manner with sufficient permanent capital and reserves to support the risks arising from their operations. *See* 12 U.S.C. 1426(a)(3)(A).

derivative contracts, and off-balance sheet items (Table 2 in the final rule), and for its residential mortgage assets (Table 4 in the final rule). In both cases, the proposed rule would have required a Bank to determine the capital charge based on a credit rating that the Bank calculates internally, rather than on an NRSRO credit rating, as had been the case under the Finance Board regulations. In addition, the proposed rule would have updated the individual CRPRs in Tables 1 and 2, which are used to calculate the applicable capital charges for advances and non-mortgage assets, respectively. The proposed rule also would have changed the frequency of a Bank's calculation of its credit risk capital charges from monthly to quarterly.[23] FHFA received no comments on the structure of proposed § 1277.4, which addresses all aspects of the credit risk capital requirement, and is adopting that structure without change. As discussed below, FHFA received a number of comments suggesting modifications to certain aspects of proposed § 1277.4.

2. Credit Risk Capital Requirements: General Requirement—§ 1277.4(a); Credit Risk Capital Charge for Residential Mortgage Assets and Collateralized Mortgage Obligations—§ 1277.4(b); Credit Risk Capital Charge for Advances, Non-Mortgage Assets, and Non-Rated Assets—§ 1277.4(c)

FHFA received no comments on paragraphs (a) through (c) of proposed § 1277.4 and is adopting them as final without change. The general requirement under § 1277.4(a) provides that a Bank's credit risk capital requirement shall equal the sum of the individual credit risk capital charges for its advances, residential mortgage assets, non-mortgage assets, off-balance sheet items, derivative contracts, and non-rated assets. Section 1277.4(b) directs the Banks to determine capital charges for residential mortgages, residential mortgage pools, residential mortgage securities, and collateralized mortgage obligations in accordance with § 1277.4(g). Section 1277.4(c) directs the Banks to determine capital charges for advances, non-mortgage assets, and non-rated assets pursuant to § 1277.4(f), and to use the amortized cost of the asset in doing so, *i.e.,* a Bank determines the capital charges for those assets by multiplying the amortized cost of the asset by the CRPR assigned to the asset under the appropriate table. Section 1277.4(c) also includes an exception for any asset that a Bank carries at fair value and for which the Bank recognizes changes in that asset's fair value in income. For these assets, the Bank would multiply the fair value of the asset by the applicable CRPR to determine its capital charge. As explained in the proposed rule, FHFA is requiring Banks to use the amortized cost or fair value (rather than the book value as required in the current Finance Board regulation) because those are the current financial instrument recognition and measurement attributes used in relevant accounting guidance.[24]

3. Credit Risk Capital Charge for Off-Balance Sheet Items—§ 1277.4(d)

Section 1277.4(d) addresses capital charges for off-balance sheet items and is identical in substance to the current Finance Board regulation. FHFA received no comments on paragraph (d) of proposed § 1277.4 and is adopting it as final without change. Under this provision, the capital charge for such items will continue to be equal to the credit equivalent amount of the item multiplied by the appropriate CRPR assigned to the item by Table 2 of § 1277.4, except for standby letters of credit, for which the CRPR will be the same as the CRPR established under Table 1 for an advance with the same maturity. Section 1277.4(d) further directs the Banks to determine the credit equivalent amount for all off-balance sheet items in accordance with § 1277.4(h), which also is identical in substance to the corresponding Finance Board regulation. Thus, a Bank may continue to calculate the credit equivalent amount for an off-balance sheet item by using either an FHFA-approved model or the credit conversion factors set forth in Table 5 to § 1277.4. Section 1277.4(h) also carries over the provision of the current regulation that allows the Banks to use a credit conversion factor of zero for any off-balance sheet commitments that are unconditionally cancelable or effectively provide for cancellation upon deterioration in the borrowers' creditworthiness.

4. Credit Risk Capital Requirements for Derivative Contracts—§ 1277.4(e)

Section 1277.4(e) of the final rule establishes the general requirements for calculating credit risk capital charges for derivative contracts. The proposed rule included a number of changes to the current Finance Board regulation's capital treatment of derivatives. These changes reflect developments in derivatives regulations brought about by the Dodd-Frank Act, including the clearing requirement for many standardized over-the-counter (OTC) derivative contracts and the adoption by FHFA, jointly with other federal regulators, of the Final Rule on Margin and Capital Requirements for covered Swap Entities, which established margin and capital requirements for uncleared swap contracts.[25] FHFA received comments relating to several provisions of § 1277.4(e) in the proposed rule relating to derivative contracts and has revised the final rule in certain respects to address those comments, as described below. Overall, however, the derivatives provisions of the final rule are in most respects substantively the same as the proposed rule. Section 1277.4(e)(1), (2), and (3), which address the method of calculating the capital charge, the use of collateral to reduce the capital charge, and the requirements for using such collateral, respectively, are in substance the same as the corresponding provisions of the proposed rule. FHFA revised the language of paragraph (e)(1)(i), relating to the calculation of the current credit exposure, to state more directly that the Banks should use the column within Table 2 for items with maturities of one year or less when determining the CRPR for a derivative contract; the proposed rule had been phrased in terms of deeming the contract to have a maturity of one year or less. FHFA also revised paragraph (e)(1)(iii) to refer to the ''undiscounted amount'' of excess collateral posted by a Bank on a contract, in response to a comment from the Banks. FHFA has revised the language of paragraph (e)(2) of the final rule with the intent of describing with more clarity the manner in which the Banks may use collateral provided by their counterparties to reduce the capital charge on a derivative contract. Section 1277.4(e)(3), which describes conditions that must be satisfied in order for such collateral to be eligible to reduce the capital charge, is unchanged from the proposed rule. FHFA has added a new paragraph (e)(4) to § 1277.4 of the final rule in response to comments received from the Banks. This provision now deals with derivative contracts between a Bank and its members and effectively reinstates a provision that is in the current Finance

[23] Section 1277.5(e) of the proposed rule also would have required the Banks to calculate their market risk capital charge quarterly, rather than monthly, and the final rule adopts that provision.

[24] The final rule includes a similar provision, at 12 CFR 1277.4(g)(1), which pertains to the calculation of capital charges related to residential mortgage assets and collateralized mortgage obligations.

[25] *See* Final Rule on Margin and Capital Requirements for Covered Swap Entities, 80 FR 74840 (Nov. 30, 2015), as amended, 83 FR 50805 (Oct. 10, 2018).

Board regulations. Paragraph (e)(5) of the final rule, which sets the capital charges for certain foreign exchange rate contracts and for cleared derivatives contracts, is the same as paragraph (e)(4) of the proposed rule, with one revision. Under that revision, a Bank would have to hold capital against any excess collateral that it has posted to a DCO only if the DCO holds the collateral in a manner that is ''not bankruptcy remote.'' The final rule also added a definition of ''bankruptcy remote,'' as described previously. The discussion below provides a more detailed description of the various provisions of the final rule addressing derivative contracts.

i. General Credit Risk Capital Charge Calculations for Derivative Contracts

Uncleared Derivative Contracts

Section 1277.4(e)(1) of the final rule establishes credit risk capital charges for uncleared derivative contracts to which a Bank is party.[26] The initial credit risk capital charge for an uncleared derivative contract equals the sum of: (i) The current credit exposure on the contract multiplied by the appropriate CRPR; (ii) the potential future credit exposure multiplied by the appropriate CRPR; and (iii) the undiscounted amount of any collateral posted by the Bank with respect to the contract that exceeds its payment obligation, multiplied by the CRPR assigned to the entity holding the collateral. A Bank must calculate its current and potential future credit exposures on a derivative contract in accordance with § 1277.4(i)(1)(ii) and (i)(2), respectively. A Bank may reduce that capital charge if it holds certain collateral against its counterparty's payment obligations, as provided in § 1277.4(e)(2), which is described below.[27]

Cleared Derivative Contracts and Foreign Exchange Rate Contracts

Section 1277.4(e)(5)(ii) of the final rule includes a separate provision for determining the credit risk capital charge for a cleared derivative contract. While the credit risk capital charge for an uncleared derivative contract is based on the applicable CRPR and deemed maturity from Table 2 under § 1277.4, the credit risk capital charge for all cleared derivative contracts is set at a fixed percentage of the sum of the three elements listed in § 1277.4(e)(5)(ii)(A) through (C) of the final rule. Section 1277.4(e)(5)(ii) provides that the credit risk capital charge for a cleared derivative contract will be equal to 0.16 percent times the sum of a Bank's current credit exposure on the contract,[28] plus its potential future credit exposure on the contract, plus the amount of any excess collateral posted by the Bank and held by the clearing organization in a manner that is not ''bankruptcy remote.'' [29] Section 1277.4(e)(5)(ii)(A) and (B) further provide that a Bank must calculate its current and potential future credit exposures on a cleared derivative in accordance with § 1277.4(i)(1)(i) and (i)(2), respectively. FHFA has made one clarifying revision to § 1277.4(e)(5)(ii)(A) by replacing a cross-reference to ''paragraph (i)(1)'' with a reference to ''paragraph (i)(1)(i).'' The original text had included provisions related to single derivative contracts—which could include both cleared and uncleared transactions—as well as to multiple contracts with one counterparty that were subject to an eligible master netting agreement—which category would include only uncleared derivative contracts. The revision makes clear that the provisions of § 1277.4(i)(1)(ii) regarding contracts subject to netting agreements do not apply when determining the current credit exposure for a cleared derivative contract. Section 1277.4(e)(5)(i) also includes a separate provision that carries over from the Finance Board regulations an exception for certain foreign exchange rate contracts. That provision establishes a zero percent capital charge for foreign exchange rate contracts (excluding gold contracts), that have an original maturity of 14 calendar days or less, and explicitly excludes gold contracts from this provision.

Derivative Contracts With a Member

As noted previously, § 1277.4(e)(4) of the final rule reinstates a provision from the Finance Board regulations that establishes a different means of determining the credit risk capital charge for a derivative contract between a Bank and one of its members. Under this provision, a Bank will calculate the capital charge for such transactions in accordance with § 1277.4(e)(1), which applies to uncleared derivative contracts, but will obtain the CRPRs from Table 1 of the final rule (which applies to advances), rather than from Table 2, which otherwise would apply and which has somewhat higher CRPRs.

ii. Collateral Valuation for Derivative Contracts

Collateral Valuation—Uncleared Derivative Contracts

FHFA proposed the requirement relating to a Bank's excess pledged collateral under § 1277.4(e)(1)(iii) in order to address a credit risk exposure that is not addressed by the current Finance Board regulations. Specifically, this provision of the final rule takes into account the credit exposure that arises from the amount of collateral that a Bank posts in excess of the Bank's current, marked-to-market obligation to its counterparty under a particular derivative contract.[30] In most instances, the value of the Bank's posted collateral will exceed the Bank's current obligation under the derivative contract. That amount of excess collateral constitutes a credit exposure for the Bank because of the possibility that the party holding the collateral may fail and the Bank may not be able to recover its excess collateral. Under § 1277.4(e)(1)(iii), a Bank will calculate the specific charge for the posted excess collateral based on a CRPR obtained from Table 2, using the Bank's internal rating for the counterparty or custodian

[26] The current Finance Board regulations do not impose any capital charge on cleared derivative contracts. When the Finance Board adopted those regulations, the only type of cleared derivative contracts that the Banks used were exchange-traded futures contracts, which the Banks did not use to a significant degree. The Banks, however, have long used OTC derivative contracts in connection with their business, principally for hedging purposes. Given the Dodd-Frank Act clearing requirements, Banks will now be required to clear a significant percentage of their OTC derivative contracts. For that reason, FHFA determined that it was prudent to apply a capital charge to the Banks' exposure under such contracts. Because a futures contract is a type of cleared derivative contract, such contracts will be subject to the new capital charges.

[27] *See* discussion *infra* section II.C.4.iii, addressing the requirements under § 1277.4(e)(2).

[28] This capital charge for cleared derivative contracts is consistent with the minimum total capital charge that would be applicable to cleared derivative contracts under the standardized approach in the capital rules adopted by federal banking regulators. For example, the risk weight applied to a cleared derivative contract under the FDIC regulations is two percent of the trade exposure amount. *See* 12 CFR 324.35(b)(3)(i)(A), (c)(3). The total capital ratio required under the FDIC regulations is eight percent of the risk-weighted asset. *See* 12 CFR 324.10(a)(3). Thus, the required capital for a cleared contract would be eight percent of the contract's risk weight, which would be two percent of its exposure amount, or 0.16 percent of the exposure amount. FHFA, however has not adjusted the charge to account for any additional capital amounts needed to comply with the capital conservation buffer under the federal banking regulators' rules.

[29] Section 1277.4(e)(5)(ii)(A) provides that the current credit exposure for a cleared derivative contract is to be calculated in accordance with § 1277.4(i)(1)(i), which sets forth the method to calculate current credit exposures for a single derivative contract. As noted in the proposed rule, given that most clearing organizations effectively settle a cleared derivative contract at the end of the day, the current credit exposure for any such contract often would be zero or a small amount, depending on the timing of the daily settlement.

[30] Generally, this amount should equal the initial margin that a Bank would post under its derivative contracts with a particular counterparty.

holding such collateral, with the rating determined in accordance with § 1277.4(f)(1)(ii), and using the column in Table 2 for items with a maturity of one year or less. The Banks asked that FHFA clarify the final rule by stating that they need not discount the value of the collateral they have posted when applying this provision. FHFA agrees that they need not do so and has revised § 1277.4(e)(1)(iii) to refer to ''the *undiscounted* amount of collateral posted by the Bank.''

The Banks also questioned the appropriateness of applying a capital charge to the excess collateral they post on a derivative contract, contending that any such collateral would equal the initial margin, which they suggested performs a similar risk mitigation and protection function as potential future exposure. The Banks reasoned that assessing a capital charge for both the potential future exposure under the contract and for any collateral posted to cover initial margin would be duplicative, and that FHFA should remove the capital charge on the excess collateral from the rule. FHFA does not agree that these risk exposures are the same and therefore has made no change to § 1277.4(e)(1) of the final rule in response to this comment. The potential future exposure component of the rule addresses the risk to the Bank that the counterparty will not make payment on its obligations under the derivative contract, whereas the provision addressing the excess collateral posted by the Bank is intended to address the risk to the Bank that the entity holding its collateral will not return it to the Bank. Imposing a capital charge on both of these credit exposures also is consistent with actions taken by the federal banking regulators in the context of cleared derivatives contracts, where the minimum total capital charge that applies to those contracts under the standardized approach in those capital rules includes such a provision.[31]

Collateral Valuation—Cleared Derivative Contracts

The credit risk capital charge related to the excess collateral that a Bank pledges to its counterparty for a cleared derivative has been revised from the proposed rule in response to Bank comments on a related issue, and now differs from the corresponding charge for an uncleared derivative. The Banks had questioned the provision of the proposed rule that addressed excess collateral, noting that collateral posted to a DCO to cover initial margin must be held by the DCO under strict legal requirements, including segregation, control, and investment limitations, all of which protect the initial margin from loss and largely eliminate credit risk arising from the pledging of the collateral. FHFA agrees with that assessment and therefore has amended § 1277.4(e)(5)(ii)(C) of the final rule so that it now imposes a capital charge on excess collateral posted for a cleared derivative only if the collateral is held by the custodian in a manner that is not ''bankruptcy remote.'' If the excess collateral is held in a manner that is bankruptcy remote, then the final rule does not impose any capital charge on that collateral, *i.e.,* the final rule effectively assigns a zero capital charge to any such excess collateral held by a custodian in a manner that is bankruptcy remote. This provision also is consistent with the regulations of the other federal banking regulators, which recognize this risk and have instituted similar capital charges for excess collateral posted to their institutions' DCO derivative counterparties that is not held in a manner that is bankruptcy remote.[32]

iii. Reduction of Credit Risk Capital Charge Calculated Under § 1277.4(e)(2)

Section 1277.4(e)(2) of the final rule also includes two provisions that would allow a Bank to reduce the capital charge on an uncleared derivative contract if its counterparty has provided collateral to support its payment obligation or has obtained a third-party guarantee for its payment obligations. First, under § 1277.4(e)(2)(i) a Bank may reduce its credit risk capital charge for the current and potential future exposures of its derivative contracts based on the discounted value of collateral posted by the counterparty. As noted previously, the substance of this provision is the same as the proposed rule, but the language has been revised to provide greater clarity. This provision specifies the manner in which the Bank may apply the counterparty's collateral—first, to reduce the current credit exposure, and second, to reduce the potential future exposure. In such cases, the capital charge for the derivative contract will equal the amount of the initial capital charge that remains after having been reduced by the value of the pledged collateral. The final rule requires that a Bank also must hold capital against that portion of the discounted collateral that the Bank has applied to reduce its exposure. The Banks' comment letter suggested that the language describing the calculation of the capital charge for the collateral was ambiguous with respect to whether the collateral must be multiplied by the applicable CRPR before or after it is applied to reduce the exposures. FHFA intended that the capital charge for the pledged collateral would be assessed only after the full amount of the discounted collateral had been applied to reduce the credit exposures, and has amended § 1277.4(e)(2)(i) of the final rule to clarify that intent.

Second, under § 1277.4(e)(2)(ii) a Bank may adjust the otherwise applicable capital charge for any derivative contract for which the counterparty's payment obligation is unconditionally guaranteed by a third party. This provision is permissive, not mandatory, and allows the Banks the option of using either the CRPR associated with the derivative counterparty or that associated with the guarantor, whichever results in the lower capital charge.

iv. Collateral Eligibility Requirements—Derivative Contracts

With respect to collateral pledged by a counterparty, § 1277.4(e)(2)(i) provides that the collateral must satisfy the eligibility requirements set out in § 1277.4(e)(3) before it may be used to reduce the otherwise applicable capital charge on the derivative contract. As discussed previously, the eligibility provisions of § 1277.4(e)(3) of the final rule are unchanged from the proposed rule. That section generally requires that the collateral must be held by the Bank or its custodian, be legally available to absorb losses, be of a readily determinable value at which it can be liquidated, and be subject to an appropriate discount.[33] These provisions of the final rule are intended to ensure that any collateral pledged by a counterparty must meet certain minimum standards before a Bank may use it to reduce the otherwise applicable credit risk capital charge for its derivative contracts. These standards are slightly more stringent than the collateral standards in the current Finance Board regulation, but they are consistent with the stricter requirements for derivative contracts that have

[31] In this rule, FHFA has not required that the Banks adjust the capital charge to account for any additional capital amounts needed to comply with the capital conservation buffer, as is the case under the federal banking regulators' rules.

[32] *See, e.g.,* 12 CFR 217.35(b)(2)(i)(B) (Federal Reserve System); 12 CFR 324.35(b)(2)(i)(B) (FDIC).

[33] Collateral held by a third-party custodian must be held pursuant to a custody agreement that satisfies the requirements of 12 CFR 1221.7(c), (d) of FHFA's regulations, regarding margin and capital requirements for covered swap entities. The collateral discount also must be at least equal to the minimum discount required under appendix B to part 1221 of the FHFA regulations.

evolved subsequent to the recent financial crisis.[34]

The final rule does not limit the collateral that a Bank may accept to those items that satisfy the eligibility requirements for collateral under the uncleared derivatives rule, because not all Bank derivative counterparties are subject to these requirements.[35] This is a change from the current Finance Board regulation, which allows Banks to take account of collateral held against derivatives exposures only if a member or affiliate of the member holds the collateral. The current rule also does not impose specific minimum discounts on any type of collateral but allows a Bank to determine a suitable discount.

v. Calculation of Current and Potential Future Credit Exposures on Derivative Contracts

Calculation of Current Exposure on Derivative Contracts

A separate provision of the final rule, § 1277.4(i), addresses the method for calculating a Bank's current and potential future credit exposures under a derivative contract. This paragraph of the final rule is identical to the proposed rule except for the addition of a new provision that allows the Banks to use an initial margin model that is employed by a derivatives clearing organization as one option for calculating the potential future credit exposure on their derivative contracts. As proposed, the final rule carries over the same approach for calculating the current credit exposure as under the Finance Board regulations. Specifically, § 1277.4(i)(1)(i) provides that the current credit exposure for a single derivative contract that is not subject to an eligible master netting agreement equals the marked-to-market value of the contract if that value is positive or zero if that marked-to-market value is zero or negative. The Banks' comment letter requested that § 1277.4(i)(1)(i) be revised ''to specify that the mark-to-market value for cleared derivative contracts is *de minimis.*'' FHFA has not made that requested revision. To the extent the Banks asked that there be no capital charge for this credit exposure or that they not be required to perform the calculation for these contracts given the small amounts involved, FHFA notes that no other financial regulator excludes a capital charge on the current credit exposure because it might be *de minimis.* Moreover, FHFA previously acknowledged in the proposed rule and reiterated in the discussion of § 1277.4(e)(5)(ii) above that the current credit exposure of a cleared derivative contract would often be zero or a small amount.[36]

Section 1277.4(i)(1)(ii) of the final rule allows a Bank to calculate on a net basis the current credit exposure for all derivative contracts that are executed with a single counterparty and that are subject to an ''eligible master netting agreement.'' FHFA has aligned the § 1277.1 definition of ''eligible master netting agreement'' with that of § 1221.2 in the FHFA regulations pertaining to margin and capital for uncleared swaps by stating that the term ''has the same meaning as set forth in § 1221.2.'' [37]

Calculation of Potential Future Credit Exposure on Derivative Contracts

Section 1277.4(i)(2) of the proposed rule would have provided a Bank three options for calculating the potential future credit exposure on a derivative contract. A Bank could use an initial margin model approved by FHFA under § 1221.8 of the margin and capital rules for uncleared swaps, or a model that has been approved by another regulator for use by the Bank's counterparty under standards that are similar to those in § 1221.8, or by using the standard calculation set forth in appendix A to part 1221 of the FHFA regulations.[38] The final rule retains each of these options. FHFA received one comment on this provision, which asked that FHFA allow the Banks the additional option of calculating the potential future credit exposure by using an initial margin model that is employed by a DCO. FHFA agrees that such DCO models would not have fit within any of the three options allowed under the proposed rule, and that they should be acceptable because they are market tested and are subject to periodic review and validation under CFTC rules. Accordingly, FHFA has added a new provision, at § 1277.4(i)(2)(iii) of the final rule, that allows a Bank to use such models for calculating the potential future credit exposures. Thus, in addition to that new provision, the final rule allows a Bank to rely on the initial margin calculation done by a swap dealer or other counterparty that uses a model approved by the CFTC, other federal banking regulator, or a foreign regulator whose model rules have been found to be comparable to the United States rules.[39] If neither party to the derivative contract uses an approved model, or if the Bank otherwise chooses, the Bank can calculate its potential future exposure using the method set forth in appendix A to part 1221.[40]

5. Determination of Credit Risk Percentage Requirements

Sections 1277.4(f) and (g) of the final rule set forth the method and criteria by which a Bank will identify the CRPRs to use when calculating the credit risk capital charges for its assets, off-balance sheet items, and derivative contracts. Section 1277.4(f) addresses the capital charges for a Bank's advances, non-mortgage assets, off-balance sheet items, derivative contracts, and non-rated assets. Section 1277.4(g) addresses the capital charges for a Bank's residential mortgage assets. The applicable CRPRs are set forth in four separate tables within those two sections. Table 1 includes the CRPRs for advances. Table 2 includes the CRPRs for internally rated non-mortgage assets, derivative contracts, and off-balance sheet items. Table 3 includes the CRPRs non-rated assets, which are cash, premises, plant and equipment, and certain specific investments. Table 4 includes the CRPRs for residential mortgage loans, residential mortgage securities, and collateralized mortgage obligations.

Section 1277.4(f). Each of the provisions of § 1277.4(f) of the final rule is the same as in the proposed rule, with the exceptions noted below. Section 1277.4(f) generally directs the Banks to use the tables included within that section to obtain the CRPRs for their advances, non-mortgage assets, off-balance sheet items, derivative contract, and non-rated assets, and includes certain exceptions to the otherwise applicable CRPRs.

[34] For any derivative transactions with swap dealers or major swap participants, the Bank would already have to meet these higher collateral standards under applicable uncleared swaps margin and capital rules. Thus, FHFA does not anticipate that the proposed change would affect transactions with these types of counterparties.

[35] *See* 12 CFR 1221.6. Under the final rule, a Bank must apply at least the minimum discount listed in appendix B of the margin and capital rule for uncleared swaps to any collateral listed in that appendix or it could apply a suitable discount determined by the Bank based on appropriate assumptions about price risk and liquidation costs to collateral not listed in appendix B.

[36] *See* Proposed Federal Home Loan Bank Capital Requirements, 82 FR 30776, 30781 n.30 (July 3, 2017); *supra* note 28.

[37] *See* 12 CFR 1221.2. The ''eligible master netting agreement'' definition under § 1221.2 was amended effective November 9, 2018. *See* Margin and Capital Requirements for Covered Swap Entities; Final Rule, 83 FR 50805, 50813 (Oct. 10, 2018).

[38] *See* 12 CFR 1221.8; 12 CFR part 1221, appendix A. As no Bank is currently a swap dealer or major swap participant that otherwise needs to develop an initial margin model, FHFA expects the Banks would generally rely on the calculations done by a counterparty using its approved model or using appendix A to the part 1221 rules.

[39] *See* 12 CFR 1221.9.

[40] *See* Final Rule on Margin and Capital Requirements for Covered Swap Entities, 80 FR 74840, 74881–882 (Nov. 30, 2015), as amended, 83 FR 50805 (Oct. 10, 2018).

CRPRs for Advances: Table 1. The proposed rule included a version of Table 1 that was much the same as the corresponding table in the current Finance Board regulations, except that it included modestly higher CRPRs for advances than those in the current regulation. The Banks' comment letter asked that FHFA either reinstate the CRPRs from the current Finance Board regulation or lower them to levels below those in the current regulation. The Banks reasoned that lower capital charges for advances were warranted because no Bank has ever suffered a credit loss on an advance to a member, but the Banks did not propose a new methodology that FHFA could use for deriving reduced CRPRs for their advances. The final rule retains in Table 1 the CRPRs that were included in the proposed rule. As FHFA explained in the proposed rule, advances, which represent approximately two-thirds of the Banks' assets, do present some degree of credit risk, and thus should be included within the risk-based capital requirements. That degree of credit risk is difficult to measure precisely because there is no comparable loss history for advances as there is, for example, for corporate debt instruments. The Finance Board determined that the capital charge for advances should be greater than zero but less than the capital charge for other assets rated at the highest investment grade. Accordingly, it developed a methodology for setting the CRPRs for advances within that range based on the estimated default rate of investment grade corporate debt securities and a specific loss-given-default rate, as described in the proposed rule. FHFA believes that the original methodology remains a reasonable approach for estimating credit risk associated with advances, and thus has retained that approach in Table 1 of the final rule. In determining the CRPRs for advances, FHFA had the benefit of default data that was more recent than what had been available to the Finance Board, as well as a more standardized methodology.[41] The fact that the CRPRs in the final rule are modestly higher than the current CRPRs is solely a result of employing the updated methodology. Moreover, the amount of risk-based capital that a Bank must hold against its advances remains modest, in keeping with the very low risk posed by advances.

CRPRs for Internally Rated Assets: Table 2. Under the existing Finance Board regulations, the CRPRs used to calculate the capital charges for non-mortgage assets, off-balance sheet items, and derivative contracts are determined based on a table that delineates the CRPRs by NRSRO rating and maturity range. The proposed rule would have made two revisions to that table. First, as required by the Dodd-Frank Act, the proposal would have replaced the NRSRO rating categories with FHFA Credit Ratings categories, to which the Banks would have to assign the instruments covered by the table based on their own internal credit ratings. Second, FHFA included revised percentages for most of the CRPRs within Table 2 because FHFA had updated both the data and the methodology that the Finance Board had used to develop the original CRPRs. As a result of those updates, the CRPR percentages for most of the line items in proposed Table 2 were higher than those in the current Finance Board regulation. As explained in the proposed rule, FHFA derived the CRPRs in proposed Table 2 using a modified version of the Basel II internal ratings-based credit risk model. FHFA received no comments on the methodology used to derive the CRPRs in proposed Table 2 or on the requirement for the Banks to use their internal credit ratings, and therefore is adopting Table 2 as proposed.[42] The Banks' comment letter asked that FHFA clarify that the language in the column heading that refers to an instrument's ''remaining maturity'' means the ''weighted average life of the asset,'' rather than its contractual maturity. FHFA based the table on bond credit losses over a specific time horizon, and not the weighted average life of those assets, and therefore believes that the remaining contractual maturity is the appropriate measure. In the final rule FHFA has revised the heading of Table 2 to state that the ratings are ''Based on Remaining Contractual Maturity'' to make that point clear.

The FHFA Credit Rating categories in Table 2 are intended to achieve the same purpose previously served by the NRSRO credit ratings, which is to create a hierarchy of credit risk exposure categories, to which a Bank would assign each instrument covered by Table 2. FHFA has established the individual FHFA Credit Rating categories, and the CRPR for each category, based on historical loss experience. In this respect, the categories of FHFA Credit Ratings are comparable to the NRSRO ratings categories, which also are based on historical loss experience. Because of that common foundation, and because Table 2 of the final rule has the same number of categories as the corresponding table in the current Finance Board regulation, there should be a high correlation between the categories of the new and old tables. For example, the historical loss experience for the ''highest investment grade'' category used in the current Finance Board regulation should correspond closely to the historical loss experience that FHFA determined for the FHFA 1 Credit Rating category in Table 2 of the final rule, and the same should be true for the remaining categories.

The final rule differs from the current Finance Board regulation by requiring that each Bank determine the appropriate FHFA Credit Rating category for each instrument covered by Table 2. The Bank would do so by first calculating its own internal credit rating for each instrument, as required by § 1277.4(f)(1)(ii), rather than by determining the instrument's NRSRO rating, as is the case under the current regulation. Each Bank then would need to map its various internal credit ratings to one of the FHFA Credit Rating categories in Table 2. Given the similarity in structure and basis between Table 2 of the final rule and the corresponding table in the current Finance Board regulations, as well as the historical data connection of both tables to historical loss rates reflected in NRSRO ratings, the Banks should be able to map their internal credit ratings to the appropriate FHFA Credit Rating categories in Table 2 of the final rule in a straightforward manner. Because the final rule relies on a Bank's internal credit ratings and the manner in which it maps those internal ratings to the appropriate FHFA Credit Rating category, it is possible that the CRPR for a particular instrument or counterparty determined under the final rule would differ from the CRPR that is assigned under the current regulations. Because the internal ratings methodologies may differ from Bank to Bank, it also is possible that one Bank may rate a particular instrument differently from another Bank.

The final rule does not require a Bank to obtain FHFA approval of either its method of calculating the internal credit rating or its mapping of such ratings to the FHFA Credit Ratings categories. Instead, § 1277.4(f)(1)(ii) of the final rule provides that a Bank's rating method must involve an evaluation of

[41] Proposed Federal Home Loan Bank Capital Requirements, 82 FR 30776, 30782–30783 (July 3, 2017) (discussing in detail the new methodology to derive the CRPRs for Table 1.1 in the proposed rule, which is Table 1 in the final rule).

[42] *See* Proposed Federal Home Loan Bank Capital Requirements, 82 FR 30776, 30786 (July 3, 2017) (setting forth the methodology used to derive proposed Table 2).

counterparty or asset risk factors, which may incorporate, but not rely solely upon, credit ratings available from an NRSRO or other credit rating entities. An evaluation of a risk factors may include measures of the counterparty's scale, earnings, liquidity, asset quality, or capital adequacy, among other things. FHFA intends to rely on the examination process to review the Banks' internal rating methodologies and mapping processes, which is appropriate because the Banks have been using internal rating methodologies for some time, and any adjustments to those methodologies that may be required for supervisory reasons would not likely have a material effect on a Bank's overall credit risk capital requirement. FHFA also has revised a related provision of the final rule, § 1277.4(f)(4), which now requires a Bank to provide to FHFA, upon request, the methodology, model, and analyses used to assign these instruments to their FHFA Credit Rating categories. That provision also authorizes FHFA to direct any Bank to revise its methodology or model to remedy any deficiencies identified by FHFA. The proposed rule would have allowed FHFA, on a case-by-case basis, to direct a Bank to change the calculated credit risk capital charge for particular instruments, as necessary to remedy any deficiency that FHFA identified with respect to a Bank's internal credit rating methodology for those instruments. FHFA revised this provision in response to the Banks' comment letter, which suggested that it would be more appropriate for FHFA to require a Bank to revise its methodology and model than for FHFA to direct a Bank to revise capital charges for individual instruments on a case-by-case basis. FHFA agrees with the Banks' suggestion and has revised both § 1277.4(f)(4), which pertains to Table 2, and § 1277.4(g)(2)(iii), which pertains to Table 4, for mortgage assets, in the manner described above.

CRPRs for Non-Rated Assets: Table 3. The proposed rule included a version of Table 3 that was identical to the corresponding table in the current Finance Board regulation.[43] FHFA received no comments on this table and is adopting it as proposed. Table 3 sets forth the CRPRs for Non-Rated Assets, which are defined as cash, premises, plant and equipment, and investments authorized under 12 CFR 1265.3(e) and (f).

Reduced Charges for non-mortgage assets. Section 1277.4(f)(2) of the final rule provides for two exceptions to the process described above for determining the capital charges for non-mortgage assets that are secured by certain collateral or are subject to an unconditional guarantee from a third-party. This provision is unchanged from the proposed rule and carries over provisions from the current Finance Board regulations. Under those provisions, a Bank may substitute the CRPR associated with the guarantor or the collateral for the charge associated with the portion of the non-mortgage asset that is subject to the guarantee or collateral. Section 1277.4(f)(2)(ii) describes the conditions that must be satisfied in order for the collateral to be deemed to "secure" the non-mortgage asset. The final rule also includes a separate but similar provision, located at § 1277.4(j), that allows the Banks the option of using credit derivatives that meet the requirements of that section to reduce or eliminate the otherwise applicable capital charges on their non-mortgage assets. Section 1277.4(j) is the same as the proposed rule, apart from two instances in which FHFA has replaced the term "book value" with "amortized cost, or fair value" when referring to the calculation of the capital charge for hedged non-mortgage assets. The substance of this provision also is the same as the current Finance Board regulation. The final rule does not alter the substance of the current Finance Board regulations as to the criteria that a Bank must meet for this special provision to apply or the method of calculating the capital charges. Generally, under this provision, a Bank would be able to substitute the capital charge associated with the credit derivatives (as calculated under § 1277.4(e)) for all or a portion of the capital charge calculated for the non-mortgage assets, if the hedging relationships meet the criteria in the proposed provision.[44]

Charge for Obligations Issued by the Enterprises. Section 1277.4(f)(3) of the proposed rule would have applied a capital charge of zero to any non-mortgage debt instrument issued by either of the Enterprises, recognizing that they are currently operating with the financial support of the United States and thus present no credit risk. The final rule retains this provision with only one revision, which clarifies that the zero capital charge may continue only for so long as the Enterprises' debt obligations actually are supported by the United States. When the capital support provided by the U.S. Government ceases, the capital charges for Enterprise debt instruments will be determined by using the appropriate CRPR in Table 2 in the same manner as would be the case for any debt instruments issued by other entities, *i.e.,* based on the Bank's internal credit rating for the issuing Enterprise and the maturity of the instrument. At present, the financial support provided by the U.S. Department of the Treasury under the Senior Preferred Stock Purchase Agreements (PSPA)[45] ensures that the Enterprises will repay these obligations, which effectively eliminates the credit exposure otherwise associated with these instruments and warrants a capital charge of zero while the instruments continue to have the financial support of the United States. The Banks' comment letter asked that the final rule also apply a zero percent capital charge to the non-mortgage debt instruments issued by other GSEs. The Banks made the same request with respect to § 1277.4(g)(2)(i), which assigns a zero percent capital charge for mortgage-related obligations issued by the Enterprises. The Banks reasoned that the obligations of all GSEs should be treated equally for risk-based capital purposes. FHFA has not included those requested changes in the final rule. FHFA has assigned a zero percent capital charge to those Enterprise obligations because of the explicit financial support provided by the United States through the PSPAs. The obligations of other GSEs are not similarly backed by the United States, and therefore a zero percent capital charge is not warranted.

Credit Risk Capital Charge for Multifamily MBS and CMBS. Under the proposed rule both multifamily MBS and CMBS would constitute "non-mortgage assets" and Banks would determine their capital charges by reference to Table 2. This approach is the same as under the current Finance Board regulations and is retained in the final rule without change.[46] The Banks'

[43] In the Finance Board regulations, the corresponding table is designated as "Table 1.4" but the assets and CRPRs included within that table are the same as those of Table 3 of this final rule.

[44] *See* Final Finance Board Capital Rule, 66 FR 8262, 8292–94 (Jan. 30, 2001).

[45] *See https://www.fhfa.gov/Conservatorship/Pages/Senior-Preferred-Stock-Purchase-Agreements.aspx* (containing links to the PSPAs and to the First, Second, and Third Amendments to them, as well as to the Letter Agreement of December 21, 2017, on capital reserves).

[46] Although multifamily MBS and CMBS are backed by loans that are secured by a mortgage on real estate, they are treated as "non-mortgage assets" for regulatory capital purposes because their underlying loans are not "residential mortgage loans," which term includes only loans that are

Continued

comment letter asked that FHFA either apply the capital charges for single family MBS (which are set out in Table 4) to multifamily MBS or develop a separate table for capital charges for multifamily MBS that would be based on their loss histories. The Banks also asked that FHFA develop a separate table of capital charges for CMBS based on their loss history. The Banks did not, however, provide any supporting data on loss histories for those instruments from which FHFA might conceivably develop separate capital charges for those assets.

FHFA has not incorporated either of those suggestions into the final rule. With respect to multifamily MBS, FHFA notes that the final rule allows the Banks to apply a zero capital charge to any Fannie Mae or Freddie Mac multifamily securities they own if they are covered by the financial support currently provided by the U.S. Department of the Treasury under the PSPAs. Currently, the vast majority of the multifamily MBS owned by the Banks are issued by Fannie Mae and Freddie Mac. Accordingly, those instruments likely would qualify for a zero capital charge under § 1277.4(f)(3). FHFA also notes that the Banks typically do not own any CMBS. Consequently, FHFA does not consider it necessary to develop separate tables or to employ an alternative methodology. Furthermore, in the event a multifamily MBS or CMBS security does not qualify for a zero capital charge under § 1277.4(f)(3), the final rule requires the Banks to determine the capital charge based principally on their own internal credit rating of the instrument, which would allow them an opportunity to more closely align their capital charge to their assessment of the associated credit risk, provided the Banks have developed adequate support for their ratings of particular instruments.

Credit Risk Capital Charge for Residential Mortgage Assets. Section 1277.4(g)(1) of the proposed rule would have established the capital charges for residential mortgage assets that would be equal to the amortized cost, or fair value, of the asset multiplied by the CRPR assigned to the asset under Table 4 of proposed § 1277.4(g). The principal difference between the proposed rule and the current Finance Board regulations was that the proposal would have replaced the current NRSRO ratings-based approach for determining the capital charge for a mortgage asset with one based on each Bank's internal rating of the individual asset. To do that, the proposed rule would have required each Bank to develop a methodology to assign an internal credit risk rating to each mortgage asset, then to align each of its internal ratings to the appropriate category of the table of capital charge percentages set out in the proposed rule. After aligning its internal ratings to the FHFA table, each Bank would have been required to assign each mortgage asset to the appropriate category of the table, based on its internal credit risk rating for that asset. The proposed rule also would have required the Banks to align their internal credit ratings to the categories in Table 4 with reference to the terms ''AMA Investment Grade'' and ''Investment Quality,'' *i.e.,* by ensuring that any internal ratings that a Bank mapped to one of the four highest categories in that table could include only assets that would qualify as either ''AMA Investment Grade'' or ''Investment Quality,'' as those terms are defined in 12 CFR 1268.1 and 1267.1 for mortgage loans and investment securities, respectively. The proposal also would have required that a Bank's internal ratings categories, like the categories in Table 4, be ranked based on their respective credit quality, *i.e.,* that the credit risk associated with each category would increase progressively, when viewing the categories from top to bottom. Additionally, § 1277.4(g)(1) of the proposed rule included two exceptions to the capital charges set out in Table 4, which would allow the Banks to assign a zero capital charge to any mortgage assets that are guaranteed or insured by the full faith and credit of the United States, or that have been guaranteed by one of the Enterprises while it was receiving financial support from the United States. Lastly, the proposal included a provision allowing FHFA to direct a Bank to adjust the capital charges for individual mortgage assets, as necessary to account for any deficiencies that FHFA may find in its internal credit rating methodology.

The Banks' comment letter addressed several issues relating to these provisions. The Banks first questioned the capital charges for CMOs under Table 4, contending that they were disproportionately high when compared to the credit risk associated with the securities that the Banks typically acquire. The Banks asked that the final rule revise the capital charges for CMOs in categories 3 through 7 of Table 4 by making them the same as those for similarly rated mortgage-backed securities structured as pass-through instruments. The Banks also asked that FHFA revise § 1277.4(g)(1)(iii), which requires each Bank to align each of its internal ratings to a category in Table 2, so that it would require the Banks to consider the potential future losses on a particular mortgage asset when making that alignment. The Banks reasoned that the amount of risk-based capital required for a particular mortgage asset should be equal to the amount of capital needed to protect against future potential losses under the 99.9 percent confidence level stress scenario assumed by FHFA. Lastly, the Banks asked that FHFA revise § 1277.4(g)(2)(iii), which would allow FHFA to require a Bank to change the capital charge for particular assets if FHFA determined the Bank's methodology to be deficient, so that it would instead authorize FHFA to require changes to a Bank's methodology, rather than to the capital charges for individual assets.

With respect to the capital charges for CMOs, FHFA had explained in the proposed rule that the use of the term ''subordinated classes'' within the table in the Finance Board regulation created an ambiguity regarding the application of the capital charges within that table. The Finance Board table has two separate sets of capital charges—those in the top half of the table appear under the heading of ''type of residential mortgage asset,'' while those in the bottom half appear under the heading ''subordinated classes of mortgage assets.'' Each half of that table has seven categories, each of which corresponds to a particular NRSRO credit rating. The capital charges for each of top two categories in each half of the Finance Board table—which correspond to instruments with NRSRO ratings of AAA or AA—are identical, meaning, for example, that a pass-through MBS with an NRSRO rating of AA would carry the same capital charge as a CMO with the same rating. For the remaining five categories in each half of the table, however, the capital charges in the bottom portion of the table are higher than those in the top portion of the table. It is FHFA's belief that the Finance Board intended that all of the categories in the top half of the table were to be applied only to whole mortgage loans and to mortgage pass-through securities, and that all of the categories in the bottom half of the table were to apply to ''structured'' mortgage-related securities, such as CMOs. The fact that the Finance Board assigned identical capital charges for the top two categories of pass-through securities and the top two categories of structured securities is consistent with reading the

secured by a mortgage on a residential structure that contains a one-to-four family dwelling unit.

table in that manner. That said, FHFA also recognizes that the Banks may have construed the term ''subordinated classes,'' as used in the bottom half of the table, as meaning that those capital charges were to apply only to the subordinated tranches of a CMO, *i.e.,* any tranches other than the most senior tranche, and that the capital charge for the most senior tranche of any CMO should be determined based on the CRPRs in the top half of the table. In proposing to revise the table headings FHFA intended to give effect to the Finance Board's original intent for this table. Thus, the proposed rule would have revised the subheading for the bottom half of the table by replacing ''subordinated classes of mortgage assets'' with ''categories for collateralized mortgage obligations'' to make that point clear. The principal effect of the proposed revision would be that Banks would determine the capital charge for the most senior tranche of their CMO investments based on the percentages set out in the bottom half of Table 4, rather than those from the top half of the table. As the Banks noted in their comment letter, they typically invest only in highly rated CMOs. Under the current Finance Board regulation, a CMO tranche with an NRSRO rating of AAA or AA would carry the same capital charge regardless of whether a Bank used the CRPRs in the top or bottom half of the table, but in the event an NRSRO were to downgrade that instrument, the capital charges calculated under the bottom half of the table would be higher than those calculated under the top half. In a similar fashion, if a Bank were to lower its internal rating of an existing CMO investment to below the top two FHFA Rating Categories, then the proposed rule would have required it to use the higher CRPR from the bottom half of the table. The proposed rule would not have affected the capital charges for the Banks' investments in any subordinated CMO tranches because the Banks already use the CRPRs in the bottom half of the table to determine the capital charges for those instruments.

FHFA has not incorporated the Banks' request to reduce the capital charges for the lower rated categories of CMOs to equal those for pass-through MBS into the final rule. As noted above, FHFA's sole objective in revising the headings to Table 4 was to eliminate an ambiguity from the existing table of capital charges, with the intent of giving effect to the Finance Board's original intent regarding capital charges for all CMOs. Moreover, because FHFA, based on its experience with the mortgage markets and the Banks' role in them, saw no need to alter any of the CRPRs for mortgage loans and mortgage-related assets, it had not developed any analytical data that could support revisions to the CRPRs for CMOs in the final rule. The Banks' comment letter also did not provide any data on which FHFA might reasonably rely to reduce the capital charges for the lower-rated categories of CMOs. In the absence of such information, FHFA cannot introduce such revised CRPRs into the final rule. The final rule, however, does include other provisions that should address the Banks' concern about the capital charges for the lower-rated categories of CMOs being disproportionate to their credit risk. First, § 1277.4(g)(1)(i) of the final rule will require that the Banks apply the CRPR for a particular mortgage asset only to the asset's amortized cost (or fair value), not to its book value as is currently the case. The use of amortized cost should result in lower capital charges for lower-rated CMOs, even if the CRPR for the asset remains the same, because the amortized cost will generally be lower than book value, such as when the Bank has recognized a loss on an asset through a charge for an other-than-temporary impairment. Second, as described in more detail below, FHFA has incorporated into § 1277.4(g)(1)(iii) of the final rule new language, derived from one of the Banks' comments, regarding the use of potential future losses as a measure of the capital charge for a particular mortgage asset. That revision should address the Banks' concern about the CRPRs for the lower-rated categories of CMOs being disproportionate to their credit risk because the amount of risk-based capital that a Bank would have to hold for any mortgage-related asset would be based principally on the amount of the potential future loss from the current amortized cost that a Bank estimates for such asset.

As noted above, the Banks' comment letter asked that the final rule clarify that the measure of risk-based capital should be the amount needed to cover the potential future losses under a stress scenario assumed by FHFA, and that the potential future losses should be measured from the amortized cost, or fair value, of the asset. FHFA agrees with the comment regarding the use of potential future losses and has revised § 1277.4(g)(1)(iii) of the final rule accordingly. The Banks appear to have been principally concerned that the proposed rule could be read as requiring them to calculate the risk-based capital requirement for a CMO based on its face or par value, regardless of whether the Bank had previously recorded as a loss through income that portion of the CMO's par value that the Bank had determined to be other-than-temporarily-impaired. Although the proposed rule explicitly stated that the capital charge for any mortgage asset is to be the product of the appropriate CRPR and the amortized cost of the asset, FHFA has revised the final rule to clarify the relationship between amortized cost and potential future losses. The proposed rule implied, but did not state explicitly, that the appropriate FHFA credit rating category should be determined by assessing the risk that the Bank may incur further loss or charge-off to the remaining amortized cost value of the CMO and other mortgage-related securities. For example, for a Bank that owns a CMO for which it has previously charged off 40 percent of the par value, FHFA had intended that the proposed rule would have required the Bank to then assess the likelihood of incurring additional losses to the remaining 60 percent of the par value (or current amortized cost value) of the CMO to determine how much risk-based capital is required. Under the proposed rule, if a Bank were to determine that the likelihood of additional loss to its amortized cost value is near zero, it could assign to the CMO a very high internal rating, which would have allowed the Bank to assign the CMO to one of the higher FHFA credit rating categories in Table 4, resulting in a low capital charge. That would be true even if the CMO carried a significantly lower NRSRO rating, because an NRSRO rating does not take into account the extent to which a particular investor may have charged off a portion of the security. To make that process more clear, FHFA has revised § 1277.4(g)(1)(iii) of the final rule to state explicitly that the Banks must estimate the potential future losses that may yet occur on their mortgage assets from their current amortized cost (or fair value).

The Banks' request to add language about potential future losses into the regulation also prompted FHFA to revise another aspect of the rule relating to the methodology to be used in assigning individual mortgage assets to the particular categories in Table 4 of the final rule. The proposed rule would have required the Banks to develop a methodology to assign an internal credit rating to each mortgage-related asset, and then align their internal ratings to the FHFA credit rating categories set forth in Table 4, in order to determine the credit risk-based capital requirement for each asset. The Banks asked that FHFA revise the final rule to state explicitly that the internal ratings ''should at least in part be related to [a Bank's] potential future losses.'' The Banks reasoned that the required amount of risk-based capital should be the amount needed to protect against potential future losses determined under a stress scenario. In considering that comment, FHFA determined that using potential future losses as the method for assigning mortgage assets to the categories in Table 4 was a superior approach to that described in the proposed rule.[47] FHFA also agrees that the most appropriate method of estimating potential future losses is through use of a mortgage asset stress test. Using the potential future stress-loss estimates as the basis for assigning a mortgage asset to the appropriate category of Table 4 also would be a simpler and more direct means for the Banks to determine the capital charge than under the proposed rule, which as a practical matter would have required a Bank to determine a potential future stress-loss estimate for each mortgage asset, then convert that estimate into an internal rating, and then map each internal rating to a corresponding FHFA credit rating category in Table 4.

Accordingly, FHFA has revised § 1277.4(g)(1)(iii) of the final rule to require that each Bank develop a methodology to estimate the potential future stress losses on each mortgage-related asset that may yet occur from its current amortized cost. The Banks must then convert the estimate for each asset into a stress loss percentage, which is to be expressed as a percentage of the amortized cost (or fair value) of the mortgage asset. The Banks would then use that percentage to determine the appropriate category in Table 4 to be used for determining the CRPR for each mortgage asset, with the charges for AMA and mortgage pass-through securities being taken from the top half of the table and the charges for all CMOs and other structured mortgage assets being taken from the bottom half of the table. To do so, the Banks would assign each mortgage asset to the FHFA credit rating category from Table 4 whose CRPR equals the asset's stress loss percentage or, if those two amounts are not equal, to the FHFA category with the next highest percentage. For example, the CRPR for a mortgage-backed pass-through security assigned to the FHFA RMA rating category of ''2'' under the final rule is 0.60 percent of the security's amortized cost. If a Bank were to determine that such a security had a potential future loss estimate of 0.55 percent of the remaining amortized cost value, it would assign that security to the FHFA 2 category, and would apply the 0.60 percent CRPR. If a Bank were to determine, however, that the security had a potential future loss estimate of 0.61 of its amortized cost, then it must assign the security to the FHFA RMA rating category of ''3'' and apply the 0.86 CRPR required for instruments in that category. Under this approach, the regulatory capital charge will exceed the loss estimate by some amount whenever the loss estimate falls between the CRPRs specified for two adjacent categories of Table 4. That also would have been the case under the proposed rule, given that Table 4 uses categories of CRPRs, rather than the exact amount of the loss estimate.

Because of the revised approach described above, the final rule does not include the language from § 1277.4(g)(1)(iii) of the proposed rule that would have required the Banks to develop their own methodologies to assign internal ratings to all mortgage assets and then map those internal ratings to the appropriate categories in Table 4. FHFA also has not carried over the provisions of the proposed rule that would have directed the Banks to establish a hierarchy of relative creditworthiness for each of their internal ratings categories and ensure that any asset assigned to the top four FHFA ratings categories have a credit quality at least equal to ''AMA Investment Grade'' (for AMA) or ''Investment Quality'' (for mortgage-related securities).

As described previously, § 1277.4(g)(2)(i) and (iii) of the proposed rule included two exceptions that provided for a capital charge of zero for mortgage assets that are guaranteed by either of the Enterprises while they are receiving capital support from the federal government, or that are subject to a guarantee or insurance provided by a federal department or agency that carries the full faith and credit of the United States. The final rule revises the first exception slightly by adding language clarifying that the zero capital charge for Enterprise instruments will continue ''only for so long as'' the Enterprises' instruments are receiving capital support or other form of direct financial assistance from the United States government that enables them to repay their obligations. The financial support currently provided by the United States Department of the Treasury under the PSPAs qualifies under this provision. This exception is identical in substance to § 1277.4(f)(3), which allows the Banks to apply a zero capital charge to any non-mortgage-related debt instruments issued by the Enterprises. The intent of these revisions is to make clear that the zero capital charge for Enterprise obligations will terminate when the capital support provided by the United States ceases. The final rule adopts without change the other exception under § 1277.4(g)(2)(ii) for instruments backed by the full faith and credit of the United States. As also noted previously in the discussion of § 1277.4(f)(4), FHFA has revised § 1277.4(g)(2)(iii) of the final rule in response to the Banks' comment letter. As revised, this provision requires a Bank to provide its methodology for estimating future stress losses and related documents to FHFA upon request, and authorizes FHFA to require a Bank to revise its methodologies to address any deficiencies identified by FHFA. The new provision replaces language in the proposed rule that would have authorized FHFA to direct a Bank to revise capital charges for individual assets on a case-by-case basis to remedy any deficiencies in the methodology.

Frequency of Calculation. Section 1277.4(k) of the proposed rule would have reduced the frequency with which a Bank would be required to calculate its credit risk capital charges from monthly to at least quarterly, unless directed otherwise by FHFA. The final rule adopts this provision without change, apart from the addition of a reference to mortgage pools to the list of assets described. The amounts of the assets and other items on which the risk-based capital requirement is calculated would be determined as of the last business day of the immediately preceding calendar quarter.[48] Notwithstanding that quarterly

[47] FHFA recently issued new guidance on the Banks' use of models and methodologies for assessing mortgage-asset credit risk arising from AMA programs and investments. *See* Advisory Bulletin AB 2018–02 (April 25, 2018). That guidance encourages Banks to assess the credit risk by using a loan-level mortgage-asset credit risk model to estimate the potential future losses of the asset under a stress scenario acceptable to FHFA. Although that bulletin did not specifically address the assessment of credit risk in the context of the risk-based capital requirements for mortgage assets, the degree of credit risk associated with a particular investment is the same regardless of the regulatory context in which it is being measured. The bulletin states that the potential future stress-loss estimate on a mortgage-related asset can be used as an appropriate measure of the economic capital that the Banks can consider when conducting their due diligence prior to purchasing a mortgage-related asset.

[48] For example, early in the second calendar-year quarter, a Bank would need to calculate its credit risk capital charge based on assets, off-balance sheet items and derivative contracts held as of the last business day of the first calendar year quarter.

calculation requirement, § 1277.3 separately requires that each Bank at all times maintain permanent capital in an amount at least equal to its risk-based capital requirement. FHFA construes these two provisions as requiring that each Bank will monitor how their business activities and associated risks evolve during a calendar quarter such that a Bank can ensure maintenance of sufficient risk-based capital throughout the quarter as well as when the requirement is recalculated at the end of the quarter. Section 1277.4(k) also explicitly reserves FHFA's right to require a Bank to conduct its risk-based capital calculations more frequently than quarterly, which FHFA may require if it determines that circumstances warrant such change. In prior years, the Banks' total risk-based capital requirements have not varied significantly from quarter to quarter. Because of that, FHFA has determined that the reduced frequency of the required calculations should not raise any safety or soundness concerns that cannot be addressed through FHFA's normal supervisory and examination functions. FHFA anticipates that the reduction in the frequency of the required risk-based capital calculations will reduce the operational burdens on the Banks.

D. Market Risk Capital Requirements

Section 1277.5 of the proposed rule would have carried over nearly all of the Finance Board regulation addressing the market risk capital requirement, with the exceptions noted below. The proposed rule would have repealed the existing requirement that market risk capital must include an amount equal to the extent to which the current market value of the Bank's total capital is less than 85 percent of the book value of its total capital. The proposed rule also would have revised the language regarding independent validations of a Bank's internal market risk to require that they be performed periodically, commensurate with their risk, rather than annually, as is the case currently. In addition, the proposal would have reduced the number of times that each Bank would be required to conduct the market risk calculations from monthly to quarterly. The proposed rule included a grandfather provision, the effect of which was to make clear that any internal market risk models that FHFA or its predecessor had previously approved would be deemed to satisfy the approval requirement under the new FHFA regulation. The Banks did not comment on those proposed revisions, all of which have been included in § 1277.5 of the final rule. The change regarding the required frequency of a Bank's calculation of its market risk capital requirement under the proposed rule from monthly to quarterly was done so that it would correspond to the frequency of calculation for the Bank's credit risk capital requirement. Thus, under the final rule each Bank will be required to calculate its market risk capital requirement at least quarterly under § 1277.5(e), based on assets held as of the last business day of the immediately preceding calendar quarter, unless otherwise instructed by FHFA. The Bank would be expected to meet the calculated capital charges throughout the quarter.

The Banks' comment letter asked that FHFA revise § 1277.5(b)(4)(ii) by changing the starting date for the historical observation period required under that provision from ''1978'' to ''1992.'' The Banks reasoned that doing so would align the regulation with guidance that FHFA had issued on that topic.[49] During the period following receipt of the comment, FHFA undertook empirical testing to consider whether using a 1998 start date would diminish the severity of the scenarios that the Banks currently include in the stress test. That testing showed that the Banks could use an historical observation period that commenced in 1998 without compromising the severity of the stress scenarios used by the Banks. Accordingly, FHFA issued revised guidance addressing the scenarios to be used by the Banks' market risk models, which allowed the use of an observation period commencing in 1998.[50] In light of that development, FHFA has revised § 1277.5(b)(4)(ii) of the final rule so that it too provides that the starting date for the historical observation period must go back to the beginning on 1998.

E. Operational Risk Capital Requirement

The current Finance Board regulations set the operational risk capital requirement at 30 percent of the sum of the credit risk and market risk capital requirements, but allow a Bank to reduce that requirement to as low as 10 percent of the sum of those two amounts by obtaining FHFA's approval for an alternative methodology for quantifying operations risk or by obtaining insurance from a company with an NRSRO credit rating of AA or better. Section 1277.6 of the proposed rule would have carried over the current approach, but would have replaced the NRSRO credit rating provision with language requiring that the insurer be acceptable to FHFA. The Banks' comment letter asked that FHFA eliminate the 10 percent threshold, reasoning that it was not necessary if FHFA were to approve an alternative methodology, and that FHFA provide analytical support for the 10 and 30 percent provisions described above.

FHFA has decided to retain the 10 percent floor in § 1277.6 of the final rule, believing that there are prudential reasons for doing so. Although this provision has been in the Finance Board regulations since they were first adopted, no Bank has ever developed an alternative methodology for measuring operational risk for which it has sought the agency's approval. Thus, FHFA has had no prior opportunity to evaluate alternative methods for measuring operational risk or to determine whether any such Bank-developed alternatives would provide sufficient capital to cover a Bank's actual operational risks. Although there are challenges to quantifying operational risk at any financial institution, operational risks at the Banks do exist and should be supported by adequate capital. Even if a Bank were to develop an alternative methodology for measuring operational risk, however, FHFA has no reason to believe that the alternative methodology would necessarily be so precise as to capture fully all potential operational loss risks to which a Bank would be exposed. Given those uncertainties, FHFA believes that retaining the 10 percent floor provides some reasonable assurance that the amount of risk-based capital required by the operational risk capital provision would be sufficient if FHFA ever were to allow a Bank to use an alternative methodology for measuring those risks.

With respect to the Banks' second request, regarding the analytical support for the 10 and 30 percent requirements, FHFA has not undertaken any additional analyses to support those two provisions, both of which FHFA proposed to carry over unchanged from the Finance Board regulations. However, the Banks' letter did not provide any empirical data or other materials demonstrating that the amount of capital required by the current regulation is excessive or what other levels would be more appropriate measures for the operational risk capital requirement. As noted above, there are challenges to developing a methodology for measuring operational risk, and the financial institution regulatory agencies have yet to achieve consensus on how best to do so. In the absence of any

[49] *See* Revised Technical Guidance for Calculation of Market Risk Capital Requirements (Apr. 25, 2013).

[50] *See* Advisory Bulletin AB 2018–01 (Feb. 7, 2018).

widely accepted standards for determining the amount of capital needed to support the operational risks associated with a Bank's operations, which might provide a basis for displacing the Finance Board's judgment, FHFA believes that the existing 30 percent operational risk charge continues to provide a reasonable measure of capital to protect against those risks, and has not proven to be burdensome to the Banks over the years that it has been in effect. FHFA recognizes that assessing a Bank's operational risk exposure is challenging and therefore intends to continue monitoring developments in the industry in pursuit of an improved approach.

F. Limits on Unsecured Extensions of Credit

Section 1277.7 of the proposed rule generally would have carried over the Finance Board unsecured credit limits with only one significant revision, which was to remove all references to NRSRO credit ratings, on which the Finance Board limits were based. In their place, the proposed rule would have required a Bank to assign each counterparty an internal credit rating and use that rating to place the counterparty into one of the five FHFA credit rating categories in Table 1 to § 1277.7. The proposed rule also would have revised the existing limit for unsecured credit exposures to GSEs. The Finance Board regulations set that limit at the lesser of the Bank's total capital or the GSE's total capital, which was considerably higher than the limit for the most highly rated non-GSE counterparties, which was 15 percent (or 30 percent when including overnight federal funds transactions) of the lesser of those amounts. The proposed rule would have subjected all GSEs to the same unsecured credit limits as any other non-GSE counterparty, with the exception of any GSEs operating with direct financial assistance from the United States, for which the limit would be equal to the Bank's total capital.

The Banks' comment letter addressed several of these provisions under proposed § 1277.7, asking that the final rule apply the same unsecured credit limit to all GSEs, regardless of whether they are operating with the financial support of the United States. Further, the Banks asked that FHFA reinstate the existing 100 percent of capital limit as the unsecured credit limit for all GSEs, rather than treat GSEs the same as other non-GSE counterparties, and that it clarify how the limits will apply after a GSE operating with federal financial support loses that support. The Banks also asked that FHFA change the frequency of credit reporting to FHFA from monthly to quarterly, and revise the provision regarding debt that is guaranteed by a third party so that it allows, rather than mandates, that the Banks consider the guarantor to be the counterparty for regulatory purposes. With respect to reporting frequency, FHFA is retaining the existing monthly reporting requirements in § 1277.7(e), which require a Bank to report to FHFA any unsecured exposures that exceed 5 percent of the lesser of its capital or the counterparty's capital, as well as the amount of any secured and unsecured exposures that exceed 5 percent of the Bank's total assets. FHFA believes that receiving monthly reports of each Bank's secured and unsecured credit exposures above those thresholds is important to its supervisory responsibilities and thus has not accepted that suggestion. With respect to guarantors, FHFA agrees with the comment and has revised § 1277.7(a) so that Banks may, but are not required to, treat a third-party guarantor as if it were the counterparty for purposes of the unsecured credit limit. With the exception of that revision and those described below, the final rule is the same as the proposed rule.

FHFA Credit Ratings. The principal substantive revision made by the final rule is that, as in the proposed rule, a Bank will determine the unsecured credit limits for a particular counterparty based on its internal credit rating for that counterparty, rather than on an NRSRO credit rating. Section 1277.7(a)(4) of the final rule directs a Bank to use its internal credit rating to assign a counterparty to the appropriate FHFA Credit Rating category in Table 1 to § 1277.7, and further provides that the credit rating category assigned for unsecured credit purposes shall be the same as the FHFA category that the Bank would use under Table 2 of § 1277.4 if it were determining the risk-based capital charge for an obligation issued by that counterparty. The substance of that requirement had been located in § 1277.7(a)(5) of the proposed rule, which also would have required a Bank to align its internal credit ratings to the FHFA Rating Categories in Table 1 of § 1277.7 ''using the same methodology'' that it uses for the risk-based capital categories. FHFA has deleted the reference to the methodology from the final rule and relocated into § 1277.7(a)(4) the sentence requiring the FHFA credit rating categories to be the same for both capital and unsecured credit purposes. The final rule also removes all distinctions between short- and long-term ratings. The Finance Board regulations distinguished between those ratings because the NRSRO ratings on which the regulations were based included those distinctions. Under the final rule, a Bank would determine a single rating for a specific counterparty or obligation when applying the unsecured credit limits, regardless of the term of the underlying unsecured credit obligations.

Limits on Exposure to a Single Counterparty. The final rule retains most of the structure and operational aspects of the current Finance Board regulation on unsecured credit exposures. Thus, § 1277.7(a)(1) of the final rule sets a general limit on unsecured credit exposures to a single counterparty that includes all extensions of unsecured credit to that counterparty, other than unsecured exposures arising from sales of federal funds that have a maturity of one day or less or that are subject to a continuing contract. Section 1277.7(a)(2) of the final rule sets a separate additional overall limit that includes all unsecured extensions of credit to that counterparty, including all sales of federal funds. The overall limit for a single counterparty is set at twice the amount of the general limit. A Bank determines the limit for a particular counterparty by obtaining the appropriate maximum capital exposure limit (which is expressed as a percentage) for that counterparty from Table 1 to § 1277.7 and then multiplying the lesser of the Bank's total capital or the counterparty's Tier 1 capital by that percentage.[51] As described previously, a Bank will obtain the appropriate maximum capital exposure limit for a particular counterparty from Table 1, based on its internal credit rating of that counterparty. The numerical limits for each of the five categories within Table 1 of the final rule are the same as those in the current rule. The only difference between Table 1 of the final rule and the corresponding table in the Finance Board regulations is that the categories in the final rule are labeled as ''FHFA Credit Rating'' categories, rather than as categories based on NRSRO ratings.[52]

[51] If the counterparty is not subject to a Tier 1 capital requirement, a Bank may use the counterparty's total capital or some similar comparable measure identified by the Bank. The terms ''total capital'' and ''Tier 1 capital'' are to be as defined by the counterparty's principal regulator.

[52] The Finance Board explained its reasons for setting these maximum capital exposure limits when it proposed the current unsecured credit rule. *See* Proposed Rule on Unsecured Credit Limits for Federal Home Loan Banks, 66 FR 41474, 41478–80 (Aug. 8, 2001). The Finance Board also explained its reasons for limiting sales of overnight federal funds when it adopted the current unsecured credit

Section 1277.7(d) of the final rule addresses how the unsecured credit limit for a particular counterparty will be affected if a Bank revises its internal rating for that counterparty. This is similar to a provision of the current Finance Board regulations, which is based on NRSRO rating downgrades of a counterparty or obligation. The final rule provides that if a Bank revises its internal credit rating for a particular counterparty or obligation, it shall thereafter assign the counterparty or obligation to the appropriate FHFA Credit Rating category in Table 1 based on that revised internal rating. The final rule further provides that if the revised rating results in a lower FHFA Credit Rating category, then any subsequent extension of unsecured credit must comply with the new limit calculated using the lower internal credit rating. The final rule makes clear, however, that a Bank need not unwind any existing unsecured credit exposures as a result of the lower limit, provided they were originated in compliance with the unsecured credit limits in effect at that time. The final rule continues to consider any renewal of an existing unsecured extension of credit, including a decision not to terminate a sale of federal funds subject to a continuing contract, as a new transaction, which would be subject to the recalculated limit.

Affiliated Counterparties. Section 1277.7(b) of the final rule would readopt without substantive change the current provision of the Finance Board regulation limiting a Bank's aggregate unsecured credit exposure to groups of affiliated counterparties. Thus, in addition to being subject to the limits on individual counterparties, a Bank's unsecured credit exposure from all sources, including federal funds transactions, to all affiliated counterparties under the final rule could not exceed thirty percent of the Bank's total capital. The final rule would also readopt the current definition of affiliated counterparty.

State, Local or Tribal Government Obligations. Section 1277.7(a)(3) of the final rule also carries over without substantive change from the Finance Board regulations the special provision applicable to calculating limits for certain unsecured obligations issued by state, local or tribal governmental agencies. This provision allows a Bank to calculate the limit for these covered obligations based on its total capital—rather than on the lesser of the Bank or counterparty's capital—and the internal credit rating assigned to the particular obligation. As under the current rule, all obligations from the same issuer and having the same assigned rating may not exceed the limit associated with that rating, and the exposure from all obligations from that issuer cannot exceed the limit calculated for the highest rated obligation that a Bank actually has purchased. As explained by the Finance Board when it adopted the current rule, this special provision reflected the fact that the state, local or tribal agencies at issue often had low capital, their obligations had some backing from collateral but were not always fully secured in the traditional sense, and the Banks' purchase of these obligations had a mission nexus.[53]

GSE Provision. Section 1277.7(c) of the final rule carries over without change from the proposed rule the special limit that applies to a GSE counterparty that is operating with capital support or other form of direct financial assistance from the United States government that enables it to repay its obligations. In such cases, the limit for all unsecured credit exposures, including all federal funds transactions, equals 100 percent of the Bank's total capital. That limit currently applies to the Banks' exposures to the Enterprises by virtue of FHFA Regulatory Interpretation 2010–RI–05 (Nov. 9, 2010), which the final rule codifies. As noted above, the Banks requested that FHFA extend this same limit to other GSEs that are not operating with the direct financial support of the United States. FHFA declines to do so because the unsecured credit obligations of those other GSEs are not supported by the United States through means such as the PSPAs, as are the obligations of the Enterprises, and that distinction alone warrants having different unsecured credit limits. Thus, the unsecured extensions of credit to a single counterparty provisions under § 1277.7(a) remain unchanged from the proposed rule and therefore are applicable to GSEs that are not backed by the capital support of the United States government. The Banks also asked FHFA to clarify that the special limit described above for GSEs operating with capital support from the United States would continue in effect through the maturity of the instruments, even after the capital support ceases. Because compliance with the unsecured credit limits is determined at the time that a Bank extends the unsecured credit, the loss of the financial support of the United States for a GSE at some point in the future will not cause any then-existing unsecured credit exposures made under the limits of this provision to violate the regulation. Thus, Banks with such exposures may allow them to mature in the normal course after the financial support ceases. Because the loss of the financial support of the United States will cause the unsecured credit limits for those GSEs to drop, however, from 100 percent of a Bank's capital to a maximum of 15 percent (or 30 percent when including overnight federal funds) of a Bank's capital, the immediate effect of the loss of the federal financial support will be to prevent the Banks from making any new extensions of unsecured credit to those GSEs until after the amount of their then-existing unsecured credit has been reduced to below the new exposure limit. That new exposure limit will be determined for each GSE under Table 1 to § 1277.7 based on a Bank's internal rating of the GSE at that time. Section 1277.7(d) of the final rule addresses the situation where a counterparty's internal rating changes, and specifically provides that a Bank need not unwind any existing unsecured credit exposures, which would include those extended to GSEs, as a result of a new and lower limit being imposed, provided that the existing exposures were within the applicable limit when originated. FHFA has not included in the final rule the Banks' request that FHFA retain the existing special unsecured credit limit for all GSEs, which allows unsecured credit exposures of up to 100 percent of the lesser of the Bank's total capital or the counterparty's total capital. As noted above, FHFA has preserved a special limit for GSEs, but only for those that are operating with the direct financial support of the United States. The proposed rule reflected FHFA's policy judgment that unsecured credit limits for all counterparties, other than those explicitly backed by the United States, should be determined based on the Banks' assessment of the credit risk posed by those counterparties. Tying the unsecured credit limit to an assessment of creditworthiness of the counterparty also introduces a degree of market discipline that is absent under the current Finance Board regulations. This approach is consistent with that taken by FHFA with respect to the treatment

regulation, stating that Banks have financial incentives to lend into the federal funds markets, *i.e.,* the GSE funding advantage and a limited range of permissible investments, and that permitting such lending without limits would be imprudent. *See* Final Rule on Unsecured Credit Limits for Federal Home Loan Banks, 66 FR 66718, 66720–21 (Dec. 27, 2001) (Finance Board Final Unsecured Credit Rule).

[53] *See* Finance Board Final Unsecured Credit Rule, 66 FR at 66723–24 (Dec. 27, 2001).

of GSE collateral under the rule on uncleared derivative contracts.[54]

Measurement of Unsecured Extensions of Credit. Section 1277.7(f) of the final rule establishes the requirements for measuring a Bank's unsecured credit exposures. FHFA received no comments on this provision and is adopting it without change from the proposed rule. For on-balance sheet transactions, other than for derivative transactions that have not been accepted for clearing by a derivatives clearing organization, § 1277.7(f)(1)(i) of the final rule provides that the unsecured extension of credit shall equal the amortized cost of the transaction plus net payments due the Bank. If a Bank carries an item at fair value where any change in fair value is recognized in income, the rule provides that the unsecured extension of credit shall equal the fair value of the item, rather than its amortized cost. This approach is similar to the approach applied under § 1277.4 for calculating credit risk capital charges for non-mortgage assets. FHFA believes that this approach best captures the amount that a Bank has at risk should a counterparty default on any unsecured credit extended by the Bank. For an off-balance sheet item, § 1277.7(f)(1)(ii) provides that the unsecured extension of credit shall equal the credit equivalent amount for that item, calculated in accordance with § 1277.4(h).

Section § 1277.7(f)(1)(iii) of the final rule addresses how to measure the unsecured credit exposure related to an uncleared derivative transaction. In that case, the amount of the unsecured extension of credit equals the sum of the Bank's current and future potential credit exposures under the contract (which amount may be reduced by certain collateral held by the Bank, as described below), plus the amount of any collateral posted by the Bank that exceeds the amount the Bank owes to its counterparty and that is held by a person or entity other than a third-party custodian that is acting under a custody agreement that meets the requirements of FHFA's margin and capital rule for uncleared swaps.[55] With respect to a Bank's use of collateral pledged by its counterparty to reduce the Bank's current and future exposures on a derivative contract, § 1277.7(f)(1)(iii)(A) of the final rule requires that the collateral must meet the requirements of § 1277.4(e)(2) and (3), which address the manner in which a Bank may use collateral to reduce the credit risk capital charge on a derivative contract, and the terms under which the collateral must be held in order to be eligible to reduce those charges, respectively.

As with the current rule, § 1277.7(f)(2) provides that any debt obligation or debt security (other than a mortgage-backed security, other asset-backed security, or acquired member asset) shall be considered to be an unsecured extension of credit for purposes of the unsecured credit limits. The final rule carries over the existing exception from the Finance Board regulations that excludes from the unsecured credit limits any amount owed to the Bank under a debt obligation or debt security for which the Bank holds collateral consistent with the requirements of § 1277.4(f)(2)(ii) or any other amount that FHFA determines on a case-by-case basis should not be considered to be an unsecured extension of credit.

Exceptions to the unsecured credit limits. Section 1277.7(g) of the final rule provides four separate exceptions to the regulatory limits on extensions of unsecured credit. One of those exceptions provides that a derivative contract that is accepted for clearing by a derivatives clearing organization is not subject to the unsecured credit limits. FHFA proposed this exception to avoid any conflict with the Dodd-Frank Act, which mandated that parties clear certain standardized derivative transactions. When a Bank submits a derivative contract for clearing, the derivatives clearing organization becomes the Bank's counterparty to the contract. There are only a limited number of derivatives clearing organizations that the Banks can use to clear their derivative contracts, and in some cases there may be only a single organization that clears specific classes of derivative contracts. Because of those factors, imposing the unsecured limits on cleared derivative contracts could make it difficult for the Banks to fulfill the legal requirement that they clear all of these contracts, which would frustrate the intent of the Dodd-Frank Act. In addition, because the derivatives clearing organizations are subject to comprehensive federal regulatory oversight, including regulations designed to protect the customers that use the clearing services, FHFA believes that the Banks will not be exposed to any undue risks as a result of this exception. Notwithstanding the exception, FHFA expects that the Banks will develop internal policies to address their unsecured credit exposures to specific clearing organizations that take account of the Bank's specific derivatives activity and clearing options.

The Banks' comment letter viewed this provision as encompassing the collateral that a Bank may post with the derivatives clearing organization and asked that FHFA make this point clear in the preamble to the final rule. FHFA agrees with that suggestion, but has addressed the matter by revising the text of § 1277.7(g)(2) to include an explicit reference to such collateral. The three other exceptions to the unsecured credit limits, which pertain to obligations of or guaranteed by the United States, extensions of credit between Banks, and investments in certain bonds issued by state housing finance agencies, prompted no comments and are included in paragraphs (g)(1), (3), and (4) to the final rule without change from the proposed rule.

III. Considerations of Differences Between the Banks and the Enterprises

When promulgating regulations relating to the Banks, section 1313(f) of the Federal Housing Enterprises Financial Safety and Soundness Act of 1992 requires the Director of FHFA to consider the differences between the Banks and the Enterprises with respect to the Banks' cooperative ownership structure; mission of providing liquidity to members; affordable housing and community development mission; capital structure; and joint and several liability.[56] FHFA noted this requirement in the proposed rule and requested comments from the public on the extent to which any of those factors may be implicated by the proposed rule. FHFA did not receive any comments on this topic, and in preparing this final rule, has considered the differences between the Banks and the Enterprises as they relate to the above factors.

IV. Paperwork Reduction Act

The final rule amendments do not contain any collections of information pursuant to the Paperwork Reduction Act of 1995 (44 U.S.C. 3501 *et seq.*). Therefore, FHFA has not submitted any

[54] FHFA and other prudential regulators jointly issued a regulation addressing the margin and capital rules for uncleared swaps. In the margin and capital final rules, the agencies provide different treatment for collateral issued by a GSE that is operating with explicit United States government support from collateral that is issued by other GSEs. *See* Final Rule on Margin and Capital Requirements for Covered Swap Entities, 80 FR 74840, 74870–71 (Nov. 30, 2015).

[55] *See* 12 CFR 1221.7(c), (d). Thus, the amount of collateral that is posted by a Bank and is segregated with a third-party custodian consistent with the requirements of the swaps margin and capital rule would not be included in the Bank's unsecured credit exposure arising from a particular derivative contract.

[56] *See* 12 U.S.C. 4513.

information to the Office of Management and Budget for review.

V. Regulatory Flexibility Act

The Regulatory Flexibility Act [57] requires that a regulation that has a significant economic impact on a substantial number of small entities, small businesses, or small organizations must include an initial regulatory flexibility analysis describing the regulation's impact on small entities. Such an analysis need not be undertaken if the agency has certified that the regulation will not have a significant economic impact on a substantial number of small entities.[58] FHFA has considered the impact of the final rule under the Regulatory Flexibility Act. The General Counsel of FHFA certifies that the final rule will not have a significant economic impact on a substantial number of small entities because the regulation applies only to the Banks, which are not small entities for purposes of the Regulatory Flexibility Act.

VI. Congressional Review Act

In accordance with the Congressional Review Act,[59] FHFA has determined that this final rule is not a major rule and has verified this determination with the Office of Information and Regulatory Affairs of the Office of Management and Budget (OMB).

List of Subjects

12 CFR Parts 930 and 932

Capital, Credit, Federal home loan banks, Investments, Reporting and recordkeeping requirements.

12 CFR Part 1277

Capital, Credit, Federal home loan banks, Investments, Reporting and recordkeeping requirements.

Accordingly, for the reasons stated in the Preamble, and under the authority of 12 U.S.C. 1426, 1436(a), 1440, 1443, 1446, 4511, 4513, 4514, 4526, and 4612, FHFA amends subchapter E of chapter IX and subchapter D of chapter XII of title 12 of the Code of Federal Regulations as follows:

CHAPTER IX—FEDERAL HOUSING FINANCE BOARD

Subchapter E—[Removed and Reserved]

■ 1. Subchapter E, consisting of parts 930 and 932, is removed and reserved.

[57] 5 U.S.C. 601 *et seq.*

[58] 5 U.S.C. 605(b).

[59] *See* 5 U.S.C. 804(2).

CHAPTER XII—FEDERAL HOUSING FINANCE AGENCY

Subchapter D—Federal Home Loan Banks

PART 1277—FEDERAL HOME LOAN BANK CAPITAL REQUIREMENTS, CAPITAL STOCK AND CAPITAL PLANS

■ 2. The authority citation for part 1277 continues to read as follows:

Authority: 12 U.S.C. 1426, 1436(a), 1440, 1443, 1446, 4511, 4513, 4514, 4526, 4612.

Subpart A—Definitions

■ 3. Amend § 1277.1 by adding in alphabetical order definitions for ''Affiliated counterparty,'' ''Bankruptcy remote,'' ''Collateralized mortgage obligation,'' ''Commitment to make an advance or acquire a loan subject to certain drawdown,'' ''Credit derivative,'' ''Credit risk,'' ''Derivatives clearing organization,'' ''Derivative contract,'' ''Eligible master netting agreement,'' ''Exchange rate contracts,'' ''Government Sponsored Enterprise,'' ''Internal cash-flow model,'' ''Internal market-risk model,'' ''Market risk,'' ''Market value-at-risk,'' ''Non-mortgage asset,'' ''Non-rated asset,'' ''Operational risk,'' ''Residential mortgage,'' ''Residential mortgage asset,'' ''Residential mortgage security,'' ''Sales of federal funds subject to a continuing contract,'' and ''Total assets'' to read as follows:

§ 1277.1 Definitions.

* * * * *

Affiliated counterparty means a counterparty of a Bank that controls, is controlled by, or is under common control with another counterparty of the Bank. For the purposes of this definition only, direct or indirect ownership (including beneficial ownership) of more than 50 percent of the voting securities or voting interests of an entity constitutes control.

Bankruptcy remote means, in the context of any asset that a Bank has posted as collateral to a counterparty, that the asset would be excluded from that counterparty's estate in receivership, insolvency, liquidation, or similar proceeding.

* * * * *

Collateralized mortgage obligation, or *CMO,* means any instrument backed or collateralized by residential mortgages or residential mortgage securities, that includes two or more tranches or classes, or is otherwise structured in any manner other than as a pass-through security.

Commitment to make an advance or acquire a loan subject to certain drawdown means a legally binding agreement that commits the Bank to make an advance or acquire a loan, at or by a specified future date.

Credit derivative means a derivative contract that transfers credit risk.

Credit risk means the risk that the market value, or estimated fair value if market value is not available, of an obligation will decline as a result of deterioration in the creditworthiness of the obligor.

Derivatives clearing organization means an organization that clears derivative contracts and is registered with the Commodity Futures Trading Commission as a derivatives clearing organization pursuant to section 5b(a) of the Commodity Exchange Act (7 U.S.C. 7a–1), or that the Commodity Futures Trading Commission has exempted from registration by rule or order pursuant to section 5b(h) of the Commodity Exchange Act (7 U.S.C. 7a–1(h)), or is registered with the Securities and Exchange Commission as a clearing agency pursuant to section 17A of the Securities Exchange Act of 1934 (15 U.S.C. 78q–1), or that the SEC has exempted from registration as a clearing agency under section 17A of the Securities Exchange Act of 1934 (15 U.S.C. 78q–1(k)).

Derivative contract means generally a financial contract the value of which is derived from the values of one or more underlying assets, reference rates, or indices of asset values, or credit-related events. Derivative contracts include interest rate, foreign exchange rate, equity, precious metals, commodity, and credit derivative contracts, and any other instruments that pose similar counterparty credit risks.

Eligible master netting agreement has the same meaning as set forth in § 1221.2 of this chapter.

Exchange rate contracts include cross-currency interest-rate swaps, forward foreign exchange rate contracts, currency options purchased, and any similar instruments that give rise to similar risks.

* * * * *

Government Sponsored Enterprise, or *GSE,* means a United States Government-sponsored agency or instrumentality established or chartered to serve public purposes specified by the United States Congress, but whose obligations are not obligations of the United States and are not guaranteed by the United States.

Internal cash-flow model means a model developed and used by a Bank to estimate the potential evolving changes in the cash flows and market values of a portfolio for each month, extending out for a period of years, subject to a variety of plausible time paths of changes in interest rates, volatilities, and option adjusted spreads, and that incorporates assumptions about new or revolving business, including the roll-off and possible replacement of assets and liabilities as required.

Internal market-risk model means a model developed and used by a Bank to estimate the potential change in the market value of a portfolio subject to an instantaneous change in interest rates, volatilities, and option-adjusted spreads.

Market risk means the risk that the market value, or estimated fair value if market value is not available, of a Bank's portfolio will decline as a result of changes in interest rates, foreign exchange rates, or equity or commodity prices.

Market value-at-risk is the loss in the market value of a Bank's portfolio measured from a base line case, where the loss is estimated in accordance with § 1277.5.

* * * * *

Non-mortgage asset means an asset held by a Bank other than an advance, a non-rated asset, a residential mortgage asset, a collateralized mortgage obligation, or a derivative contract.

Non-rated asset means a Bank's cash, premises, plant and equipment, and investments authorized pursuant to § 1265.3(e) and (f) of this chapter.

Operational risk means the risk of loss resulting from inadequate or failed internal processes, people and systems, or from external events.

* * * * *

Residential mortgage means a loan secured by a residential structure that contains one-to-four dwelling units, regardless of whether the structure is attached to real property. The term encompasses, among other things, loans secured by individual condominium or cooperative units and manufactured housing, whether or not the manufactured housing is considered real property under state law, and participation interests in such loans.

Residential mortgage asset, or *RMA,* means any residential mortgage, residential mortgage pool, or residential mortgage security.

Residential mortgage security means any instrument representing an undivided interest in a pool of residential mortgages.

Sales of federal funds subject to a continuing contract means an overnight federal funds loan that is automatically renewed each day unless terminated by either the lender or the borrower.

Total assets mean the total assets of a Bank, as determined in accordance with generally accepted accounting principles (GAAP).

* * * * *

■ 4. Add subpart B, consisting of §§ 1277.2 through 1277.8, to read as follows:

Subpart B—Bank Capital Requirements

§ 1277.2 Total capital requirement.

Each Bank shall maintain at all times:

(a) Total capital in an amount at least equal to 4.0 percent of the Bank's total assets; and

(b) A leverage ratio of total capital to total assets of at least 5.0 percent of the Bank's total assets. For purposes of determining this leverage ratio, total capital shall be computed by multiplying the Bank's permanent capital by 1.5 and adding to this product all other components of total capital.

§ 1277.3 Risk-based capital requirement.

Each Bank shall maintain at all times permanent capital in an amount at least equal to the sum of its credit risk capital requirement, its market risk capital requirement, and its operational risk capital requirement, calculated in accordance with §§ 1277.4, 1277.5, and 1277.6, respectively.

§ 1277.4 Credit risk capital requirement.

(a) *General requirement.* Each Bank's credit risk capital requirement shall equal the sum of the Bank's individual credit risk capital charges for all advances, residential mortgage assets, CMOs, non-mortgage assets, non-rated assets, off-balance sheet items, and derivative contracts, as calculated in accordance with this section.

(b) *Credit risk capital charge for residential mortgage assets and collateralized mortgage obligations.* The credit risk capital charge for residential mortgages, residential mortgage pools, residential mortgage securities, and collateralized mortgage obligations shall be determined as set forth in paragraph (g) of this section.

(c) *Credit risk capital charge for advances, non-mortgage assets, and non-rated assets.* Except as provided in paragraph (j) of this section, each Bank's credit risk capital charge for advances, non-mortgage assets, and non-rated assets shall be equal to the amortized cost of the asset multiplied by the credit risk percentage requirement assigned to that asset pursuant to paragraph (f)(1) or (2) of this section. For any such asset carried at fair value where any change in fair value is recognized in the Bank's income, the Bank shall calculate the capital charge based on the fair value of the asset rather than its amortized cost.

(d) *Credit risk capital charge for off-balance sheet items.* Each Bank's credit risk capital charge for an off-balance sheet item shall be equal to the credit equivalent amount of such item, as determined pursuant to paragraph (h) of this section, multiplied by the credit risk percentage requirement assigned to that item pursuant to paragraph (f)(1) of this section and Table 2 to this section, except that the credit risk percentage requirement applied to the credit equivalent amount for a standby letter of credit shall be that for an advance with the same remaining maturity as that of the standby letter of credit, as specified in Table 1 to this section.

(e) *Derivative contracts.* (1) Except as provided in paragraphs (e)(4) (transactions with members) and (5) (cleared transactions and foreign exchange rate contracts) of this section, the credit risk capital charge for a derivative contract entered into by a Bank shall equal, after any adjustment allowed under paragraph (e)(2) of this section, the sum of:

(i) The current credit exposure for the derivative contract, calculated in accordance with paragraph (i)(1) of this section, multiplied by the credit risk percentage requirement assigned to that derivative contract pursuant to Table 2 to this section, provided that a Bank shall use the credit risk percentages from the column for instruments with maturities of one year or less for all such derivative contracts; plus

(ii) The potential future credit exposure for the derivative contract, calculated in accordance with paragraph (i)(2) of this section, multiplied by the credit risk percentage requirement assigned to that derivative contract pursuant to Table 2 to this section, where a Bank uses the actual remaining maturity of the derivative contract for the purpose of applying Table 2 to this section; plus

(iii) A credit risk capital charge applicable to the undiscounted amount of collateral posted by the Bank with respect to a derivative contract that exceeds the Bank's current payment obligation under that derivative contract, where the charge equals the amount of such excess collateral multiplied by the credit risk percentage requirement assigned under Table 2 to this section for the custodian or other party that holds the collateral, and where a Bank deems the exposure to have a remaining maturity of one year or less when applying Table 2 to this section.

(2)(i) A Bank may reduce the credit risk capital charge calculated under paragraph (e)(1) of this section by the amount of the discounted value of any collateral that is held by or on behalf of the Bank against an exposure from the derivative contract, and that satisfies the requirements of paragraph (e)(3) of this section. If the total amount of the discounted value of the collateral is less than the credit risk capital charge calculated under paragraph (e)(1) of this section for a particular derivative contract, then the credit risk capital charge for the derivative contract shall equal the amount of the initial charge that remains after having been reduced by the collateral. A Bank that uses a counterparty's pledged collateral to reduce the capital charge against a derivative contract under this provision, shall also apply a capital charge to the amount of the pledged collateral that it has used to reduce its credit exposure on the derivative contract. The amount of that capital charge shall be equal to the capital charge that would be required under paragraph (b) or (c) of this section, whichever applies to the type of collateral, as if the Bank were to own the collateral directly. In reducing the capital charge on a particular derivative contract, the Bank shall apply the discounted value of the collateral for that derivative contract in the following manner:

(A) First, to reduce the current credit exposure of the derivative contract subject to the capital charge; and

(B) Second, and only if the total discounted value of the collateral held exceeds the current credit exposure of the contract, any remaining amounts may be applied to reduce the amount of the potential future credit exposure of the derivative contract subject to the capital charge.

(ii) If a counterparty's payment obligations to a Bank under a derivative contract are unconditionally guaranteed by a third-party, then the credit risk percentage requirement applicable to the derivative contract may be that associated with the guarantor, rather than the Bank's counterparty.

(3) The credit risk capital charge may be reduced as described in paragraph (e)(2)(i) of this section for collateral held against the derivative contract exposure only if the collateral is:

(i) Held by, or has been paid to, the Bank or held by an independent, third-party custodian on behalf of the Bank pursuant to a custody agreement that meets the requirements of § 1221.7(c) and (d) of this chapter;

(ii) Legally available to absorb losses;

(iii) Of a readily determinable value at which it can be liquidated by the Bank; and

(iv) Subject to an appropriate discount to protect against price decline during the holding period and the costs likely to be incurred in the liquidation of the collateral, provided that such discount shall equal at least the minimum discount required under appendix B to part 1221 of this chapter for collateral listed in that appendix, or shall be estimated by the Bank based on appropriate assumptions about the price risks and liquidation costs for collateral not listed in appendix B to part 1221.

(4) The credit risk capital charge for any derivative contracts entered into between a Bank and its members shall be calculated in accordance with paragraph (e)(1) of this section, except that the Bank shall use the credit risk percentage requirements from Table 1 to this section, which sets forth the credit risk percentage requirements for advances.

(5) Notwithstanding any other provision in this paragraph (e), the credit risk capital charge for:

(i) A foreign exchange rate contract (excluding gold contracts) with an original maturity of 14 calendar days or less shall be zero; and

(ii) A derivative contract cleared by a derivatives clearing organization shall equal 0.16 percent times the sum of the following:

(A) The current credit exposure for the derivative contract, calculated in accordance with paragraph (i)(1)(i) of this section;

(B) The potential future credit exposure for the derivative contract calculated in accordance with paragraph (i)(2) of this section; and

(C) The amount of collateral posted by the Bank and held by the derivatives clearing organization, clearing member, or custodian in a manner that is not bankruptcy remote, but only to the extent the amount exceeds the Bank's current credit exposure to the derivatives clearing organization.

(f) *Determination of credit risk percentage requirements*—(1) *General.* (i) Each Bank shall determine the credit risk percentage requirement applicable to each advance and each non-rated asset by identifying the appropriate category from Table 1 or 3 to this section, respectively, to which the advance or non-rated asset belongs. Except as provided in paragraphs (f)(2) and (3) of this section, each Bank shall determine the credit risk percentage requirement applicable to each non-mortgage asset, off-balance sheet item, and derivative contract by identifying the appropriate category set forth in Table 2 to this section to which the asset, item, or contract belongs as determined in accordance with paragraph (f)(1)(ii) of this section, and remaining maturity. Each Bank shall use the applicable credit risk percentage requirement to calculate the credit risk capital charge for each asset, item, or contract in accordance with paragraph (c), (d), or (e) of this section, respectively. The relevant categories and credit risk percentage requirements are provided in the following Tables 1 through 3 to this section—

TABLE 1 TO § 1277.4—REQUIREMENT FOR ADVANCES

Maturity of advances	Percentage applicable to advances
Advances with:	
Remaining maturity <=4 years	0.09
Remaining maturity >4 years to 7 years	0.23
Remaining maturity >7 years to 10 years	0.35
Remaining maturity >10 years	0.51

TABLE 2 TO § 1277.4—REQUIREMENT FOR INTERNALLY RATED NON-MORTGAGE ASSETS, OFF-BALANCE SHEET ITEMS, AND DERIVATIVE CONTRACTS

[Based on remaining contractual maturity]

FHFA Credit Rating	Applicable percentage				
	<=1 year	>1 yr to 3 yrs	>3 yrs to 7 yrs	>7 yrs to 10 yrs	>10 yrs
U.S. Government Securities	0.00	0.00	0.00	0.00	0.00
FHFA 1	0.20	0.59	1.37	2.28	3.32

TABLE 2 TO § 1277.4—REQUIREMENT FOR INTERNALLY RATED NON-MORTGAGE ASSETS, OFF-BALANCE SHEET ITEMS, AND DERIVATIVE CONTRACTS—Continued

[Based on remaining contractual maturity]

FHFA Credit Rating	Applicable percentage				
	<=1 year	>1 yr to 3 yrs	>3 yrs to 7 yrs	>7 yrs to 10 yrs	>10 yrs
FHFA 2	0.36	0.87	1.88	3.07	4.42
FHFA 3	0.64	1.31	2.65	4.22	6.01
FHFA 4	3.24	4.79	7.89	11.51	15.64
FHFA 5	9.24	11.46	15.90	21.08	27.00
FHFA 6	15.99	18.06	22.18	26.99	32.49
FHFA 7	100.00	100.00	100.00	100.00	100.00

TABLE 3 TO § 1277.4—REQUIREMENT FOR NON-RATED ASSETS

Type of unrated asset	Applicable percentage
Cash	0.00
Premises, Plant and Equipment	8.00
Investments Under 12 CFR 1265.3(e) & (f)	8.00

(ii) Each Bank shall develop a methodology to be used to assign an internal credit risk rating to each counterparty, asset, item, and contract that is subject to Table 2 to this section. The methodology shall involve an evaluation of counterparty or asset risk factors, and may incorporate, but must not rely solely on, credit ratings prepared by credit rating agencies. Each Bank shall align its various internal credit ratings to the appropriate categories of FHFA Credit Ratings included in Table 2 to this section. In doing so, FHFA Categories 7 through 1 shall include assets of progressively higher credit quality. After aligning its internal credit ratings to the appropriate categories of Table 2 to this section, each Bank shall assign each counterparty, asset, item, and contract to the appropriate FHFA Credit Rating category based on the applicable internal credit rating.

(2) *Exception for assets subject to a guarantee or secured by collateral.* (i) When determining the applicable credit risk percentage requirement from Table 1 to this section for a non-mortgage asset that is subject to an unconditional guarantee by a third-party guarantor or is secured as set forth in paragraph (f)(2)(ii) of this section, the Bank may substitute the credit risk percentage requirement associated with the guarantor or the collateral, as appropriate, for the credit risk percentage requirement associated with that portion of the asset subject to the guarantee or covered by the collateral.

(ii) For purposes of paragraph (f)(2)(i) of this section, a non-mortgage asset shall be considered to be secured if the collateral is:

(A) Actually held by the Bank, or an independent third-party custodian on the Bank's behalf, or, if posted by a Bank member and permitted under the Bank's collateral agreement with that member, by the Bank's member or an affiliate of that member where the term ''affiliate'' has the same meaning as in § 1266.1 of this chapter;

(B) Legally available to absorb losses;

(C) Of a readily determinable value at which it can be liquidated by the Bank;

(D) Held in accordance with the provisions of the Bank's member products policy established pursuant to § 1239.30 of this chapter, if the collateral has been posted by a member or an affiliate of a member; and

(E) Subject to an appropriate discount to protect against price decline during the holding period and the costs likely to be incurred in the liquidation of the collateral.

(3) *Exception for obligations of the Enterprises.* A Bank may use a credit risk capital charge of zero for any debt instrument or obligation issued by an Enterprise, other than a residential mortgage security or a collateralized mortgage obligation, provided that, and only for so long as, the Enterprise receives capital support or other form of direct financial assistance from the United States government that enables the Enterprise to repay those obligations.

(4) *Methodology and model review.* A Bank shall provide to FHFA upon request the methodology, model, and any analyses used by the Bank to assign any non-mortgage asset, off-balance sheet item, or derivative contract to an FHFA Credit Rating category. FHFA may direct a Bank to promptly revise its methodology or model to address any deficiencies identified by FHFA.

(g) *Credit risk capital charges for residential mortgage assets*—(1) *Bank determination of credit risk percentage.* (i) Each Bank's credit risk capital charge for a residential mortgage, residential mortgage pool, residential mortgage security, or collateralized mortgage obligation shall be equal to the asset's amortized cost multiplied by the credit risk percentage requirement assigned to that asset pursuant to paragraph (g)(1)(ii) or (g)(2) of this section. For any such asset carried at fair value where any change in fair value is recognized in the Bank's income, the Bank shall calculate the capital charge based on the fair value of the asset rather than its amortized cost.

(ii) Each Bank shall determine the credit risk percentage requirement applicable to each residential mortgage, residential mortgage pool, and residential mortgage security by identifying the appropriate FHFA RMA category set forth in the following Table 4 to this section to which the asset belongs, and shall determine the credit risk percentage requirement applicable to each collateralized mortgage obligation by identifying the appropriate FHFA CMO category set forth in Table 4 to this section to which the asset belongs, with the appropriate categories being determined in accordance with paragraph (g)(1)(iii) of this section.

(iii) Each Bank shall develop a methodology to estimate the potential future stress losses on its residential mortgages, residential mortgage pools, residential mortgage securities, and collateralized mortgage obligations, as may yet occur from the current amortized cost (or fair value) of those assets, and that converts those loss estimates into a stress loss percentage for each asset, expressed as a percentage of its amortized cost (or fair value). A Bank shall use the stress loss percentage for each asset to determine the appropriate FHFA RMA or CMO ratings category for that asset, as set forth in Table 4 to this section. A Bank shall do so by assigning each such asset to the category whose credit risk percentage requirement equals the asset's stress loss percentage, or to the category with the next highest credit risk percentage requirement. For residential mortgages and residential mortgage pools, the methodology shall involve an evaluation of the residential mortgages and residential mortgage pools and any credit enhancements or guarantees, including an assessment of the creditworthiness of the providers of such enhancements or guarantees. In the case of a residential mortgage security or collateralized mortgage obligation, the methodology shall involve an evaluation of the underlying mortgage collateral, the structure of the security, and any credit enhancements or guarantees, including an assessment of the creditworthiness of the providers of such enhancements or guarantees.

TABLE 4 TO § 1277.4—REQUIREMENT FOR RESIDENTIAL MORTGAGE ASSETS AND CMOS

	Credit risk percentage
Categories for residential mortgage assets:	
FHFA RMA 1	0.37
FHFA RMA 2	0.60
FHFA RMA 3	0.86
FHFA RMA 4	1.20
FHFA RMA 5	2.40
FHFA RMA 6	4.80
FHFA RMA 7	34.00
Categories for Collateralized Mortgage Obligations:	
FHFA CMO 1	0.37
FHFA CMO 2	0.60
FHFA CMO 3	1.60
FHFA CMO 4	4.45
FHFA CMO 5	13.00
FHFA CMO 6	34.00
FHFA CMO 7	100.00

(2) *Exceptions.* (i) A Bank may use a credit risk capital charge of zero for any residential mortgage asset or collateralized mortgage obligation, or portion thereof, guaranteed by an Enterprise as to payment of principal and interest, provided that, and only for so long as, the Enterprise receives capital support or other form of direct financial assistance from the United States government that enables the Enterprise to repay those obligations;

(ii) A Bank may use a credit risk capital charge of zero for any residential mortgage asset or collateralized mortgage obligation, or any portion thereof, guaranteed or insured as to payment of principal and interest by a department or agency of the United States government that is backed by the full faith and credit of the United States; and

(iii) A Bank shall provide to FHFA upon request the methodology, model, and any analyses used to estimate the potential future stress losses on its residential mortgages, residential mortgage pools, residential mortgage securities, and collateralized mortgage obligations, and to determine a stress loss percentage for each such asset. FHFA may direct a Bank to promptly revise its methodology or model to address any deficiencies identified by FHFA.

(h) *Calculation of credit equivalent amount for off-balance sheet items*—(1) *General requirement.* The credit equivalent amount for an off-balance sheet item shall be determined by an FHFA-approved model or shall be equal to the face amount of the instrument multiplied by the credit conversion factor assigned to such risk category of instruments by the following Table 5 to this section, subject to the exceptions in paragraph (h)(2) of this section.

TABLE 5 TO § 1277.4—CREDIT CONVERSION FACTORS FOR OFF-BALANCE SHEET ITEMS

Instrument	Credit conversion factor (in percent)
Asset sales with recourse where the credit risk remains with the Bank	100
Commitments to make advances subject to certain drawdown.	
Commitments to acquire loans subject to certain drawdown.	
Standby letters of credit	50
Other commitments with original maturity of over one year.	
Other commitments with original maturity of one year or less	20

(2) *Exceptions.* The credit conversion factor shall be zero for ''Other Commitments With Original Maturity of Over One Year'' and ''Other Commitments With Original Maturity of One Year or Less'' for which Table 5 to this section would otherwise apply credit conversion factors of 50 percent or 20 percent, respectively, if the commitments are unconditionally cancelable, or effectively provide for automatic cancellation due to the deterioration in a borrower's creditworthiness, at any time by the Bank without prior notice.

(i) *Calculation of credit exposures for derivative contracts*—(1) *Current credit exposure*—(i) *Single derivative contract.* The current credit exposure for derivative contracts that are not subject to an eligible master netting agreement shall be:

(A) If the mark-to-market value of the contract is positive, the mark-to-market value of the contract; or

(B) If the mark-to-market value of the contract is zero or negative, zero.

(ii) *Derivative contracts subject to an eligible master netting agreement.* The current credit exposure for multiple uncleared derivative contracts executed with a single counterparty and subject to an eligible master netting agreement shall be calculated on a net basis and shall equal:

(A) The net sum of all positive and negative mark-to-market values of the individual derivative contracts subject to the eligible master netting agreement, if the net sum of the mark-to-market values is positive; or

(B) Zero, if the net sum of the mark-to-market values is zero or negative.

(2) *Potential future credit exposure.* The potential future credit exposure for derivative contracts, including derivative contracts with a negative mark-to-market value, shall be calculated:

(i) Using an internal initial margin model that meets the requirements of § 1221.8 of this chapter and is approved by FHFA for use by the Bank, or using an initial margin model that has been approved under regulations similar to § 1221.8 of this chapter for use by the Bank's counterparty to calculate initial margin for those derivative contracts for which the calculation is being done; or

(ii) By applying the standardized approach in appendix A to part 1221 of this chapter; or

(iii) Using an initial margin model that is employed by a derivatives clearing organization.

(j) *Credit risk capital charge for non-mortgage assets hedged with credit derivatives*—(1) *Credit derivatives with a remaining maturity of one year or more.* The credit risk capital charge for a non-mortgage asset that is hedged with a credit derivative that has a remaining maturity of one year or more may be reduced only in accordance with paragraph (j)(3) or (4) of this section and only if the credit derivative provides substantial protection against credit losses.

(2) *Credit derivatives with a remaining maturity of less than one year.* The credit risk capital charge for a non-mortgage asset that is hedged with a credit derivative that has a remaining maturity of less than one year may be reduced only in accordance with paragraph (j)(3) of this section and only if the remaining maturity on the credit derivative is identical to or exceeds the remaining maturity of the hedged non-mortgage asset and the credit derivative provides substantial protection against credit losses.

(3) *Credit risk capital charge reduced to zero.* The credit risk capital charge for a non-mortgage asset shall be zero if a credit derivative is used to hedge the credit risk on that asset in accordance with paragraph (j)(1) or (2) of this section, provided that:

(i) The remaining maturity for the credit derivative used for the hedge is identical to or exceeds the remaining maturity for the hedged non-mortgage asset, and either:

(A) The non-mortgage asset referenced in the credit derivative is identical to the hedged non-mortgage asset; or

(B) The non-mortgage asset referenced in the credit derivative is different from the hedged non-mortgage asset, but only if the asset referenced in the credit derivative and the hedged non-mortgage asset have been issued by the same obligor, the asset referenced in the credit derivative ranks pari passu to, or more junior than, the hedged non-mortgage asset and has the same maturity as the hedged non-mortgage asset, and cross-default clauses apply; and

(ii) The credit risk capital charge for the credit derivative contract calculated pursuant to paragraph (e) of this section is still applied.

(4) *Capital charge reduction in certain other cases.* The credit risk capital charge for a non-mortgage asset hedged with a credit derivative in accordance with paragraph (j)(1) of this section shall equal the sum of the credit risk capital charges for the hedged and unhedged portion of the non-mortgage asset provided that:

(i) The remaining maturity for the credit derivative is less than the remaining maturity for the hedged non-mortgage asset and either:

(A) The non-mortgage asset referenced in the credit derivative is identical to the hedged non-mortgage asset; or

(B) The non-mortgage asset referenced in the credit derivative is different from the hedged non-mortgage asset, but only if the asset referenced in the credit derivative and the hedged non-mortgage asset have been issued by the same obligor, the asset referenced in the credit derivative ranks pari passu to, or more junior than, the hedged non-mortgage asset and has the same maturity as the hedged non-mortgage asset, and cross-default clauses apply; and

(ii) The credit risk capital charge for the unhedged portion of the non-mortgage asset equals:

(A) The credit risk capital charge for the non-mortgage asset, calculated as the amortized cost, or fair value, of the non-mortgage asset multiplied by that asset's credit risk percentage requirement assigned pursuant to paragraph (f)(1) of this section where the appropriate credit rating is that for the non-mortgage asset and the appropriate maturity is the remaining maturity of the non-mortgage asset; minus

(B) The credit risk capital charge for the non-mortgage asset, calculated as the amortized cost, or fair value, of the non-mortgage asset multiplied by that asset's credit risk percentage requirement assigned pursuant to paragraph (f)(1) of this section where the appropriate credit rating is that for the non-mortgage asset but the appropriate maturity is deemed to be the remaining maturity of the credit derivative; and

(iii) The credit risk capital charge for the hedged portion of the non-mortgage asset is equal to the credit risk capital charge for the credit derivative, calculated in accordance with paragraph (e) of this section.

(k) *Frequency of calculations.* Each Bank shall perform all calculations required by this section at least quarterly, unless otherwise directed by FHFA, using the advances, residential mortgages, residential mortgage pools, residential mortgage securities, collateralized mortgage obligations, non-rated assets, non-mortgage assets, off-balance sheet items, and derivative contracts held by the Bank, and, if applicable, the values of, or FHFA Credit Ratings categories for, such assets, off-balance sheet items, or derivative contracts as of the close of business of the last business day of the calendar period for which the credit risk capital charge is being calculated.

§ 1277.5 Market risk capital requirement.

(a) *General requirement.* (1) Each Bank's market risk capital requirement shall equal the market value of the Bank's portfolio at risk from movements in interest rates, foreign exchange rates, commodity prices, and equity prices that could occur during periods of market stress, where the market value of the Bank's portfolio at risk is determined using an internal market-risk model that fulfills the requirements of paragraph (b) of this section and that has been approved by FHFA.

(2) A Bank may substitute an internal cash-flow model to derive a market risk capital requirement in place of that calculated using an internal market-risk model under paragraph (a)(1) of this section, provided that:

(i) The Bank obtains FHFA approval of the internal cash-flow model and of the assumptions to be applied to the model; and

(ii) The Bank demonstrates to FHFA that the internal cash-flow model subjects the Bank's assets and liabilities, off-balance sheet items, and derivative contracts, including related options, to a comparable degree of stress for such factors as will be required for an internal market-risk model.

(b) *Measurement of market value-at-risk under a Bank's internal market-risk model.* (1) Except as provided under paragraph (a)(2) of this section, each Bank shall use an internal market-risk model that estimates the market value of the Bank's assets and liabilities, off-balance sheet items, and derivative contracts, including any related options, and measures the market value of the Bank's portfolio at risk of its assets and liabilities, off-balance sheet items, and derivative contracts, including related options, from all sources of the Bank's market risks, except that the Bank's model need only incorporate those risks that are material.

(2) The Bank's internal market-risk model may use any generally accepted measurement technique, such as variance-covariance models, historical simulations, or Monte Carlo simulations, for estimating the market value of the Bank's portfolio at risk, provided that any measurement technique used must cover the Bank's material risks.

(3) The measures of the market value of the Bank's portfolio at risk shall include the risks arising from the non-linear price characteristics of options and the sensitivity of the market value of options to changes in the volatility of the options' underlying rates or prices.

(4) The Bank's internal market-risk model shall use interest rate and market price scenarios for estimating the market value of the Bank's portfolio at risk, but at a minimum:

(i) The Bank's internal market-risk model shall provide an estimate of the market value of the Bank's portfolio at risk such that the probability of a loss greater than that estimated shall be no more than one percent;

(ii) The Bank's internal market-risk model shall incorporate scenarios that reflect changes in interest rates, interest rate volatility, option-adjusted spreads, and shape of the yield curve, and changes in market prices, equivalent to those that have been observed over 120-business day periods of market stress. For interest rates, the relevant historical observations should be drawn from the period that starts at the end of the previous month and goes back to the beginning of 1998;

(iii) The total number of, and specific historical observations identified by the Bank as, stress scenarios shall be:

(A) Satisfactory to FHFA;

(B) Representative of the periods of the greatest potential market stress given the Bank's portfolio; and

(C) Comprehensive given the modeling capabilities available to the Bank; and

(iv) The measure of the market value of the Bank's portfolio at risk may incorporate empirical correlations among interest rates.

(5) For any consolidated obligations denominated in a currency other than U.S. Dollars or linked to equity or commodity prices, each Bank shall, in addition to fulfilling the criteria of paragraph (b)(4) of this section, calculate an estimate of the market value of its portfolio at risk resulting from material foreign exchange, equity price or commodity price risk, such that, at a minimum:

(i) The probability of a loss greater than that estimated shall not exceed one percent;

(ii) The scenarios reflect changes in foreign exchange, equity, or commodity market prices that have been observed over 120-business day periods of market stress, as determined using historical data that is from an appropriate period;

(iii) The total number of, and specific historical observations identified by the Bank as, stress scenarios shall be:

(A) Satisfactory to FHFA;

(B) Representative of the periods of the greatest potential stress given the Bank's portfolio; and

(C) Comprehensive given the modeling capabilities available to the Bank; and

(iv) The measure of the market value of the Bank's portfolio at risk may incorporate empirical correlations within or among foreign exchange rates, equity prices, or commodity prices.

(c) *Independent validation of Bank internal market-risk model or internal cash-flow model.* (1) Each Bank shall conduct an independent validation of its internal market-risk model or internal cash-flow model within the Bank that is carried out by personnel not reporting to the business line responsible for conducting business transactions for the Bank. Alternatively, the Bank may obtain independent validation by an outside party qualified to make such determinations. Validations shall be done periodically, commensurate with the risk associated with the use of the model, or as frequently as required by FHFA.

(2) The results of such independent validations shall be reviewed by the Bank's board of directors and provided promptly to FHFA.

(d) *FHFA approval of Bank internal market-risk model or internal cash-flow model.* (1) Each Bank shall obtain FHFA approval of an internal market-risk model or an internal cash-flow model, including subsequent material adjustments to the model made by the Bank, prior to the use of any model. Each Bank shall make such adjustments to its model as may be directed by FHFA.

(2) A model and any material adjustments to such model that were approved by FHFA or the Federal Housing Finance Board shall be deemed to meet the requirements of paragraph (d)(1) of this section, unless such approval is revoked or amended by FHFA.

(e) *Frequency of calculations.* Each Bank shall perform any calculations or estimates required under this section at least quarterly, unless otherwise directed by FHFA, using the assets, liabilities, and off-balance sheet items (including derivative contracts and options) held by the Bank, and if applicable, the values of any such holdings, as of the close of business of the last business day of the calendar period for which the market risk capital requirement is being calculated.

§ 1277.6 Operational risk capital requirement.

(a) *General requirement.* Except as authorized under paragraph (b) of this section, each Bank's operational risk capital requirement shall at all times equal 30 percent of the sum of the Bank's credit risk capital requirement and market risk capital requirement.

(b) *Alternative requirements.* With the approval of FHFA, each Bank may have an operational risk capital requirement equal to less than 30 percent but no less than 10 percent of the sum of the Bank's credit risk capital requirement and market risk capital requirement if:

(1) The Bank provides an alternative methodology for assessing and quantifying an operational risk capital requirement; or

(2) The Bank obtains insurance to cover operational risk from an insurer acceptable to FHFA and on terms acceptable to FHFA.

§ 1277.7 Limits on unsecured extensions of credit; reporting requirements.

(a) *Unsecured extensions of credit to a single counterparty.* A Bank shall not extend unsecured credit to any single counterparty (other than a GSE described in and subject to the requirements of paragraph (c) of this section) in an amount that would exceed the limits of this paragraph (a). If a third-party provides an irrevocable, unconditional guarantee of repayment of a credit (or any part thereof), the third-party guarantor may be considered the counterparty for purposes of calculating and applying the unsecured credit limits of this section with respect to the guaranteed portion of the transaction.

(1) *General limits.* All unsecured extensions of credit by a Bank to a single counterparty that arise from the Bank's on- and off-balance sheet and derivative transactions (but excluding the amount of sales of federal funds with a maturity of one day or less and sales of federal funds subject to a continuing contract) shall not exceed the product of the maximum capital exposure limit applicable to such counterparty, as determined in accordance with the following Table 1 to this section, multiplied by the lesser of:

(i) The Bank's total capital; or

(ii) The counterparty's Tier 1 capital, or if Tier 1 capital is not available, total capital (in each case as defined by the counterparty's principal regulator) or some similar comparable measure identified by the Bank.

(2) *Overall limits including sales of overnight federal funds.* All unsecured extensions of credit by a Bank to a single counterparty that arise from the Bank's on- and off-balance sheet and derivative transactions, including the amounts of sales of federal funds with a maturity of one day or less and sales of federal funds subject to a continuing contract, shall not exceed twice the limit calculated pursuant to paragraph (a)(1) of this section.

(3) *Limits for certain obligations issued by state, local, or tribal governmental agencies.* The limit set forth in paragraph (a)(1) of this section, when applied to the marketable direct obligations of state, local, or tribal government units or agencies that are excluded from the prohibition against investments in whole mortgage loans or other types of whole loans, or interests in such loans, by § 1267.3(a)(4)(iii) of this chapter, shall be calculated based on the Bank's total capital and the internal credit rating assigned to the particular obligation, as determined in accordance with paragraph (a)(4) of this section. If a Bank owns series or classes of obligations issued by a particular state, local, or tribal government unit or agency, or has extended other forms of unsecured credit to such entity falling into different rating categories, the total amount of unsecured credit extended by the Bank to that government unit or agency shall not exceed the limit associated with the highest-rated obligation issued by the entity and actually purchased by the Bank.

(4) *Bank determination of applicable maximum capital exposure limits.* A Bank shall determine the maximum capital exposure limit for each counterparty by assigning the counterparty to the appropriate FHFA Credit Rating category of Table 1 to this section, based upon the Bank's internal credit rating for that counterparty. In all cases, a Bank shall use the same FHFA Credit Rating category for a particular counterparty when determining its unsecured credit limit under this section as it would use under Table 2 to § 1277.4 for determining the risk-based capital charge for obligations issued by that counterparty under § 1277.4(f).

TABLE 1 TO § 1277.7—MAXIMUM LIMITS ON UNSECURED EXTENSIONS OF CREDIT TO A SINGLE COUNTERPARTY BY FHFA CREDIT RATING CATEGORY

FHFA Credit Rating	Maximum capital exposure limit (in percent)
FHFA 1	15
FHFA 2	14
FHFA 3	9
FHFA 4	3
FHFA 5 and Below	1

(b) *Unsecured extensions of credit to affiliated counterparties*—(1) *In general.* The total amount of unsecured extensions of credit by a Bank to a group of affiliated counterparties that arise from the Bank's on- and off-balance sheet and derivative transactions, including sales of federal funds with a maturity of one day or less and sales of federal funds subject to a continuing contract, shall not exceed 30 percent of the Bank's total capital.

(2) *Relation to individual limits.* The aggregate limits calculated under paragraph (b)(1) of this section shall apply in addition to the limits on extensions of unsecured credit to a single counterparty imposed by paragraph (a) of this section.

(c) *Special limits for certain GSEs.* Unsecured extensions of credit by a Bank that arise from the Bank's on- and off-balance sheet and derivative transactions, including from the purchase of any debt or from any sales of federal funds with a maturity of one day or less and from sales of federal funds subject to a continuing contract, with a GSE that is operating with capital support or another form of direct financial assistance from the United States government that enables the GSE to repay those obligations, shall not exceed the Bank's total capital.

(d) *Extensions of unsecured credit after reduced rating.* If a Bank revises its internal credit rating for any counterparty or obligation, it shall assign the counterparty or obligation to the appropriate FHFA Credit Rating category based on the revised rating. If the revised internal rating results in a lower FHFA Credit Rating category, then any subsequent extensions of unsecured credit shall comply with the maximum capital exposure limit applicable to that lower rating category, but a Bank need not unwind or liquidate any existing transaction or position that complied with the limits of this section at the time it was entered. For purposes of this paragraph (d), the renewal of an existing unsecured extension of credit, including any decision not to terminate any sales of federal funds subject to a continuing contract, shall be considered a subsequent extension of unsecured credit that can be undertaken only in accordance with the lower limit.

(e) *Reporting requirements*—(1) *Total unsecured extensions of credit.* Each Bank shall report monthly to FHFA the amount of the Bank's total unsecured extensions of credit arising from on- and off-balance sheet and derivative transactions to any single counterparty or group of affiliated counterparties that exceeds 5 percent of:

(i) The Bank's total capital; or

(ii) The counterparty's, or affiliated counterparties' combined, Tier 1 capital, or if Tier 1 capital is not available, total capital (in each case as defined by the counterparty's principal regulator), or some similar comparable measure identified by the Bank.

(2) *Total secured and unsecured extensions of credit.* Each Bank shall report monthly to FHFA the amount of the Bank's total secured and unsecured extensions of credit arising from on- and off-balance sheet and derivative transactions to any single counterparty or group of affiliated counterparties that exceeds 5 percent of the Bank's total assets.

(3) *Extensions of credit in excess of limits.* A Bank shall report promptly to FHFA any extension of unsecured credit that exceeds any limit set forth in paragraph (a), (b), or (c) of this section. In making this report, a Bank shall provide the name of the counterparty or group of affiliated counterparties to which the excess unsecured credit has been extended, the dollar amount of the applicable limit which has been exceeded, the dollar amount by which the Bank's extension of unsecured credit exceeds such limit, the dates for which the Bank was not in compliance with the limit, and a brief explanation of the circumstances that caused the limit to be exceeded.

(f) *Measurement of unsecured extensions of credit*—(1) *In general.* For purposes of this section, unsecured extensions of credit will be measured as follows:

(i) For on-balance sheet transactions (other than a derivative transaction addressed by paragraph (f)(1)(iii) of this section), an amount equal to the sum of the amortized cost of the item plus net payments due the Bank. For any such item carried at fair value where any change in fair value would be recognized in the Bank's income, the Bank shall measure the unsecured extension of credit based on the fair value of the item, rather than its amortized cost;

(ii) For off-balance sheet transactions, an amount equal to the credit equivalent amount of such item, calculated in accordance with § 1277.4(h); and

(iii) For derivative transactions not cleared by a derivatives clearing organization, an amount equal to the sum of:

(A) The Bank's current and potential future credit exposures under the derivative contract, where those values are calculated in accordance with § 1277.4(i)(1) and (2) respectively, reduced by the amount of any collateral held by or on behalf of the Bank against the credit exposure from the derivative contract, as allowed in accordance with the requirements of § 1277.4(e)(2) and (3); and

(B) The value of any collateral posted by the Bank that exceeds the current amount owed by the Bank to its counterparty under the derivative contract, where the collateral is held by a person or entity other than a third-party custodian that is acting under a custody agreement that meets the requirements of § 1221.7(c) and (d) of this chapter.

(2) *Status of debt obligations purchased by the Bank.* Any debt obligation or debt security (other than mortgage-backed or other asset-backed securities or acquired member assets) purchased by a Bank shall be considered an unsecured extension of credit for the purposes of this section, except for:

(i) Any amount owed the Bank against which the Bank holds collateral in accordance with § 1277.4(f)(2)(ii); or

(ii) Any amount which FHFA has determined on a case-by-case basis shall not be considered an unsecured extension of credit.

(g) *Exceptions to unsecured credit limits.* The following items are not subject to the limits of this section:

(1) Obligations of, or guaranteed by, the United States;

(2) A derivative transaction accepted for clearing by a derivatives clearing organization, including collateral posted by the Bank with the derivatives clearing organization associated with that derivative transaction;

(3) Any extension of credit from one Bank to another Bank; and

(4) A bond issued by a state housing finance agency, if the Bank documents that the obligation in question is:

(i) Principally secured by high quality mortgage loans or high quality mortgage-backed securities (or funds derived from payments on such assets or from payments from any guarantees or insurance associated with such assets);

(ii) The most senior class of obligation, if the bond has more than one class; and

(iii) Determined by the Bank to be rated no lower than FHFA 2, in accordance with this section.

§ 1277.8 Reporting requirements.

Each Bank shall report information related to capital and other matters addressed by this part in accordance with instructions provided in the Data Reporting Manual issued by FHFA, as amended from time to time.

Dated: December 18, 2018.

Melvin L. Watt,

Director, Federal Housing Finance Agency.

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