

**OPTIONAL MARKET AND CREDIT RISK REQUIREMENTS**  
**FOR OTC DERIVATIVES DEALERS**  
**SEA Rule 15c3-1f (Appendix F)**

(a) **APPLICATION REQUIREMENTS**

An OTC derivatives dealer may apply to the Commission for authorization to compute capital charges for market and credit risk pursuant to this Appendix F in lieu of computing securities haircuts pursuant to § 240.15c3-1(c)(2)(vi).

(1) An OTC derivatives dealer's application shall contain the following information:

(i) *Executive summary.* An OTC derivatives dealer shall include in its application an Executive Summary of information provided to the Commission.

(ii) *Description of methods for computing market risk charges.* An OTC derivatives dealer shall provide a description of all statistical models used for pricing OTC derivative instruments and for computing value-at-risk ("VAR"), a description of the applicant's controls over those models, and a statement regarding whether the firm has developed its own internal VAR models. If the OTC derivatives dealer's VAR model incorporates empirical correlations across risk categories, the dealer shall describe its process for measuring correlations and describe the qualitative and quantitative aspects of the model which at a minimum must adhere to the criteria set forth in paragraph (e) of this Appendix F. The application shall further state whether the OTC derivatives dealer intends to use an alternative method for computing its market risk charge for equity instruments and, if applicable, a description of how its own theoretical pricing model contains the minimum pricing factors set forth in Appendix A (§ 240.15c3-1a). The application shall also describe any category of securities having no ready market or any category of debt securities which are below investment grade for which the OTC derivatives dealer wishes to use its VAR model to calculate its market risk charge or for which it wishes to use an alternative method for computing this charge and a description of how those charges would be determined.

(iii) *Internal risk management control systems.* An OTC derivatives dealer shall provide a comprehensive description of its internal risk management control systems and how those systems adhere to the requirements set forth in § 240.15c3-4(a) through (d).

(a) APPLICATION REQUIREMENTS (continued)

(2) The Commission may approve the application after reviewing the application to determine whether the OTC derivatives dealer:

(i) Has adopted internal risk management control systems that meet the requirements set forth in § 240.15c3-4; and

(ii) Has adopted a VAR model that meets the requirements set forth in paragraphs (e)(1) and (e)(2) of this Appendix F.

(3) If the OTC derivatives dealer materially amends its VAR model or internal risk management control systems as described in its application, including any material change in the categories of non-marketable securities that it wishes to include in its VAR model, the dealer shall file an application describing the changes which must be approved by the Commission before the changes may be implemented. After reviewing the application for changes to the dealer's VAR model or internal risk management control systems to determine whether, with the changes, the OTC derivatives dealer's VAR model and internal risk management control systems would meet the requirements set forth in this Appendix F and § 240.15c3-4, the Commission may approve the application.

(4) The applications provided for in this paragraph (a) shall be considered filed when received at the Commission's principal office in Washington, D.C. All applications filed pursuant to this paragraph (a) shall be deemed to be confidential.

(b) COMPLIANCE WITH § 240.15c3-4

An OTC derivatives dealer must be in compliance in all material respects with § 240.15c3-4 regarding its internal risk management control systems in order to be in compliance with § 240.15c3-1.

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(c) MARKET RISK

An OTC derivatives dealer electing to apply this Appendix F shall compute a capital charge for market risk which shall be the aggregate of the charges computed below:

(1) *Value-at-Risk.* An OTC derivatives dealer shall deduct from net worth an amount for market risk for eligible OTC derivative instruments and other positions in its proprietary or other accounts equal to the VAR of these positions obtained from its proprietary VAR model, multiplied by the appropriate multiplication factor in paragraph (e)(1)(iv)(C) of this Appendix F. The OTC derivatives dealer may not elect to calculate its capital charges under this paragraph (c)(1) until its application to use the VAR model has been approved by the Commission.

(2) *Alternative method for equities.* An OTC derivatives dealer may elect to use this alternative method to calculate its market risk for equity instruments, including OTC options, upon approval by the Commission on application by the dealer. Under this alternative method, the deduction for market risk must be the amount computed pursuant to Appendix A to Rule 15c3-1 (§ 240.15c3-1a). In this computation, the OTC derivatives dealer may use its own theoretical pricing model provided that it contains the minimum pricing factors set forth in Appendix A.

(3) *Non-marketable securities.* An OTC derivatives dealer may not use a VAR model to determine a capital charge for any category of securities having no ready market or any category of debt securities which are below investment grade or any derivative instrument based on the value of these categories of securities, unless the Commission has granted, pursuant to paragraph (a)(1) of this Appendix F, its application to use its VAR model for any such category of securities. The dealer in any event may apply, pursuant to paragraph (a)(1) of this Appendix F, for an alternative treatment for any such category of securities, rather than calculate the market risk capital charge for such category of securities under § 240.15c3-1(c)(2)(vi) and (vii).

(4) *Residual positions.* To the extent that a position has not been included in the calculation of the market risk charge in paragraphs (c)(1) through (c)(3) of this section, the market risk charge for the position shall be computed under § 240.15c3-1(c)(2)(vi).

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(d) CREDIT RISK

The capital charge for credit risk arising from an OTC derivatives dealer's transactions in eligible OTC derivative instruments shall be:

(1) The net replacement value in the account of a counterparty (including the effect of legally enforceable netting agreements and the application of liquid collateral) that is insolvent, or in bankruptcy, or that has senior unsecured long-term debt in default;

(2) As to a counterparty not otherwise described in paragraph (d)(1) of this section, the net replacement value in the account of the counterparty (including the effect of legally enforceable netting agreements and the application of liquid collateral) multiplied by 8%, and further multiplied by the counterparty factor. The counterparty factors are:

(i) 20% for counterparties with ratings for senior unsecured long-term debt or commercial paper in the two highest rating categories by a nationally recognized statistical rating organization ("NRSRO");

(ii) 50% for counterparties with ratings for senior unsecured long-term debt in the third and fourth highest ratings categories by an NRSRO; and

(iii) 100% for counterparties with ratings for senior unsecured long-term debt below the four highest rating categories; and

(d) CREDIT RISK (continued)

(3) A concentration charge where the net replacement value in the account of any one counterparty (other than a counterparty described in paragraph (d)(1) of this section) exceeds 25% of the OTC derivatives dealer's tentative net capital, calculated as follows:

(i) For counterparties with ratings for senior unsecured long-term debt or commercial paper in the two highest rating categories by an NRSRO, 5% of the amount of the net replacement value in excess of 25% of the OTC derivatives dealer's tentative net capital;

(ii) For counterparties with ratings for senior unsecured long-term debt in the third and fourth highest rating categories by an NRSRO, 20% of the amount of the net replacement value in excess of 25% of the OTC derivatives dealer's tentative net capital; and

(iii) For counterparties with ratings for senior unsecured long-term debt below the four highest rating categories, 50% of the amount of the net replacement value in excess of 25% of the OTC derivatives dealer's tentative net capital.

(4) Counterparties that are not rated by an NRSRO may be rated by the OTC derivatives dealer, or by an affiliated bank or affiliated broker-dealer of the OTC derivatives dealer, upon approval by the Commission on application by the OTC derivatives dealer. After reviewing the application to determine whether the credit rating procedures and rating categories are equivalent to those used by NRSROs and that such ratings are current, the Commission may approve the application. The OTC derivatives dealer must make and keep current a record of the basis for the credit rating for each counterparty. The record must be preserved for a period of not less than three years, the first two years in an easily accessible place.

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(e) VAR MODELS

An OTC derivatives dealer's VAR model must meet the following qualitative and quantitative requirements:

(1) *Qualitative requirements.* An OTC derivatives dealer applying this Appendix F must have a VAR model that meets the following minimum qualitative requirements:

(i) The OTC derivatives dealer's VAR model must be integrated into the firm's daily risk management process;

(ii) The OTC derivatives dealer must conduct appropriate stress tests of the VAR model, and develop appropriate procedures to follow in response to the results of such tests;

(iii) The OTC derivatives dealer must conduct periodic reviews (which may be performed by internal audit staff) of its VAR model. The OTC derivatives dealer's VAR model also must be subject to annual reviews conducted by independent public accountants; and

(e)(1) VAR MODELS (continued)

(iv) The OTC derivatives dealer must conduct backtesting of the VAR model pursuant to the following procedures:

(A) Beginning one year after the OTC derivatives dealer begins using its VAR model to calculate its net capital, the OTC derivatives dealer must conduct backtesting by comparing each of its most recent 250 business days' actual net trading profit or loss with the corresponding daily VAR measures generated for determining market risk capital charges and calibrated to a one-day holding period and a 99 percent, one-tailed confidence level;

(B) Once each quarter, the OTC derivatives dealer must identify the number of exceptions, that is, the number of business days for which the actual daily net trading loss, if any, exceeded the corresponding daily VAR measure; and

(C) An OTC derivatives dealer must use the multiplication factor indicated in Table 1 of this Appendix F in determining its capital charge for market risk until it obtains the next quarter's back testing results, unless the Commission determines that a different adjustment or other action is appropriate.

Table 1. - Multiplication Factor Based on Results of Backtesting

Number of Exceptions	Multiplication Factor
4 or fewer	3.00
5	3.40
6	3.50
7	3.65
8	3.75
9	3.85
10 or more	4.00

(e) VAR MODELS (continued)

(2) *Quantitative requirements.* An OTC derivatives dealer applying this Appendix F must have a VAR model that meets the following minimum quantitative requirements:

(i) The VAR measures must be calculated on a daily basis using a 99 percent, one-tailed confidence level with a price change equivalent to a ten-business day movement in rates and prices;

(ii) The effective historical observation period for VAR measures must be at least one year, and the weighted average time lag of the individual observations cannot be less than six months. Historical data sets must be updated at least every three months and reassessed whenever market prices or volatilities are subject to large changes;

(iii) The VAR measures must include the risks arising from the non-linear price characteristics of options positions and the sensitivity of the market value of the positions to changes in the volatility of the underlying rates or prices. An OTC derivatives dealer must measure the volatility of options positions by different maturities;

(iv) The VAR measures may incorporate empirical correlations within and across risk categories, provided that the OTC derivatives dealer has described its process for measuring correlations in its application to apply this Appendix F and the Commission has approved its application. In the event that the VAR measures do not incorporate empirical correlations across risk categories, the OTC derivatives dealer must add the separate VAR measures for the four major risk categories in paragraph (e)(2)(v) of this Appendix F to determine its aggregate VAR measure; and

(v) The OTC derivatives dealer's VAR model must use risk factors sufficient to measure the market risk inherent in all covered positions. The risk factors must address, at a minimum, the following major risk categories: interest rate risk, equity price risk, foreign exchange rate risk, and commodity price risk. For material exposures in the major currencies and markets, modeling techniques must capture, at a minimum, spread risk and must incorporate enough segments of the yield curve to capture differences in volatility and less-than-perfect correlation of rates along the yield curve. An OTC derivatives dealer must provide the Commission with evidence that the OTC derivatives dealer's VAR model takes account of specific risk in positions, including specific equity risk, if the OTC derivatives dealer intends to utilize its VAR model to compute capital charges for equity price risk.

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