

to broker-dealers using Appendix E).²⁷ Rule 15c3-4 is designed to ensure the integrity of the risk measurement, monitoring, and management process, and to clarify accountability, at the appropriate organizational level, for defining the permitted scope of activity and level of risk. We request comment on this proposed requirement.

3. Market Risk Capital Charge

Under paragraph (c) of proposed Appendix E, the market risk capital charge on certain of the broker-dealer's positions would be computed either using VaR mathematical models, scenario analysis, or the standard haircut method of paragraph (c)(2)(vi) of Rule 15c3-1. The computation of the market risk capital charge under this proposal is based on the method for computing market risk under the OTC derivatives dealer rules. Generally, when a statistical model is used to determine market risk charges, the VaR amount determined by using the model must be multiplied by a multiplication factor to take into account the risk that the model does not measure the effects of unlikely but significant events.

a. Market Risk Capital Charge Calculation Using a VaR Model

For positions for which a market risk capital charge may be computed using a VaR model,²⁸ the market risk capital charge would be the VaR of the positions, which would be multiplied by the appropriate multiplication factor to provide an adequate measure of risk during periods of market stress.²⁹

In order for the Commission to monitor whether the broker-dealer's VaR models provide an adequate measure of the broker-dealer's risk exposures, an eligible broker-dealer would be required to obtain authorization from the Commission, either in its original application or by submitting an amendment to its application, before using a VaR model to calculate market risk capital charges on particular categories of exposures. The multiplication factor would be determined by reference to Table 1 of proposed Appendix E based on the results of quarterly backtests of the VaR model, which compare the losses predicted by the model to actual losses incurred in the broker-dealer's portfolio, except that the initial multiplication factor would be three. In considering an application or amendment, the

Commission may adjust the multiplication factor or take other action, as appropriate, after evaluating the firm's adherence to robust internal risk management procedures, including a review of its VaR models.³⁰

Paragraph (e) of proposed Appendix E would set forth the qualitative and quantitative requirements for VaR models used by the broker-dealer to calculate capital charges.³¹ These requirements are intended to make the capital charges based on the VaR measures a more accurate measure of losses that may occur during periods of market stress and are based on those in the OTC derivatives dealer rules and our experience in implementing those rules. The qualitative requirements, listed in paragraph (e)(1) of proposed Appendix E, would require that the VaR models used to calculate market and credit risk be the same models used to report market and credit risk to the firm's senior management and must be integrated into the internal risk management system of the firm; that the VaR model must be reviewed by the firm periodically and annually by a registered public accounting firm, as that term is defined in the Sarbanes-Oxley Act of 2002;³² and that for purposes of computing market risk, the multiplication factor must be determined based on quarterly backtesting of the VaR model used to calculate market risk and by reference to Table 1 of proposed Appendix E.

The quantitative requirements would set forth basic standards for each model including, (i) it must use a 99 percent, one-tailed confidence level and with price changes equivalent to a ten business-day movement in rates and prices for purposes of determining market risk, (ii) it must use an effective historical observation period that must be at least one year in length and include periods of market stress, and (iii) it must take into account and incorporate all significant identifiable

³⁰ The Commission may take such actions, for example, in considering an application or amendment to an application of a broker-dealer to calculate certain market and credit risk capital charges in accordance with proposed Appendix E or during its routine oversight of the broker-dealer.

³¹ Proposed Rule 15c3-1e(e)(1)-(2).

³² "Registered public accounting firm" is defined in section 2(a)(12) of the Sarbanes-Oxley Act of 2002 (Pub. L. 107-204) as "a public accounting firm registered with the [Public Company Accounting Oversight] Board in accordance with this Act." We propose that a registered public accounting firm conduct the review of the VaR models, prepare supplemental reports concerning management controls and inventory pricing and modeling for the broker-dealer and its holding company, and prepare the holding company's annual audit report because such firms would be subject to Board rules, examination, and discipline.

market risk factors applicable to the firm's positions.³³

Under paragraph (c)(3) of proposed Appendix E, the Commission proposes to phase in the use of VaR models to calculate capital charges for three bands of positions over a period of at least 18 months beginning with positions with lower risk exposures and progressing to those with higher levels of risk. During the phase-in period, Commission approval of an application or amendment would be required before a broker-dealer could begin to use VaR models to calculate market risk capital charges at each of the succeeding levels of risk exposures. The phase-in of the application of mathematical models to calculate capital charges and the requirement that the previous stage VaR use must have been successful are intended to allow the Commission to determine whether an applicant has management controls that can adequately assess increasing risk levels and whether the models have flaws or other defects. A broker-dealer would request Commission approval by filing an amendment to its application.

Upon Commission approval of its application to use proposed Appendix E to calculate certain of its capital charges, the broker-dealer would be able to use VaR models to calculate market risk capital charges on the first level of eligible positions, which are generally securities with lower risk exposures: (1) U.S. government securities and derivatives on those securities; (2) investment grade corporate debt and derivatives on those securities; (3) highly rated foreign government securities and derivatives on those securities; (4) highly rated short-term asset-backed securities and derivatives on those securities; (5) highly rated municipal securities and derivatives on those securities; and (6) derivatives on major market foreign currencies.

After at least nine months of successfully using VaR models to calculate market risk capital charges on the first level of eligible positions, a broker-dealer could amend its exemptive application to request Commission approval to use VaR models to calculate market risk capital charges on the second level of eligible positions, which include equities and derivatives on equities.

After at least another nine months of successfully using VaR models to calculate market risk capital charges on the second level of eligible positions as well as continuing to successfully calculate market risk charges on the first level of eligible positions, a broker-

³³ Proposed Rule 15c3-1e(e)(2).

²⁷ See *infra*, discussion of proposed amendments to Rule 15c3-4.

²⁸ These positions include those that have a ready market and for which there is adequate historical data to support a VaR model.

²⁹ Proposed Rule 15c3-1e(c)(1).