



Guidance Note

**Subject: Value-at-Risk (VaR) Models
Validation and Approval of Model Modifications
Capital Adequacy Requirements, Guideline A, Part II**

Date: April 2001

Purpose

This document provides guidance to Schedule I and II banks seeking to obtain OSFI's approval of modifications to Value-at-Risk (VaR) models used for reporting regulatory capital. This document does not pertain to new models, which will continue to be validated using the existing process developed in 1997.

Background

To measure market risk, federally regulated financial institutions (FRFIs) have implemented internal models for computing VaR, which (subject to OSFI's approval) may be used for reporting regulatory market risk capital requirements. Models validation began in 1997 and, since then, model modifications by banks have become a frequent occurrence. OSFI anticipates that banks will continue to enhance/modify their internal models. Given that such modifications require approval, OSFI has drafted this guidance to standardize the application process.

Definition of Market Risk Model Modifications

A model modification is any material change to the use or the operation of a VaR model currently used by a FRFI and approved by OSFI in its current form. Model modifications may be broadly classified into three categories: 1) Business Integration (acquisition of a new business); 2) Methodology Changes; and 3) System Changes.

Process for Validation and Approval of Market Risk Model Modification(s)

Application to OSFI

The bank should apply in writing to request OSFI approval of model modifications. The bank is required to:

- indicate the proposed effective date of modified model use for regulatory capital reporting purposes;
- provide an overall summary document that describes the changes and synthesizes the findings/conclusions of vetting, backtesting, stress testing, etc. (reference and highlight important documents and/or sections of attachments that are being submitted to OSFI); and
- provide the name of the key contact person or project co-ordinator.

The existing model should remain in place until the modifications are approved by OSFI.

The minimum requirements for the validation of model modifications are provided below.

(i) Description of Changes

The bank should describe what changes are proposed relative to the current status of a VaR model. OSFI requires a detailed description of changes resulting from new business integration, methodology changes, and/or system changes.

(ii) Products Covered by Model Modifications

Describe what products are being integrated into the existing business.

Describe what products are covered by the existing model and by the modified model (indicate any differences).

(iii) Vetting

Provide a vetting report by a group that is independent of the model developer and the model end-users (line of business and/or trading units).

At a minimum, vetting should include:

- an assessment of the model's appropriateness (robustness of model, including assumptions, strengths, deficiencies, and limitations); and
- a description of vetting methodology and scope.

(iv) Limit Structure (VaR, Operational Limits, and Internal Approval)

Describe how the limit structure has changed as a result of model modifications. At a minimum, the limit structure should include:

- limits at risk category level;
- operational VaR limits;
- internal approvals for changes in limits;
- effect of new business or methodology change on existing VaR; and
- effect on the regulatory market risk capital.

(v) Backtesting

Backtesting, based on the hypothetical P&L, is required for the existing model and for the modified model.

- 60 days of backtesting data are required.
- At OSFI's discretion, exceptions may be considered for less than 60 days of backtesting data (depending upon the nature of modifications).

(vi) Parallel Testing (VaR Data)

For model modification(s), at least 20 working days (one month) of parallel testing (existing and modified model) VaR data are required.

- An explanation is required for major differences observed between existing and modified models.
- For the business integration case, parallel testing is not required.

(vii) Stress Testing (Revision or New Scenarios)

Provide a description of new or revised stress testing scenarios related to the model modifications.

(viii) Organizational Structure (Management Changes)

Describe any organizational changes resulting from and/or relevant to model changes. Organizational structure will likely change as a result of integrating a business. OSFI will require clarification of reporting lines.

(ix) Internal Audit

Internal Audit (IA) review is required for all changes.

(x) Primary Regulator (if not OSFI)

Primary Regulator sign-off/approval is required.
OSFI requires contact information for the Primary Regulator.
OSFI may discuss the model with the Primary Regulator.

Model Validation Time Frame

Once all of this information has been received from the bank, OSFI will make an assessment within 5-10 business days (under normal circumstances). The likely time frame required for model validation will then be communicated to the bank.

Note: Model modification validation will normally require a minimum of one month. Depending on the complexity of the model and OSFI workloads, the validation process may take longer.

Other

OSFI expects that it will be notified by the bank when there is any material change in the management oversight/control environment of a model (separate from the model modifications noted above). Any such change may be subject to review by OSFI and may affect the existing approval of a VaR model.

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