

August 29, 2019

Margo Ford
Senior Analyst
Office of the Superintendent of Financial Institutions
Capital Division
255 Albert Street
Ottawa, ON K1A 0H2
margo.ford@osfi-bsif.gc.ca

Re: CIA comments on draft guideline E-25 – *Internal Model Oversight Framework*

Dear Ms. Ford,

On June 21, 2019, the Office of the Superintendent of Financial Institutions (OSFI) shared draft guideline E-25 *Internal Model Oversight Framework*, inviting comments from the property and casualty (P&C) insurance industry.

The CIA welcomes the intent of guideline E-25 as a significant step to add flexibility to the regulatory capital requirements. Using an internal model could allow insurers to better measure and manage associated risks. It would also allow OSFI to tailor the regulatory capital requirements to reflect the insurer's risk profile, which would be an improvement to the current Minimum Capital Test framework.

Structure of CIA response

The CIA's Committee on Risk Management and Capital Requirements reviewed the draft guideline. The attached template contains general comments as well as comments on specific proposals made in the consultation document.

Overall, we consider the draft guideline E-25 to be too prescriptive. A guideline with strong foundation on principles such as separation of duties, oversight, and three lines of defence would be more effective and flexible.

The CIA appreciates the opportunity to provide feedback on this draft and would welcome further discussion with you on this matter.

If you have any questions, please contact [Chris Fievoli](#), CIA Staff Actuary, Communications and Public Affairs, at 613-656-1927.

Sincerely,

[original signature on file]

Marc Tardif, FCIA
President, Canadian Institute of Actuaries

The Canadian Institute of Actuaries is the national, bilingual organization and voice of the actuarial profession in Canada. Our members are dedicated to providing actuarial services and advice of the highest quality. The Institute holds the duty of the profession to the public above the needs of the profession and its members.

COMMENTS

OSFI Draft Guideline E-25 – Internal Model Framework

Insurer or organization: Canadian Institute of Actuaries
Contact Name: Chris Fievoli, CIA Staff Actuary, Communications and Public Affairs
Date: August 30, 2019

No.	Section/ Subsection	Comment							
1.	General	<p>From the draft guideline, we can infer the intent to align the roles with the three lines of defence.</p> <p>a) 1st line: model developer and model user b) 2nd line: RCO/C and model executive c) 3rd line: internal audit</p> <p>Would it be possible to confirm the intent? If what we have surmised here is the intent, it would be helpful to add some notes similar to footnotes 9, 11, 12, and 13 of guideline E-13.</p>							
2.	General	<p>We understand that the draft guideline focuses on the oversight framework surrounding internal models used to determine regulatory capital requirements. Would it be possible to confirm that OSFI expects to issue a separate guideline to outline the model submission requirements, OSFI’s approval process, and expectations regarding model use?</p>							
3.	General	<p>In footnote 1, the draft guideline says: “For the purposes of this guideline, insurers refers to federally regulated property and casualty insurance companies that are not mortgage insurance companies and Canadian branches of foreign property and casualty insurance companies.”</p> <p>We believe that this draft guideline should also apply to reinsurance companies. We suggest expanding footnote 1 to clarify this.</p>							
4.	General	<p>According to the web page: http://www.osfi-bsif.gc.ca/Eng/fi-if/rg-ro/gdn-ort/gld/Pages/default.aspx</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="padding: 2px;">E-25 -- Internal Model Oversight Framework [Draft]</td> <td style="padding: 2px; text-align: center;">2019-06</td> <td style="padding: 2px;"></td> <td style="padding: 2px;"></td> <td style="padding: 2px;"></td> <td style="padding: 2px; text-align: center;">x</td> <td style="padding: 2px; text-align: center;">x</td> </tr> </table> <p>guideline E-25 would also apply to life insurers and fraternal companies. The content of the guideline is addressed to P&C insurers.</p> <p>We recommend aligning the intended audience on the web page with the content of the guideline, including reinsurers should they be added as per comment 3 above.</p>	E-25 -- Internal Model Oversight Framework [Draft]	2019-06				x	x
E-25 -- Internal Model Oversight Framework [Draft]	2019-06				x	x			
5.	General	<p>We suggest moving footnote 7: “For the purposes of this guideline, we distinguish the expression “vetting” from “validation”. We use vetting to identify a discrete activity, occurring as a pre-defined step in a process (e.g., the creation of a new internal model or the making of material modifications of an existing internal model). In contrast, validation is an ongoing monitoring activity (e.g., ongoing assessment of model performance or related user processes).”</p>							

No.	Section/ Subsection	Comment
		to page 3 as this is when “Objective vetting and validation” is first mentioned in the draft guideline.
6.	1.0	<p>The draft guideline mentions:</p> <p>“This guideline applies to insurers that have received approval to use an internal model.”</p> <p>We suggest expanding the wording of this sentence as follows to be more specific regarding the scope of application:</p> <p>“This guideline applies to insurers that have received OSFI’s approval to use an internal model to determine regulatory capital requirements.”</p>
7.	1.0	<p>The draft guideline mentions:</p> <p>“An internal model developed by an insurer and used for determining MCT regulatory capital requirements captures the risks faced by the particular insurer more precisely than a non-customized standard approach.”</p> <p>Our understanding is that the MCT is the standard non-customized formulaic approach insurers use to determine regulatory capital requirements. We interpret this sentence of the guideline as explaining that an internal model developed by an insurer is an alternative method to determine regulatory capital requirements, and as a result, the internal model does not determine the “MCT regulatory capital requirements.”</p> <p>We suggest removing “MCT” from this sentence, so the statement would read:</p> <p>“An internal model developed by an insurer and used for determining regulatory capital requirements captures the risks faced by the particular insurer more precisely than a non-customized standard approach. Using the results from the internal model is an alternative for the MCT standardized formula but is not a replacement for the MCT framework itself.”</p>
8.	2.0	<p>The draft guideline mentions:</p> <p>“2.0 Model Oversight Framework”</p> <p>For precision, we suggest using:</p> <p>“2.0 <u>Internal</u> Model Oversight Framework”</p>
9.	2.1	<p>The draft guideline mentions:</p> <p>“The model oversight framework should articulate, through policies and procedures, how the insurer identifies and manages internal model risk.”</p> <p>To be precise, we suggest adding the words “internal” and “assesses” into the sentence as follows:</p> <p>“The <u>internal</u> model oversight framework should articulate, through policies and procedures, how the insurer identifies, <u>assesses</u> and manages internal model risk.”</p>

No.	Section/ Subsection	Comment
		<p>This would be consistent with the introduction statement for the guideline, shown above the table of contents:</p> <p>“This guideline outlines OSFI’s expectations for insurers¹ when establishing and maintaining an oversight framework with policies and procedures that identify, assess, and manage risks of internal models used to determine regulatory capital requirements in accordance with the OSFI Minimum Capital Test (MCT) guideline (internal model).”</p> <p>It would also be consistent with Section 3.0 titled “Assessment of Oversight Framework”.</p>
10.	2.1	<p>The draft guideline states that the oversight framework is expected to include: “3) separate production and testing environments, with different staff in each;”</p> <p>The requirement is too prescriptive. We recommend that the guideline be more principles-based and lean on a framework with appropriate separation of duties and oversight.</p> <p>However, if OSFI decides to retain a prescriptive approach, we recommend some clarification:</p> <p>The expression “production and testing environments” may be confusing. For example: a new internal model or changes to an existing internal model may be developed and tested in a testing environment (Environment 1). The final selected model used for reporting may be locked/run in a final reporting environment (Environment 2). Finally, a replicate of the final selected internal model may be vetted/validated in an independent environment (Environment 3). In this example, the draft guideline may be construed as requiring different staff for the development of the internal model (Environment 1) and for running the final selected model used for reporting (Environment 2). Due to the scarcity of qualified resources in the P&C insurance industry, meeting such a requirement is unlikely to be feasible.</p> <p>Additionally, “production environment” may have an IT connotation that is too strict and demanding in practice.</p> <p>We suggest that the environments hosting the final selected model used for reporting (Environment 2) and the vetting/validation (Environment 3) be distinct and operated by different staff, in line with the three lines of defence practice.</p>
11.	2.1	<p>The draft guideline mentions:</p> <p>“Internal model risk is the risk of adverse financial (e.g., capital, losses, revenue) and reputational consequences arising from the design, development, implementation and/or use of an internal model. It can originate from, among other things, inappropriate specifications; incorrect parameter estimates; flawed hypotheses and/or assumptions; mathematical computation errors; inaccurate, inappropriate or incomplete data; inappropriate, improper or unintended usage; and inadequate monitoring and/or controls.”</p>

No.	Section/ Subsection	Comment
		<p>While we understand that the expression “among other things” encompasses other risks than the ones listed, we suggest including “inadequate staffing” and “inadequate documentation”, as we believe these two risks are also very important and worthwhile to mention.</p> <p>The proposed paragraph could read as follows:</p> <p>“Internal model risk is the risk of adverse financial (e.g., capital, losses, revenue) and reputational consequences arising from the design, development, implementation and/or use of an internal model. It can originate from, among other things, inappropriate specifications; incorrect parameter estimates; flawed hypotheses and/or assumptions; mathematical computation errors; inaccurate, inappropriate or incomplete data; inappropriate, improper or unintended usage; inadequate monitoring and/or controls; inadequate documentation; and inadequate staffing.”</p>
12.	3.0	<p>The draft guideline mentions: “3.0 Assessment of Oversight Framework”</p> <p>For precision and consistency, we suggest using: “3.0 Assessment of <u>Internal Model</u> Oversight Framework”</p>
13.	3.0	<p>The draft guideline structures Section 3 as follows:</p> <ul style="list-style-type: none"> Assessment of Oversight Framework 3.1 Data Risk 3.2 Model Risk <ul style="list-style-type: none"> 3.2.1 Risk Control Officer/Committee 3.2.2 Model Phases 3.3 Documentation <p>For more clarity, we suggest the following structure:</p> <ul style="list-style-type: none"> Assessment of Internal Model Oversight Framework 3.1 Types of Risk <ul style="list-style-type: none"> 3.1.1 Data Risk 3.1.2 Model Risk 3.2 Risk Control Officer/Committee 3.3 Model Phases 3.4 Documentation
14.	3.2.1	<p>The draft guideline mentions:</p> <p>“In discharging its responsibilities, the RCO/C should challenge the model’s appropriateness. The challenge function must be effective and must be able to elevate concerns to an appropriate level. The RCO/C should reside within the Canadian operations of the insurer and have sufficient authority and stature within the insurer to have any issues and deficiencies addressed in a timely and substantive manner. The RCO/C should report to an individual who is (a) separate from the business functions and the internal model development group, (b) not the model executive⁶, defined in section 3.2.2.3 below, and (c) a member of or have direct access to the Board of Directors or a committee thereof.”</p> <p>The requirement is too prescriptive. We recommend that the guideline be more</p>

No.	Section/ Subsection	Comment
		<p>principles-based and lean on a framework with appropriate separation of duties and oversight. Instead of a new committee, the three lines of defence approach would be sufficient and effective.</p> <p>However, if OSFI decides to retain a more prescriptive approach, we recommend some clarification:</p> <p>We see the qualification requirements for the RCO/C as rather onerous.</p> <p>“The challenge function must be effective and must be able to elevate concerns to an appropriate level” implies a certain level of expertise and skills that are relatively scarce in the P&C insurance industry.</p> <p>We understand that the independence criterion between RCO/C and the model developer, as well as between the RCO/C and the internal audit, are necessary. However, the requirement that “[the] RCO/C should be separate from both the business functions (e.g. underwriting and claims reserving) and the internal model development group” significantly reduces the number of qualified individuals who would be eligible to conduct vetting and validation. The requirement of separation from the business functions is especially restrictive.</p> <p>We suggest that the RCO/C should demonstrate independence from the internal model development group and sufficient objectivity with regard to the insurer’s risks being quantified through the internal model.</p> <p>We note that if the guideline 3.2.1 is modified, section 3.2.2.3 would need to be updated as well.</p>
15.	3.2.1	<p>The requirement that “the RCO/C should report to an individual who is (a) separate from the business functions” is subject to many interpretations. Would it be possible to provide some examples? Would the Appointed Actuary function be considered part of the business functions?</p>
16.	3.2.1	<p>We understand the necessity for the objectivity criterion underlying the requirement: “An objective reviewer or expert should not be or have been responsible for or actively involved in developing, maintaining or using the internal model.”</p> <p>However, we find the “not [...] have been” clause very restrictive. For example, an individual may have been involved in developing and maintaining the internal model. That individual may have subsequently moved to another function within the organization. As time passes, that prior involvement with the internal model has a dwindling effect on ensuing internal model changes and uses. We believe that this individual could become an effective reviewer with relevant expertise.</p> <p>We suggest modifying the “not [...] have been” clause to require an appropriate cooling period and demonstration of sufficient independence.</p>
17.	3.2.1	<p>Notwithstanding the allowance noted in footnote 6, the clause “(b) not the model executive⁶” requires separate individuals to fulfil the responsibilities of the RCO/C and those of the model executive.</p> <p>We note that the requirement is more onerous than what is found in the Solvency II framework. The latter tends to be less prescriptive of the roles and responsibilities. It tends to be more anchored on principles. We suggest making the requirement less</p>

No.	Section/ Subsection	Comment
		onerous and more principles based.
18.	3.2.1	<p>The draft guidelines mentions:</p> <p>“The RCO/C should reside within the Canadian operations of the insurer and have sufficient authority and stature within the insurer to have any issues and deficiencies addressed in a timely and substantive manner.”</p> <p>The requirement “to have any issues and deficiencies addressed in a timely and substantive manner” is very exacting. There are issues that insurers would accept as unresolved for various reasons, such as methodological limitations or system constraints. In these cases, the insurer would not be in a position to comply with the requirement “to have any issues and deficiencies addressed in a timely and substantive manner.”</p> <p>We believe that in many circumstances, disclosure of model limitations can be an adequate response to model issues and deficiencies. We suggest modifying the wording to reflect such an option.</p>
19.	3.2.2.1	<p>The draft guideline mentions:</p> <p>“Prior to the development or material modification of an internal model, the relevant business area (e.g., internal model users) should identify an economic or business rationale for developing a new or revised internal model. For all new internal models and material modifications, the insurer should document the modelling choices, the information/evidence and other considerations used in making the decision, including an assessment of the suitability of the selection in relation to the intended purpose.”</p> <p>The concept of material modification is found in numerous places throughout the draft guideline. It is subject to multiple interpretations.</p> <p>Would it be possible to provide a definition of materiality or expectations with regard to the assessment of materiality?</p>
20.	3.2.2.1	<p>The draft guideline mentions:</p> <p>“Prior to the development or material modification of an internal model, the relevant business area (e.g., internal model users) should identify an economic or business rationale for developing a new or revised internal model.”</p> <p>The concept of economic rationale may have multiple interpretations. On the one hand, it could imply a cost-benefit assessment to develop a new or revised model. On the other hand, it could mean the magnitude of the impact (i.e., increasing or decreasing) on the capital requirements stemming from the development of a new or modified internal model. Would it be possible to clarify the intent?</p>
21.	3.2.2.1	<p>The draft guideline mentions:</p> <p>“Modifications to an existing model may require OSFI approval before the insurer can use it to determine regulatory capital requirements.”</p> <p>In line with item 2 of this feedback log, we expect that OSFI would issue a separate guideline to address the submission and approval of internal models used by insurers to determine regulatory capital requirements. Therefore, we recommend</p>

No.	Section/ Subsection	Comment
		deleting the above quote referring to the approval requirements for modifications to an existing internal model.
22.	3.2.2.3	<p>The draft guideline mentions:</p> <p>“The model executive is the individual and/or committee responsible for assessing the RCO/C’s findings and recommendations and making a decision regarding the approval, use and/or limitation of use of any new model or changes to pre-existing models.”</p> <p>And the following paragraph states:</p> <p>“...there should be a clear separation between the model executive and,</p> <ol style="list-style-type: none"> 1) the person(s), within the insurer, having authority to recommend that a particular internal model be used with particular assumptions or that changes to the internal model or assumptions be made; and 2) the RCO/C vetting the internal model.⁸” <p>Footnote 8 addresses the situation when the model executive is the same person as the RCO/C. However, there is a clash in requirements between the first paragraph and item 1) when the RCO/C and the model executive are the same person. The first paragraph gives the authority to the RCO/C to recommend changes while item 1) requires that the model executive be separate from the person having the authority to recommend model changes. A single individual taking the two roles (RCO/C and model executive) would not be able to simultaneously comply with the two requirements.</p> <p>We suggest that revisions would be necessary to ensure coherence between the requirements of these two paragraphs.</p>
23.	3.2.2.4	<p>The draft guideline mentions:</p> <p>“Objective validation - The RCO/C is responsible for performing a periodic objective validation of the model. The RCO/C should determine whether all the prescribed steps in a particular process were performed and that the prescribed steps were performed properly, the model remains fit for use, the results were explained correctly and are consistent or contrasted with expectations, and that any tracked issues were addressed in a timely manner. In addition, the RCO/C should:</p> <ol style="list-style-type: none"> 1) conduct benchmarking analysis; 2) re-examine any noted internal model limitations or documented weaknesses; 3) backtest the model results; and 4) perform sensitivity analysis.” <p>We note that the conduct of benchmark analysis, backtesting of the model results, and the performance of sensitivity analyses are often part of the design and development of initial models and changes, and even part of the execution of existing models. Therefore the above requirements may appear to be redundant. We suggest the following changes:</p> <p>“Objective validation - The RCO/C is responsible for performing a periodic</p>

No.	Section/ Subsection	Comment
		<p>objective validation of the model. The RCO/C should determine whether all the prescribed steps in a particular process were performed and that the prescribed steps were performed properly, the model remains fit for use, the results were explained correctly and are consistent or contrasted with expectations, and that any tracked issues were addressed in a timely manner. The RCO/C should also re-examine any noted internal model limitations or documented weaknesses. In addition, the RCO/C should consider the appropriateness of the following tests/analyses performed by the model development team:</p> <ol style="list-style-type: none"> 1) benchmarking analysis; 2) backtesting of the model results; and 3) sensitivity analysis.”
24.	3.2.2.2 and 3.2.2.4	<p>Footnote 7 mentions:</p> <p>“For the purposes of this guideline, we distinguish the expression “vetting” from “validation”. We use vetting to identify a discrete activity, occurring as a pre-defined step in a process (e.g., the creation of a new internal model or the making of material modifications of an existing internal model). In contrast, validation is an ongoing monitoring activity (e.g., ongoing assessment of model performance or related user processes).”</p> <p>The difference between “vetting” and “validation” is quite subtle. The two expressions are often used interchangeably in the industry. Thus, the current footnote may create confusion across the three lines of defence.</p> <p>While we recognize that the wording of the footnote is aligned with the wording used in <i>Enterprise-wide Model Risk Management for Deposit-Taking Institutions</i>, we suggest clarifying the respective purpose of vetting and validation.</p> <p>For example, the CIA educational note <i>Use of Models</i> identifies the vetting activities in its Section 2, and outlines the validation activities in Section 4.</p>
25.	2.2 and 3.3	<p>Under 2.2 the draft guideline mentions:</p> <ol style="list-style-type: none"> 2) <i>Objective vetting and validation – includes a description of the objective vetting and objective validation processes and the evidence of their performance; and</i> 3) <i>Findings and recommendations – includes findings that require further investigation, the manner in which issues should be resolved and the tracking and verification of changes made.</i> <p>Under 3.3 the draft guideline further states:</p> <ol style="list-style-type: none"> 3) <i>Vetting and validation – includes a description of the vetting and validation processes, evidence of their performance, including findings that require further investigation, the manner in which issues should be resolved and the tracking and verification that changes were actually made.</i>

No.	Section/ Subsection	Comment
		<p>The two sections are very similar and their respective purpose is unclear. They appear to serve two different purposes. Section 2.2 appears to require insurers to document the mandate and responsibilities of the model vetting/validation. Section 3.3 appears to require insurers to document the evidence that the vetting/validation activities were performed, along with the approach used to conduct the vetting/validation and the resulting findings/recommendations.</p> <p>We suggest clarifying the purpose of the two sections.</p>