

Memo

To: Mike Yanacheak, ASA, MAAA, Chair of Generator of Economic Scenarios (“GOES”) (E/A) Subgroup

From: Patricia Matson, FSA, MAAA, Partner, RRC
Lynn Manchester, FSA, MAAA, Director, RRC
Janine Bender, ASA, MAAA, Supervisor, RRC

Date: December 6, 2024

Subject: RRC Comments Regarding GOES (E/A) Subgroup’s GOES Model Governance Framework Draft Exposure

Background

The Generator of Economic Scenarios (“GOES”) (E/A) Subgroup (“Subgroup”) is requesting comments on the GOES Model Governance Framework Draft (“the Exposure”).

RRC appreciates the opportunity to offer our comments on the Exposure. Should you have any questions, we would be glad to discuss our comments with you and Subgroup members.

We appreciate the work that the Subgroup has undertaken to address what we believe is a critical industry issue, namely a model governance framework for the GOES model which is intended to mitigate risk by providing governance and controls for scenarios generated for use within the industry.

Comments on I. Background

Regarding the importance of a model governance framework for the GOES model, detailed in Section I.B, we believe that systemic risk should be mentioned along with the material financial impact since the GOES model will be used industry-wide.

While Section I.C.9 mentions access controls, we suggest that Section I.C also cover storage, i.e., where models are stored, perhaps referencing the three separate modeling environments used by Conning, described in Section VIII.D.

We also suggest that the model governance framework include a requirement to create backup copies of the current and previous version of the model, in case of model corruption or data loss.

Comments on II. Governance Roles and Sign-off Protocols

In addition to the roles mentioned in Section II.A, we recommend the addition of the role of Model Designer. We believe that the NAIC/LATF Committee would be assigned this role and would be responsible for requesting specific changes or enhancements to the model to meet desired regulatory purposes. The Model Designer should be independent of the Model Developer. This role could also be mentioned in Section I.C component #1 and the first paragraph of Section II.A.

Responsibilities of the Model Steward role should include accuracy, quality, and fitness of the model, in addition to the governance of the model. We would expect that the Model Steward would be responsible for collecting input from the Model Users (i.e., Industry and State Insurance Regulators) on necessary upgrades.

The table in Section II.A states that the Model Owner (Conning’s Professional Services Team) “will perform user-acceptance testing of any new code required for software to meet NAIC model specifications...”. We suggest that user acceptance testing (“UAT”) also include Model Users (i.e., Industry and State Insurance Regulators), even if from an oversight perspective.

We also recommend that the high-level responsibilities found in the table in Section II.A include the following items. Note that some relate to incorporating information from subsequent sections of the Model Governance Framework to ensure internal consistency.

- **Model Developer –**
 - We suggest that the Model Developer will incorporate change requests **from the Model Steward** into the GEMS© software rather than “incorporate NAIC requirements”, as all requirements should flow through the Model Steward.
 - We recommend that the high-level responsibilities include model validation (as described in Section V.B) and managing the modeling environments, conducting testing, and completing change documentation to meet governance requirements (as described in Section VIII.D).
 - We also recommend that the Model Developer be the owner of any new code that is required for the software to meet NAIC model specifications.
- **Model Owner** - We recommend adding the following responsibility:
 - Explains model results to the Model Steward and recommends adjustments to parameterization and calibration (to the Model Developer) based on input from the Model Steward.
- **Model Steward** – We recommend that Model Selection (as described in Section V.A) be included in the high-level responsibilities and that all NAIC requirements to be incorporated into the GEMS© software flow through the Model Steward.
- **Model User** – We suggest adding that they would also assist with UAT.

Regarding Section II.B, as part of the sign-off responsibilities for Conning, we recommend that an auditing process be included. This may include a System and Organization Controls 1 (“SOC 1”) report as part of the attestation provided to NAIC staff. We would recommend that it be provided at inception and every two to three years. This could also be included as part of the sign-off protocols in Section III.D.

It may also be helpful to include a graphical representation of the roles and responsibilities, for example in a process flow format.

Comments on III. Stakeholder Responsibilities

To link the stakeholders in Section III to the governance roles in Section II, we recommend that reference to the Model Steward role be mentioned at the end of the first paragraph in Section III.B. For example, “As the Model Steward, the Subgroup will direct NAIC Staff as necessary to effectuate aspects of the Framework.”

As part of NAIC staff responsibilities, we believe they would act under the direction of the GOES (E/A) Subgroup **to support the implementation of the economic scenario generator** as well as implement and monitor the model governance, and we recommend that the **bolded** language be added to responsibility #1. Additionally, we assume that NAIC staff would not only develop the scenario review process but also perform a review of the statistics each time scenarios are produced. We recommend that this be clarified within the NAIC staff responsibilities section.

We suggest clarification be provided regarding the delivery method to be used by Conning to provide training materials to Users (e.g., the materials will be posted with the scenarios, sent to the Model Users, etc.). We also suggest clarifying whether Section IX is intended to include training materials in addition to documentation.

The Robust Data Set is mentioned in Section III.D as having additional data fields, but this section does not mention what additional fields are available for a fee. We recommend adding this.

We believe that Subject Matter Experts and Interested Parties would bring any **model or** governance issues to the GOES (E/A) Subgroup for consideration and recommend that the **bolded** language be added to activity #1 in Section III.E.

Comments on IV. Models Subject to the GOES Model Governance Framework

Section B (Model Risk Rating) discusses the assignment of a risk rating and notes that all models listed in the Model Inventory File are currently ranked as high risk. The Exposure draft does not mention who is responsible for determining the risk rating on an ongoing basis, or the frequency at which the rating should be reviewed. We recommend that the appropriate governance role be assigned this responsibility. We also recommend including the model risk rating responsibility in the governance roles in Section II.A.

Regarding whether the Model Governance Framework should be extended to optional items available for a fee (e.g., Robust Data Set, API tool), we agree that the Model Governance Framework should be extended to all optional items related to the economic scenario generator.

Comments on V. Model Selection and Validation Process

In the Model Selection section, the process and criteria for model selection are described. We recommend a requirement that the model be reviewed and recalibrated at a minimum every five or so years to confirm continued appropriateness and fit of the model.

As part of the Model Validation section, we would recommend clarification of who would be performing the model validation along with the frequency at which the model validation is performed and how this would be related to the model risk rating mentioned in Section IV. These appear to be items that should be part of the Model Developer responsibilities.

Pertaining to the independent UAT performed by the Model Owner, we recommend that the description of this testing be clarified as the Model Owner would not necessarily be considered independent.

Comments on VI. Model Updates and Review

We do not have any specific comments.

Comments on VII. Process for Handling Model Findings

We do not have any specific comments.

Comments on VIII. Model Change Management

For “emergency” model findings and fixes, we recommend that an escalation process be created such that critical model fixes can be implemented in a timely manner, when the normal NAIC approval process may not be fast enough.

Comments on IX. Documentation Requirements

We suggest including clarification of a vendor’s access to Conning’s Software Documentation Library if a company outsources the work to a vendor and the vendor signs Conning’s Nondisclosure Agreement.

Comments on X. Access Controls

Regarding the people identified as having access to models and documentation, we recommend that Conning and the NAIC consider mitigants to key person risk and clarify any succession plans in place to ensure that there will be appropriate resources to update the models.

Thank you for the opportunity to provide comments on this important topic. We can be reached at 860-305-0701/tricia.matson@riskreg.com, 813-506-7238/lynn.manchester@riskreg.com or 860-324-4951/janine.bender@riskreg.com if you or other members have any questions.