

**Comment #11 – 2/26/15 – 2:54 p.m.**

Below are my comments on the proposed Modeling ASOP (with a comment deadline of March 1<sup>st</sup>).

**SPECIFIC QUESTIONS IN THE EXPOSURE DRAFT**

**Q1. Section 3.1.1 discusses situations when the actuary judges whether full guidance is or is not warranted. Is this section clear and appropriate? If not what changes would you suggest?**

Response: *With regard to P&C practice I found this guidance to be very unclear. The primary area of uncertainty is whether the approaches that are typically described as “methods” in P&C practice would fit under the definition of “model” in this standard. Guidance in ASOP 43 avoids this issue by providing guidance applicable to “methods or models”, rather than just specifying application to methods alone or models alone. (Note that sections of this ASOP are clearly not applicable to deterministic methods – e.g., paragraph 3.2.7d in its discussion of “the number of model runs analyzed”.)*

*Another major area of uncertainty is whether the use of multiple models, with judgment applied throughout the modeling process as well as with the final decision (such as the amount of reserve to book or price to charge), would be an indicator (or not) that the model results are “heavily relied upon”. The typical P&C reserving exercise (and the similar ratemaking process) requires a lot of judgment, with the final decision frequently residing with management (which may or may not be an actuary). As a result, I don’t find the words “heavily relied upon” to be clear or operational for a lot of P&C practice.*

*I also suspect that the discussion concerning deviations from the ASOP is something that, if valid, belongs in ASOP 1 or in virtually every ASOP and not in just a single ASOP. I don’t see how this is an issue specific to modeling.*

*Finally, it is common to quote individual paragraphs of an ASOP in evaluating any workproduct. Hence any guidance that limits the applicability of later sections or paragraphs of an ASOP may easily be overlooked when someone attempts to follow that ASOP. I generally favor any guidance that limits application of the ASOP to be inserted in all related paragraphs of the ASOP, perhaps via words such as “when applicable” or “where material”, and not just in one place in the ASOP.*

**Q2. Section 3.1.3 discusses the actuary’s responsibility when the actuary is part of a modeling team. Is this section clear and appropriate? If not what changes would you suggest?**

Response: *This guidance is clear, but I don’t always believe it is appropriate. Modeling teams for some items (such as cat models) can contain multiple actuaries and non-actuaries. At some point it may not be practical or possible to confirm that all parties conformed to this ASOP in all their contributions. Rather than requiring that all actuaries on the team perform this verification with regard to all actuaries’*

*and non-actuaries' contributions, it should be sufficient for an actuary to disclose the extent of their validation efforts and their reliances where validation was not practical or possible.*

**Q3. Section 3.3.1(a)(2) describes the degree of checking as being dependent on a list of possible factors, and this list includes both the “intended application” and the “project objective,” which apply in different stages of modeling, rather than just referring to the “intended purpose,” which encompasses either. Is this separate mention of the two possible stages of purpose helpful? Would the guidance be clearer if only the term “intended purpose” was used?**

*No comment*

**Q4. Does the proposed standard provide sufficient guidance to actuaries working with models?**

*Response: Possibly, depending on how one defines “methods” versus “models” and whether it is meant for those responsible for the model vs. those using the model. It is not helpful or sufficient for those working with methods that don’t fit the definition of “model”. For those using models developed by others, the applicability of some paragraphs to such work is not clear, or is not reasonable (e.g., paragraph 3.3.1.a).*

#### **ADDITIONAL COMMENTS**

Paragraph 3.2.5 – If this ASOP applies to methods such as “squaring the triangle” for P&C loss reserving or ratemaking applications, then the words “where applicable” needs to be added when discussing the considerations. As one example, 3.2.5.d only applies where stochastic approaches are available, and many methods are not stochastic.

Paragraph 3.2.7.a(1) – This guidance says that the actuary should consider using “assumptions and parameters based on actual experience, to the extent ... *relevant* ...” There should probably be more guidance with regard to the need to verify the relevance of past data. For example, many analyses of catastrophe exposure need to adjust past data for changing conditions such as new building codes, greater concentrations in catastrophe prone areas and better record-keeping. This (i.e., the relevance of past data) is such a major item with regard to the use of past data that it deserves additional discussion/guidance.

Paragraph 3.2.7.b (MAJOR ISSUE) - This paragraph could be interpreting as giving the actuary the authority to include a margin or not to include a margin, based solely on their professional judgment and preference. I’ve seen an actuary attempt to use similar language to include a conservatism margin in their estimate of unpaid claim liability, even when the accounting policy of the company was to not have such margins. That is one reason why ASOP 43 first requires an actuary to determine the intended

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measure for the liability estimate. The modeling paragraph on margins should say that an actuary should not include margins that are inconsistent with the intended measure of the estimate or the modeling objective.

(Note that paragraph 3.2.7.d also implies that an actuary has the authority to add conservatism. Hence that wording should also be changed, perhaps by adding words such as “*where applicable and consistent with the modeling objective*”.)

Paragraph 3.2.7.d – This guidance says that the assumptions and parameters that are used should be “*consistent with one another*”. Better wording would be to borrow from ASOP 43, paragraph 3.6.2 where it says “*The actuary should use assumptions that, in the actuary’s professional judgment, have no known significant bias to underestimation or overestimation of the identified intended measure and are not internally inconsistent.*” This ASOP 43 wording reflects the possibility that some assumptions may have no relation to each other. (The concept of consistency has no meaning with regard to two totally unrelated assumptions.)

Paragraph 3.3 (Mitigation of Model Risk) – I don’t think this paragraph is very applicable to the use of models developed by others. The ASOP should state something to that effect.

Paragraph 3.3.1.c – The guidance regarding peer review seems to be something that is generic and should be in ASOP 1, in a generic ASOP, or in nearly all ASOPs. Has such been considered?

Paragraph 3.4 – This guidance requires discussion of any material changes “since the most recent comparable model results were communicated”. This needs to allow for the possibility that this is not practical or possible. For example, the actuary may not have access to the information from the prior model run if it was performed by someone else and not sufficiently documented.

Paragraph 3.4.2 – This paragraph seems to belong in Section 4, not Section 3, unless it specifies that these “actuarial reports” are related to documentation and not communication.

Paragraph 3.4.4 – This paragraph also implies that the actuary has the authority to add such conservatism, even when such conservatism is not consistent with the project objective. See comment related to paragraph 3.2.7.b.

Paragraph 3.4.4 - With regard to the last sentence of this paragraph, what happens if applicable law only specifies some but not all of the model inputs or methodology? In that case, this wording is unclear.

Paragraph 3.5 – This paragraph suggests that relying on projections or analysis supplied by others is equivalent to relying on data provided by others, hence the actuary should act as if ASOP 23 applies to such projections or analysis. The same logic could be used for the situation where the actuary is using a model developed by others that is outside their expertise, which would supersede (in that situation) some or most of this ASOP. Two questions. First, should this reference to ASOP 23 lead to a rewrite of ASOP 23 (to clarify the scope expansion in ASOP 23 suggested by this paragraph)? Second, should a

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similar reference to ASOP 23 be made for the situation of using a model result supplied by others, or even using a model supplied by others and outside the actuary's expertise (as this seems to be no different from using an analysis or projection supplied by others)?

Paragraph 3.6 – The documentation of material assumptions and parameters seems inappropriate when using a model supplied by others. In most cases, the users would probably be satisfied with just identification of the model used plus the switches applied in running the model (e.g., I used RMS version 11 with long term assumptions).

Paragraph 3.7 – Shouldn't this be covered by ASOP 1?