These comments refer to the draft Actuarial Standard of Practice on the topic of "Modeling," as approved for exposure by the Actuarial Standards Board in June 2013

Thank you for the many hours that went into preparing this exposure draft. Given the broad scope of the ASOP applying to different types of models that will be used for many different purposes, this was an incredibly difficult task. Nearly every actuarial work product involves some type of modeling to produce quantitative estimates.

The following are my responses to questions posed by the Modeling Task Force. Question 1 -Some of the terminology is confusing and not consistent with other ASOPs and other guidance such as SR 11-7 titled Supervisory Guidance on Model Risk Management. For example, ASOPs 23 and 38 do not refer to assumptions as inputs. ASOP 38 uses more common and clear terminology and definitions. ASOPs 46 and 47 use different terminology. New terms such as "neutral" and "realizations" are confusing and not commonly used in practice. With some revisions to the terminology, I believe this exposure draft would provide sufficient guidance.

Question 2 -Yes

Question 3 -Yes

Question 4 -Yes

Question 5 -Did the task force consider combining the documentation guidance into a single section? It is confusing why sometimes documentation is specifically mentioned in some paragraphs and not in others. The documentation guidance is specifically listed in 3.2.4.c, 3.2.4.d, 3.2.5.d, 3.2.7.e, yet there is an entire section 3.6 titled documentation. Are these more important things to document and the others not so important? Why make the reader search five locations to get guidance on documentation?

Question 6 -Yes, bold font is helpful. Might also consider a hyperlink.

I believe the Task Force should give considerable thought to the comments submitted by Tobias E. Bradley. He also has concerns with the general terminology used in the ASOP. The terminology should be as consistent as possible across the ASOPs.

I agree it would be more commonly viewed that assumptions are not inputs in my over thirty years of practice. There should be a distinction between model verification and model validation. The term "outputs or outcomes" is a much more common term than "realizations". The ASOP should be clarified regarding "granularity" and "dimensionality".

I agree that a model is not "implemented" until it is being used. It is common practice to develop multiple models and select a champion model to put into use. Challenger models should not come under the implemented definition in the ASOP.

I agree the term model risk is too narrow as defined. I suggest it be more consistent with ASOPs 46 and 47.

Why not refer to ASOP 38 for guidance as a subset of section 3.1.2?

I agree with others that suggest adding the word "reviewing" to section 1.2. It should also be included each time the actuarial roles are listed. This is consistent with the language in ASOP's 38, 46, and 47.

Thank you for considering my feedback.

Greg Hayward, FCAS, CERA, FCIA, MAAA, CPCU September 28, 2013