Title of Exposure Draft: Proposed Revision of ASOP No. 39 – Treatment of Catastrophe or Extreme Event Losses in Future Cost Estimates for Property/Casualty Risk Transfer and Risk Retention

Comment Deadline: June 1, 2025

Instructions: Please review the exposure draft, and give the ASB the benefit or your recommendations by completing this comment template. Please fill out the tables within the section below, adding rows as necessary. Sample for completing the template provided at the following link: http://www.actuarialstandardsboard.org/email/2020/ASB-Comment-Template-Sample.docx

Each completed comment template received by the comment deadline will receive consideration by the drafting committee and the ASB. The ASB accepts comments by email. Please send to comments@actuary.org and include the phrase 'ASB COMMENTS' in the subject line. Please note: Any email not containing this exact phrase in the subject line will be deleted by our system's spam filter.

The ASB posts all signed comments received to its website to encourage transparency and dialogue. Comments received after the deadline may not be considered. Anonymous comments will not be considered by the ASB nor posted to the website. Comments will be posted in the order that they are received. The ASB disclaims any responsibility for the content of the comments, which are solely the responsibility of those who submit them.

I. Identification:

Name of Commentator / Company
Susan Kent, MAAA, FCAS Vice President, Casualty, American Academy of Actuaries, on behalf of the Casualty Practice Council

II. ASB Questions (If Any). Responses to any transmittal memorandum questions should be entered below.

Question No.	Commentator Response
1.	Does this exposure draft overlook any significant approaches to estimating future costs of catastrophes or extreme events? If so, please explain. No, this exposure draft does not overlook any significant approaches to estimating future costs of catastrophes or extreme events.
2.	Is the guidance regarding scenario analysis clear and sufficient? If not, please explain. No, please see explanation below for recommended changes to the definition of scenario analysis.
3.	Is the guidance regarding reasonableness clear and sufficient? If not, please explain. No. We believe the guidance regarding reasonableness is unnecessary in this ASOP and recommend that it be removed. See our recommendation for 3.11 below.

III. Specific Recommendations:

Section # (e.g. 3.2.a)	Commentator Recommendation (Please provide recommended wording for any suggested changes)	Commentator Rationale (Support for the recommendation)
2. Definitions	Add a definition for Actuarial Report from ASOP 41. *Actuarial Report—An actuarial communication that the actuary issues in writing or another permanent form to support actuarial service.*	Since there is explicit disclosure guidance in section 4 for Actuarial Reports (as opposed to other forms of actuarial communications), this term should be clearly defined to ensure that the actuary understands exactly to what this guidance applies.

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2.1 Catastrophe	Recommend replacing the definition with the following: An **extreme event**, or series of related extraordinary events, such as a natural or man-made **catastrophe**, which may be identified as a "named" **catastrophe** by an individual insurer/reinsurer or an industry-recognized source based on a selected threshold of estimated total economic loss, total insured loss, number of claims, number of casualties, or other criteria. A **catastrophe** may result from **compound events** and may exhibit **contagion**.	Some insurers use number of claims from the same event as a definition of catastrophe and some limit it to a period of time that isn't hours, for example, days or minutes. Entities are free to declare events as catastrophes utilizing their own specified definitions or criteria. Also, we don't believe a specific entity should be named in an ASOP. Additionally, it should be pointed out that a catastrophe may be associated with an extreme event or a series of related extraordinary events and may include compound events.
2.2 Catastrophe Model	Replace with: 2.3 Catastrophe *or Extreme Event* Model—A model of low-frequency events with high-severity or widespread potential effects. **Catastrophe models** *and* ***extreme event models*** may be used to explain a system, study effects of different components, or derive estimates.	Extreme events, including those declared to be a catastrophe, are both generally evaluated by actuaries using models.
2.3 Compound Events	Recommend the following change: 2.3 Compound Events—Individual events *(such as fire following flood, demand surge following a hurricane, or mudslides after wildfires)* that interact to yield outcomes that differ from what would be expected if they occurred with full independence. *A* ***compound event*** *may result from* ***contagion****.*	Provides additional clarification.
2.x Contagion	Recommend adding a definition of Contagion. *2.x Contagion — A dependent, interdependent or causal relationship between different causes of loss in a* ***catastrophe*** *or* ***extreme event****.*	Contagion should be separately defined in this ASOP as it is in the existing ASOP. Contagion is most often associated with viruses and other forms of sickness. It's important to specifically define contagion in this ASOP, however, as it helps further explain losses in a catastrophe or extreme event.
2.4 Extreme Event	Replace definition with the following: *A low-frequency (or low probability) event resulting in high-severity claims, widespread damages or injuries, or extraordinarily large aggregate losses which distorts historical loss experience. An* ***extreme event*** *may result from* ***compound events and may exhibit contagion.***	Should be pointed out that an extreme event may involve compound events. We have recommended that contagion be defined separately.
2.5 Scenario Analysis	Recommend replacing the definition with the following:	Provides additional clarification to the definition and clarifies that in some instances scenario analysis meets the

	A process for assessing the *potential* impact of one possible event, or several *possible events occurring simultaneously or sequentially*, *by considering the possible outcomes of alternative scenarios*. S**cenario analysis** may include a narrative description, numerical calculations or a model, *and may often be considered a model*.	definition of a model. For example, some mass tort, cyber, and other catastrophe or extreme event models started out as scenario analysis and then turned into a model. When it uses 'input', 'processing', or 'output', scenario analysis meets the definition of a model.
3.4 Use of Data and Models	Expand the title to: 3.4 Use of Data*, Models, and Scenario Analysis*	The current title is limited to Use of Data and Models. However, the subsections also apply to Scenario Analysis. For example, in some Scenario Analysis we use 3.4.1 Historical Insurance Data, 3.4.1.5 Differing Trends in Loss Data, 3.4.1.6 Use of Non-Insurance Data, etc.
3.4.1.4 Stability vs. Responsiveness of Outcomes Based on Historical Data	Recommend replacing the definition with the following: The actuary should consider the extent to which the future cost estimates may be impacted by historical **catastrophes*, extreme events***, *or compound event* losses. The actuary should take into account the sensitivity of including or excluding individual **catastrophes** or **extreme events** or sets of years of such events. The actuary should use professional judgment in adjusting the future cost estimates*, such as by selecting **catastrophes, extreme events**, or a period of years that represent the actuary's assessment of the risk of such losses for the applicable future period.*	We don't agree that if the actuary finds that the estimating procedure is too sensitive to the inclusion or exclusion of an event or sets of years, the actuary should always consider modifying the procedure to reduce such sensitivity. If the more recent years better reflect the potential or exposure to loss than prior years, then the actuary will want to use those more recent years without the inclusion of those prior years. We also recommend that the actuary select the appropriate set of years based on type of event, the nature of the type of event, and the experience that the actuary has with this particular type of event.
3.4.1.6 Differing Development in Loss Data	Recommend the following changes: Traditional actuarial loss development techniques may not be appropriate for **catastrophe** or **extreme event** losses. The actuary should take into account the potential for **catastrophe** or **extreme event** losses to *be reported by claimants differently, be handled and settled differently, and* emerge differently from other losses and reflect such differences in the development assumptions and methods as appropriate.	It is not just the development of losses that differ for catastrophe or extreme events from non-catastrophe or non-extreme event claims, but also the different claim reporting patterns and settlement practices, and sometimes other data beyond loss data (for example, defense and cost containment expense). Also, some extreme events have a longer development pattern because of the time for governmental or other municipal entities to work together to eliminate the debris, contamination, and rebuild the infrastructure before rebuilding can occur, and rebuilding of structures and infrastructures often takes longer because of supply issues. Consider expanding to incorporate not just loss development but reporting and emergence.

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3.4.3 Use of Catastrophe Model Output	Recommend the following title: 3.4.3 <u>Use of Output from Models of Extreme Events or Catastrophes</u> Recommend a correction to the referenced sections and the following wording: If the actuary believes the use of historical insurance data (section 3.4.1) and use of non-insurance data (section 3.4.2) do not sufficiently represent.....	We believe the drafters meant sections 3.4.1 and 3.4.2, which immediately precede section 3.4.3. Also, the title of the section should refer to models of both catastrophes as well as extreme events.
3.4.x (new) Use of Scenario Analysis	Recommend the following section be added: *3.4.x Use of Scenario Analysis – The actuary may use **scenario analysis** in the development of future cost estimates for **catastrophes** or **extreme events**.*	Section 3.4 is currently set up to discuss Use of Data and Use of Catastrophe Models, but when a scenario analysis doesn't fall into the definition of a catastrophe model, the considerations related to Use of Data are still important for the scenario analysis. It is also odd to have scenario analysis as an add-on in Section 3.7 as part of Considerations when Evaluating Models, if it doesn't fall into the definition of a model. We would recommend adding a new section to discuss the ability to use scenario analysis.
3.4.4 Blending of Historical Data and Catastrophe Model Output	Recommend the following: 3.4.4 <u>Blending of Historical Data, Catastrophe Models, Extreme Event Models, and Scenario Analysis</u> The actuary may blend historical ~~experience~~ *data, ~~with~~* **catastrophe model** output**, *extreme event model* *output*, *or* *scenario analysis*** when, in the actuary's judgment, *such blending is appropriate for the intended use of the future cost estimates.* Recommend deleting the example.	Recommend adding scenario analysis and deleting the basic and excess example. Also, we made a change to clarify what was meant by reasonable.
3.6 Additional Considerations for Casualty Coverages	Recommend the following title change: *<u>3.6 Additional Considerations</u>* and the following changes: When developing cost estimates for ~~casualty~~ **catastrophes** and **extreme events**, the actuary may use methods other than those described in section 3.3, such as **scenario analysis**, in light of the following challenges: a. ~~Industry~~ *Available* data may exclude relevant losses not covered by insurance in the historical periods. b. Mass tort losses are difficult to predict given ~~their dependence on~~ *their evolving nature, the potential impact of* changing legal interpretation,	The current title limits the additional considerations to Casualty Coverages, when many of the considerations should also apply to Property Coverages, as well as other non-casualty coverages (for example, warranty, title, mortgage guaranty, financial guaranty) that can be affected by extreme events, such as in the financial markets. Consider expanding the title by removing 'Casualty Coverages.' Also, we recommend reordering the list to group similar items together (grouped data items a, c, d, e together to become a, b, c, d) and reworded

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	coverage disputes, government regulations, or ~~and~~ legislative issues. c. ~~Casualty~~ Claims *often have a protracted reporting patterns due to* ~~may be reported after~~ long latency periods. d. Unanticipated risks may emerge after a coverage commitment. *e.* ***Catastrophe models and extreme event models*** *for an emerging risk* in early stages of development *may not be available or* may not provide reliable estimates*.*	former c (new e) to include extreme event models.
3.7 Considerations when Evaluating Models	Recommend the following: 3.7 Considerations when Evaluating Models *and Scenario Analysis* and the following changes: When choosing a **catastrophe model** *or designing a* ***scenario analysis,*** the actuary should ... If, *in the actuary's professional judgment*, models for a particular peril or event are~~, *in the actuary's professional judgment,*~~ not mature, then the actuary ~~should~~ *may* ~~consider~~ review~~ing~~ the results of more than one model or *use* ~~using~~ ~~a~~ ~~deterministic~~ scenario analysis to get better insight into possible future outcomes. The actuary should *consider* ~~*take into account*~~ the following,	Add "Scenario Analysis" to the considerations as they are relevant. Also, recommend striking "deterministic."
3.7.c	Change to: The impact of emerging technology*, emerging available data, and emerging methods.*	Available data and methods used by the model and/or scenario analysis are also considerations when evaluating a model.
3.8 Costs Not Considered in Catastrophe Models	Recommend the following: 3.8 Costs Not Considered in Catastrophe and Extreme Event Models *and Scenario Analyses* – When using a **catastrophe model***, an* ***extreme event model****, or* ***scenario analysis*** to develop the future cost estimates, the actuary *should* ~~assess~~ *consider* whether the model output *or* ***scenario analysis*** ~~*fully*~~ *reflects* the *significant* costs included in the coverage associated with the future cost estimates. If the actuary identifies *significant* costs that are not reflected in model output~~, the~~ *or* ***scenario analysis***, the actuary should consider separately estimating such costs.	These considerations are also true for scenario analysis. We don't think it is reasonable to require a full assessment for such costs not considered by the model, but instead an assessment of those that are significant.
3.10 Impact of Broader Economic Forces	Recommend the following: The actuary should *consider* ~~take into account~~ whether future costs for **catastrophes** or **extreme events** might be affected by broader economic forces such as demand surge caused by temporary supply and demand imbalances, *regulatory or legislative requirements, or*	The example should be expanded to include things other than demand surge to provide additional clarification as to what is meant by this.

	potential changes in future liabilities triggered by a **catastrophe** or **extreme event** *but not adequately accounted for by other means.*	
3.11 Reasonableness	Recommend deleting 3.11 Reasonableness. If you do not delete, then consider this alternative "3.11 Reasonableness. The actuary should refer to ASOP No. 1, Introductory Actuarial Standard of Practice, for reasonableness considerations when developing future cost estimates for **extreme events**."	ASOP No. 1 already indicates that, in many instances, ASOPs call for the actuary to take "reasonable" steps, make "reasonable" inquiries, select "reasonable" assumptions or methods, or otherwise exercise professional judgment to produce a "reasonable" result when rendering actuarial services. There is no need to reiterate the guidance around reasonableness in this ASOP. Also, it is common for frequency and severity of extreme events to be combined and for loss distributions to be implicit, undefined or limited to tail probabilities. Frequency and severity specificity is too limiting.
4.1 Required Disclosures in an Actuarial Report	Recommend the following: d. a description of the methods and assumptions used to i. incorporate historical insurance data, non-insurance data, and ~~catastrophe model~~ output *from* ***catastrophe models****,* ***extreme events****, and* ***scenario analysis*** in the future cost estimate (see sections 3.4 and 3.7); ii. incorporate loss adjustment expenses in the future cost estimate (see section 3.5); iii. produce any **scenario analysis** (see sections 3.6 and 3.7); e. Any other methods used to estimate future costs ~~for casualty coverages.~~	Consider expanding these to include extreme events and not limited to casualty events. There are other non-casualty events to which disclosures should also apply.

IV. General Recommendations (If Any):

Commentator Recommendation (Identify relevant sections when possible)	Commentator Rationale (Support for the recommendation)
Scenario analysis should be considered a type of model, and ASOP should indicate that.	Scenario analysis is generally considered to be a type of model as defined in ASOP No. 56 Modeling.

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V. Signature:

Commentator Signature	Date
Susan Kent, MAAA, FCAS Vice President, Casualty, American Academy of Actuaries, on behalf of the Casualty Practice Council	05/30/2025