



ACTUARIAL STANDARDS BOARD

• THIRD EXPOSURE DRAFT •

**Proposed
Actuarial Standard
of Practice**

**Estimating Future Costs for Prospective
Property/Casualty Risk Transfer and Risk Funding**

**Comment Deadline:
April 30, 2017**

**Developed by the
Ratemaking Task Force of the
Casualty Committee of the
Actuarial Standards Board**

**Approved for Exposure by the
Actuarial Standards Board
December 2016**

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December 2016

TO: Members of Actuarial Organizations Governed by the Standards of Practice of the Actuarial Standards Board and Other Persons Interested in Estimating Future Costs for Prospective Property/Casualty Risk Transfer and Risk Funding

FROM: Actuarial Standards Board (ASB)

SUBJ: Proposed Actuarial Standard of Practice (ASOP), *Estimating Future Costs for Prospective Property/Casualty Risk Transfer and Risk Funding*

This document contains the third exposure draft of the proposed ASOP, *Estimating Future Costs for Prospective Property/Casualty Risk Transfer and Risk Funding* (formerly *Property/Casualty Ratemaking*). Please review this third exposure draft and give the ASB the benefit of your comments and suggestions. Each written response and each response sent by e-mail to the address below will be acknowledged, and all responses will receive appropriate consideration by the drafting committee in preparing the final document for approval by the ASB.

The ASB accepts comments by either electronic or conventional mail. The preferred form is e-mail, as it eases the task of grouping comments by section. However, please feel free to use either form. If you wish to use e-mail, please send a message to **comments@actuary.org**. You may include your comments either in the body of the message or as an attachment prepared in any commonly used word processing format. **Please do not password protect any attachments. If the attachment is in the form of a PDF, please do not “copy protect” the PDF.** Include the phrase “ASB COMMENTS” in the subject line of your message, as any message not containing this exact phrase in the subject line will be deleted by our system’s spam filter. Also, please indicate in the body of the e-mail if your comments are being submitted on your own behalf or on behalf of a company or organization.

If you wish to use conventional mail, please send comments to the following address:

Estimating Future Costs
Actuarial Standards Board
1850 M Street, NW, Suite 300
Washington, DC 20036

The ASB posts all signed comments received to its website to encourage transparency and dialogue. Unsigned or anonymous comments will not be considered by the ASB nor posted to the website. The comments will not be edited, amended, or truncated in any way. Comments will be posted in the order that they are received. Comments will be removed when final action on a proposed standard is taken. The ASB website is a public website, and all comments will be available to the general public. The ASB disclaims any responsibility for the content of the comments, which are solely the responsibility of those who submit them.

Deadline for receipt of responses in the ASB office: **April 30, 2017**

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Background

Estimating future costs for prospective property/casualty risk transfer and risk funding has been a fundamental part of actuarial practice since the beginning of the profession. Estimating future costs based on sound actuarial practice is essential to the integrity of the insurance and risk financing system and is a key to fulfilling the promise embodied in the insurance contract. The board of directors of the Casualty Actuarial Society (CAS) adopted the *Statement of Principles Regarding Property and Casualty Ratemaking (Statement of Principles)* in May 1988 (before the ASB was established). This document featured four fundamental principles of ratemaking and also discussed additional considerations. More recently, the CAS requested that the ASB develop an actuarial standard of practice in the area of property/casualty ratemaking. In its request, the CAS noted that the *Statement of Principles* contained considerations that might be expanded to become the basis of an ASOP.

Ratemaking has become much more complex and sophisticated since the days of the promulgation of the CAS *Statement of Principles*. In crafting this proposed ASOP and responding to comments from its initial exposures, the ASB quickly realized that there are significant differences of opinion within the profession regarding certain aspects of ratemaking, including pricing, price optimization methodologies, and rate filing requirements, that would need to be reconciled before a comprehensive standard of practice on ratemaking could be developed. Therefore, in order to create a standard of practice for the core aspects of ratemaking that could be issued in a reasonable amount of time, the ASB has chosen to develop this proposed ASOP to pertain solely to the development or review of future cost estimates for prospective property/casualty risk transfer and risk funding. It should be noted, however, that upon completion of this proposed ASOP, the ASB will give consideration to the development of a standard of practice on rate filings in an attempt to address the various issues within rate regulatory discussions today (for example, price optimization, unfair discrimination, and the Principles contained in the current CAS *Statement of Principles*).

This draft ASOP incorporates all of the Considerations contained in the CAS *Statement of Principles* and addresses issues related to cost estimating for risk transfer and risk funding not currently addressed in existing ASOPs. This exposure draft also references other existing ASOPs that include relevant issues related to the estimation of future cost estimates for prospective risk transfer and risk funding.

First Exposure Draft

In September 2014, the ASB approved a first exposure draft with a comment deadline of January 31, 2015. Twenty-two comment letters were received and considered in making changes that were reflected in the second exposure draft.

Second Exposure Draft

In December 2015, the ASB approved a second exposure draft with a comment deadline of April 30, 2016. Eighteen comment letters were received and considered in making changes that are

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reflected in this third exposure draft. For a summary of issues contained in these comment letters, please see appendix 2.

Key Issues

In redrafting the proposed standard, the reviewers focused on the following key issues:

1. Clarifying the scope of the proposed ASOP to estimating future costs for prospective property/casualty risk transfer and risk funding and not the preparation of rate filings and the issues related to the interactions between ratemaking, pricing decisions, and rate regulation;
2. Adding a section requiring the actuary to determine and disclose the intended measure for the estimation of all future costs based on the intent or purpose of the future cost estimates; and
3. Adding additional disclosures in section 4 to be consistent with the guidance in section 3.

Request for Comments

The ASB appreciates comments on all areas of this proposed ASOP and would like to draw the reader's attention to the following questions:

1. Does the proposed ASOP provide sufficient and appropriate guidance to actuaries estimating future costs for prospective property/casualty risk transfer and risk funding?
2. The proposed ASOP has added reference to "intended measure" for the estimation of all future costs to eliminate any implication that the only appropriate estimate of all future costs was an expected value without any consideration of potential variability. Is it clear what is meant by "intended measure"?
3. Are the definitions of "risk transfer" and "risk funding" in the proposed ASOP complete from the perspective of all activities in which an actuary is involved when estimating future costs for prospective property/casualty risk transfer and risk funding?
4. Is it clear that this proposed ASOP provides guidance only for the estimation of future costs for prospective property/casualty risk transfer and risk funding? Is it clear that the scope does not include items such as the balancing and interaction of potentially competing objectives related to regulation, business objectives, and actuarial cost estimates?
5. When the role of the actuary is reviewing the estimate of future costs developed by another actuary, is the guidance provided in the proposed ASOP sufficient and clear?
6. Is the level of disclosure required in the proposed ASOP sufficient and appropriate? If the

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response is no, what are the issues?

The ASB voted in December 2016 to approve this third exposure draft.

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The Actuarial Standards Board (ASB) sets standards for appropriate actuarial practice in the United States through the development and promulgation of Actuarial Standards of Practice (ASOPs). These ASOPs describe the procedures an actuary should follow when performing actuarial services and identify what the actuary should disclose when communicating the results of those services.

PROPOSED ACTUARIAL STANDARD OF PRACTICE
ESTIMATING FUTURE COSTS FOR PROSPECTIVE
PROPERTY/CASUALTY RISK TRANSFER AND RISK FUNDING
STANDARD OF PRACTICE

Section 1. Purpose, Scope, Cross References, and Effective Date

- 1.1 Purpose—This actuarial standard of practice (ASOP) provides guidance to actuaries when performing actuarial services with respect to developing or reviewing future cost estimates for prospective property/casualty **risk transfer** and **risk funding**. This includes cost estimations for insurance, reinsurance, self-insurance, risk-funding or retention mechanisms, loss portfolio transfers, or any other risk-transfer mechanism.
- 1.2 Scope—This standard applies to actuaries when performing actuarial services with respect to developing or reviewing future cost estimates (often known as actuarial indications) for prospective property/casualty **risk transfer** and **risk funding**. For example, this standard applies when actuaries are developing future cost estimates underlying product prices, estimating funding requirements for self-insured programs and captives, and developing reinsurance contract prices.

As estimates are often made for separate elements of the cost of **risk transfer** and **risk funding** (for example, loss and loss adjustment expenses, operational and administrative expenses, and the cost of capital) and subsequently summed to a total cost estimate, this standard applies to the separate elements as well as the total. If the actuary's role relates to any of the elements of the future cost estimate, the guidance in this standard applies only to the actuarial services related to those elements. If the actuary's actuarial services involve reviewing future cost estimates developed by another party, the actuary should use the guidance in section 3 as is practicable. This standard also applies to developing or reviewing the future cost estimates by class within a risk classification system.

Actuarial services involved in developing or reviewing estimates of future costs may include actuarial communications, expert testimony, regulatory activities, legislative activities, or statements concerning public policy to the extent these activities involve providing an opinion on property/casualty future cost estimates.

If the actuary departs from the guidance set forth in this standard in order to comply with applicable law (statutes, regulations, and other legally binding authority), or for any other reason the actuary deems appropriate, the actuary should refer to section 4.

- 1.3 Cross References—When this standard refers to the provisions of other documents, the reference includes the referenced documents as they may be amended or restated in the future, and any successor to them, by whatever name called. If any amended or restated document differs materially from the originally referenced document, the actuary should

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consider the guidance in the referenced standard as amended or restated to the extent it is applicable and appropriate.

- 1.4 Effective Date—This standard is effective for work performed on or after six months following adoption by the Actuarial Standards Board.

Section 2. Definitions

The terms below are defined for use in this standard.

- 2.1 Coverage—The terms and conditions of a plan or contract, or the requirements of applicable law, that create an obligation to pay benefits, expenses, or claims associated with contingent events.
- 2.2 Exposure Base—A basic unit that is used to measure the future risk-transfer and risk-funding cost. This unit can vary by element of cost.
- 2.3 Method—A systematic procedure for developing, reviewing, or revising future cost estimates or elements thereof.
- 2.4 Model—A simplified representation of relationships among real world variables, entities, or events using statistical, financial, economic, mathematical, or scientific concepts and equations.
- 2.5 Risk Funding—A mechanism for the assessment, management, and financing of exposure to loss.
- 2.6 Risk Transfer—A risk management and control strategy that involves the contractual shifting of financial exposure to loss from one party to another. Examples of **risk transfer** are seen in the purchase of insurance, reinsurance, loss portfolio transfers, or any other mechanism by which a specified exposure to loss is shifted from one party to another party.

Section 3. Analysis of Issues and Recommended Practices

- 3.1 Future Cost Estimate—The actuary should determine the elements that are appropriate to include in the future cost estimate. Such elements may include, but are not limited to, loss and loss adjustment expenses, operational and administrative expenses, and the cost of capital.
- 3.2 Intended Measure—The actuary should determine the intended measure based on the intent or purpose of the future cost estimate. This intent will be affected by the desires or needs of the principal, legal requirements, and the regulatory environments in which the future cost estimate will be used.

Examples of intended measures include, but are not limited to, the mean, the mean plus risk margin, a range of reasonable outcomes, or a specified percentile of the distribution of possible outcomes. For example, a common intended measure is the mean. There are instances in which other measures may be appropriate based upon the intent or purpose of the estimate.

The actuary should disclose the intended measure used in accordance with section 4.2.

- 3.3 **Organization of Data**—If appropriate data is available, the actuary should determine how data will be organized to develop or review the future cost estimate or any element of the future cost estimate.

For each element, the actuary should select the data aggregation that is appropriate for the type of analysis being performed. Examples of data aggregation may include, but are not limited to, aggregating by accident period, calendar period, policy period, and report period. The nature of the insurance **coverage**, the element of the future cost being estimated, and the type of analysis being conducted will influence the selection of the data aggregation.

The actuary also should consider the level of granularity of data needed for the type of analysis being performed. For example, one level of aggregated data may be appropriate for estimating the overall future cost, whereas more refined data may be appropriate for estimating future costs by class within a risk classification system.

- 3.4 **Data Quality**—The actuary should refer to ASOP No. 23, *Data Quality*, for guidance in the consideration of the choice and use of data for estimating future costs.

- 3.5 **Methods, Models, and Assumptions**—The actuary should select appropriate **methods** or **models** consistent with the intended measure for estimating the future costs or each element of the future cost. The actuary should use reasonable assumptions (including parameters) appropriate to each **method** or **model**. Assumptions may be implicit or explicit and may involve interpreting past data or projecting future trends. The actuary should use **methods** or **models**, along with reasonable assumptions, that, in the actuary's professional judgment, have no known significant bias relative to the intended measure. When using **models**, the actuary should refer to ASOP No. 38, *Using Models Outside the Actuary's Area of Expertise (Property and Casualty)* [Note: revision pending], and any ASOP on modeling that is adopted by the ASB.

- 3.6 **Exposure Base**—If selecting a new **exposure base** or changing an existing **exposure base**, the actuary should take into account various practical requirements. For example, the **exposure base** should bear a strong relationship to the risk-transfer cost or risk-funding cost, as well as be objectively measurable and easily verifiable. To the extent these criteria are in conflict, the actuary should use professional judgment to select an appropriate **exposure base**.

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Some risk-transfer and risk-funding plans may have multiple **exposure bases**, with different **exposure bases** applying to different aspects of **coverage** provided (for example, sales revenue for general liability, amount of insurance for commercial property). In undertaking analyses for these plans, it may be appropriate to designate one **exposure base**, referred to as the composite **exposure base**, to act as a proxy for the more refined coverage-by-coverage **exposure bases**.

- 3.7 Risk Classification System—Risk classification systems are an integral part of the development of future cost estimates for prospective property/casualty **risk transfer** and **risk funding**. The actuary should refer to ASOP No. 12, *Risk Classification (for All Practice Areas)*, for guidance in the design, review, or change of the classification plan.
- 3.8 Use of Historical Data—The actuary should determine the extent to which historical data are available and applicable for estimating future costs. For example, the data should be consistent with insurance policy provisions or risk-management provisions of the applicable self-insurance, risk-funding or retention mechanisms, or any other risk-transfer mechanism.
- 3.8.1 Use of Historical Exposure and Premium Data—If the actuary is using historical exposure and premium data, the actuary should consider adjusting the data to reflect a consistent exposure and rate level, if applicable. These considerations include adjusting historical data to a common exposure level and adjusting premium data for historical changes in how premium charges are calculated, including both changes to manual rates and the impact of any individual risk rating plans. These adjustments should consider changes during and after the historical period. The actuary should select an appropriate **method** for adjustments that is consistent with the nature of the available data, the intended measure, and the purpose of the analysis.
- 3.8.2 Use of Historical Loss and Loss Adjustment Expenses—The actuary should determine the extent to which historical loss and loss adjustment expenses are available and applicable as a basis for estimating future costs. In determining the future costs related to loss and loss adjustment expenses, the actuary should consider adjusting historical data using **methods** or **models**, along with reasonable assumptions, that, in the actuary’s professional judgment, reflect the ultimate value of the loss and loss adjustment expenses. The actuary should also consider the **coverage** being evaluated, the type of analysis (such as overall future cost level analysis or risk classification analysis), the historical period and conditions in which the claims occurred, and the underlying claim adjustment and reserving process.

The actuary should consider whether the analysis of loss adjustment expense data requires different **methods**, **models**, or assumptions than the analysis of loss data. Additionally, different **coverages** within a line of business may require different **methods**, **models**, or assumptions.

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- 3.8.3 Additional Adjustments to Historical Data—The actuary should consider additional adjustments to the historical data needed to reflect the environment expected to exist in the period for which the future costs are being estimated. These adjustments may include, but are not limited to, the following:
- a. judicial, legislative, or regulatory changes;
 - b. mix of business changes;
 - c. policy contract changes;
 - d. claim practice or reserving changes;
 - e. operational changes;
 - f. accounting changes; and
 - g. reinsurance changes.
- 3.8.4 Trends—The actuary should consider past and prospective changes in claim costs, claim frequencies, exposures, and premiums. The actuary should refer to ASOP No. 13, *Trending Procedures in Property/Casualty Insurance*, for guidance in the selection of trends for estimating future values of costs associated with the elements that make up the future cost estimate.
- 3.9 Expenses—The actuary should refer to ASOP No. 29, *Expense Provisions in Property/Casualty Insurance Ratemaking*, and ASOP No. 13 for guidance in estimating future expenses.
- 3.10 New Coverages or Exposures—If the actuary is estimating the future cost for a **coverage** or exposure, and the historical loss and loss adjustment expenses are either unavailable, limited, or not fully representative of the **coverage** or exposure, the actuary should consider the following in selecting data and developing **methods**, **models**, or assumptions for use in estimating the future costs:
- a. data from **coverages** or exposures that are similar to the new **coverage** or exposure;
 - b. data on the phenomenon or events that are contemplated by the new **coverage** or exposure;
 - c. differences between **coverages** or exposures with available relevant data and the new **coverage** or exposure; and
 - d. appropriate adjustments to the available relevant data to reflect expected differences identified in section 3.10(c).

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- 3.11 Credibility—The actuary should refer to ASOP No. 25, *Credibility Procedures*, for guidance in considering the credibility given to a particular set of data and the selection of the relevant experience used to supplement the data, which is often referred to as the complement of credibility.
- 3.12 Modeling—The actuary should refer to any ASOP on modeling that is adopted by the ASB for guidance in the consideration of **models** used for estimating future costs.
- 3.13 Treatment of Catastrophes—The actuary should refer to ASOP No. 38 [Note: revision pending] and ASOP No. 39, *Treatment of Catastrophe Losses in Property/Casualty Insurance Ratemaking*, for guidance in the consideration of catastrophes.
- 3.14 Treatment of Unusual Events—The actuary should refer to ASOP Nos. 23, 25, 38, and 39 for guidance in the consideration of other unusual events, such as large individual losses.
- 3.15 Reinsurance—When reinsurance is reflected in future cost estimates, the actuary should select appropriate **methods** or **models**, along with reasonable assumptions, for estimating the cost associated with reinsurance arrangements expected to exist during the period for which the future costs are being estimated. If the cost of reinsurance is treated as an expense, the actuary should refer to ASOP No. 29 for additional guidance.
- 3.16 Profit and Contingency Provisions and the Cost of Capital—The actuary should refer to ASOP No. 30, *Treatment of Profit and Contingency Provisions and the Cost of Capital in Property/Casualty Insurance Ratemaking*, for guidance in the consideration of the profit and contingency provisions and the cost of capital.
- 3.17 Additional Funding Sources—In some risk-transfer systems, income may come from other sources, such as assessments to policyholders or other parties including insurers, a larger group of insurance purchasers, or taxpayers. The actuary should consider additional sources of funding and their allocation and timing when estimating future costs.

Section 4. Communications and Disclosures

- 4.1 Actuarial Communications—When issuing actuarial communications under this standard, the actuary should refer to ASOP Nos. 12, 13, 23, 25, 29, 30, 38, 39, and 41, *Actuarial Communications*. In addition, the actuary should disclose the following in an appropriate actuarial communication:
 - a. the elements included in the future cost estimates (see section 3.1);
 - b. the intended measure used in developing or reviewing the future cost estimates (see section 3.2);

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- c. the **methods** or **models** used in developing or reviewing the future cost estimates (see section 3.5); and
- d. the assumptions used in developing or reviewing the future cost estimates (see section 3.5).

4.2 Disclosures—The actuary should also include the following in an actuarial communication, if and when applicable:

- a. if appropriate data is available for the analysis, the actuary should disclose the data organization used for each element (see section 3.3);
- b. if the actuary selects a new **exposure base** or changes an existing **exposure base**, the actuary should disclose the new or revised **exposure base** (see section 3.6);
- c. if the actuary uses historical data, the actuary should disclose any adjustments made to the historical data (see section 3.8);
- d. if the actuary estimates future costs for a **coverage** or exposure with unavailable, limited, or not fully representative historical data, the actuary should disclose the data used and any appropriate adjustments made to the data (see section 3.10);
- e. when reinsurance is reflected in future cost estimates, the actuary should disclose the **methods** or **models**, along with the assumptions, used in estimating the costs of reinsurance (see section 3.15);
- f. if the actuary considers additional sources of funding, the actuary should disclose how the funding was reflected in estimating the future cost (see section 3.17);
- g. the disclosure in ASOP No. 41, section 4.2, if any material assumption or **method** was prescribed by applicable law;
- h. the disclosure in ASOP No. 41, section 4.3, if the actuary states reliance on other sources and thereby disclaims responsibility for any material assumption or **method** selected by a party other than the actuary; and
- i. the disclosure in ASOP No. 41, section 4.4, if, in the actuary's professional judgment, the actuary has otherwise deviated materially from the guidance of this ASOP.

Appendix 1

Background and Current Practices

Note: This appendix is provided for informational purposes and is not part of the standard of practice.

Background

Cost estimation, ratemaking, and risk funding have been a fundamental part of actuarial practice since the beginning of the profession. A critical piece of these professional activities is the estimation of future costs.

Ratemaking principles and standards of practice are important to protect the soundness of the system, permit economic incentives to operate, and thereby encourage widespread availability of coverage. The board of directors of the Casualty Actuarial Society (CAS) adopted the *Statement of Principles Regarding Property and Casualty Ratemaking* in May 1988. The *Statement of Principles* has served as a foundational source of information regarding future cost estimation and ratemaking, providing both principles and considerations. Several actuarial standards of practice (ASOPs) issued by the Actuarial Standards Board are also important in future cost estimation, including the following:

- ASOP No. 12, *Risk Classification (for All Practice Areas)*;
- ASOP No. 13, *Trending Procedures in Property/Casualty Insurance*;
- ASOP No. 23, *Data Quality*;
- ASOP No. 25, *Credibility Procedures*;
- ASOP No. 29, *Expense Provisions in Property/Casualty Insurance Ratemaking*;
- ASOP No. 30, *Treatment of Profit and Contingency Provisions and the Cost of Capital in Property/Casualty Insurance Ratemaking*;
- ASOP No. 38, *Using Models Outside the Actuary's Area of Expertise (Property and Casualty)* [Note: Revision pending];
- ASOP No. 39, *Treatment of Catastrophe Losses in Property/Casualty Insurance Ratemaking*;
- ASOP No. 41, *Actuarial Communications*; and
- Proposed ASOP on modeling

Current Practices

Over the years, a multitude of methods and models for the estimation of future costs have been designed, put into use, and modified as a result of experience. Materials and publications of the CAS such as the *Syllabus of Basic Education* (formerly the *Syllabus of Examinations*), *Variance, Proceedings* (discontinued in 2014), *Foundations of Casualty Actuarial Science*, *Ratemaking and Ratemaking/Product Management Seminar* archives, and others provide discussions of current practices. While these may provide useful educational guidance to practicing actuaries, none is an actuarial standard of practice.

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Throughout our history as a profession, actuarial future cost estimates have not always been the sole basis for rates and prices in risk-transfer or risk-funding transactions. For example, important other influences may include regulatory requirements and business objectives. Such other influences may support or compete with actuarial future cost estimates in deciding upon final rates and prices.

The increased availability of data and advances in technology, tools, techniques, and learnings from other disciplines have resulted in continued evolution of methods and models for the estimation of future costs. Innovation and use of new data and technologies will continue.

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Appendix 2

Comments on the Exposure Draft and Responses

The second exposure draft of this proposed ASOP, *Estimating Future Costs for Prospective Property/Casualty Risk Transfer and Risk Funding* (previously *Property/Casualty Ratemaking*), was issued in December 2015 with a comment deadline of April 30, 2016. Eighteen comment letters were received, some of which were submitted on behalf of multiple commentators, such as by firms or committees. For purposes of this appendix, the term “commentator” may refer to more than one person associated with a particular comment letter. The Ratemaking Task Force carefully considered all comments received, reviewed the exposure draft, and proposed changes. The Casualty Committee and the ASB reviewed the proposed changes and made modifications where appropriate.

Summarized below are the significant issues and questions contained in the comment letters and responses.

The term “reviewers” in appendix 2 includes the Ratemaking Task Force, the Casualty Committee, and the ASB. Also, unless otherwise noted, the section numbers and titles used in appendix 2 refer to those in the second exposure draft.

GENERAL COMMENTS	
Comment	One commentator noted that the title of the actuarial standard of practice references “ratemaking,” and that “rate” is generally understood to refer to a measure per unit exposure and “ratemaking” to refer to development of consideration for coverage between counterparties in an insurance contract. The commentator also noted that the scope includes funding for mechanisms such as loss portfolio transfers and self-insurance, which do not necessarily comport with the use of that term. The commentator recommended considering changing the title to indicate that the proposed ASOP applies to ratemaking and other prospective risk transfer/risk financing estimates.
Response	The reviewers agree that the terms “rate” and “ratemaking” could be too limiting given the breadth of the scope. For this and other reasons, the title of the proposed ASOP was changed to <i>Estimating Future Costs for Prospective Property/Casualty Risk Transfer and Risk Funding</i> .
Comment	Several commentators expressed concern with the relationship between this proposed ASOP and the <i>Statement of Principles Regarding Property and Casualty Ratemaking</i> of the Casualty Actuarial Society (CAS). The commentators said that there are elements of the <i>Principles</i> that need to be included either in the <i>Principles</i> or in this proposed ASOP.
Response	This proposed ASOP has been developed to incorporate the Considerations contained in the <i>Statement of Principles</i> . This proposed standard was intentionally drafted not to address the <i>Principles</i> . This draft ASOP also addresses issues related to cost estimating for risk transfer and risk funding not currently addressed in existing ASOPs. Upon completion of this proposed ASOP, the ASB will give consideration to the development of an ASOP on rate filings in an attempt to address the various issues within rate regulatory discussions today (for example, price optimization, unfair discrimination, and the <i>Principles</i> contained in the current CAS <i>Statement of Principles</i>).

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Comment	Several commentators expressed concern that the proposed ASOP did not provide guidance for actuaries involved in the preparation of rate filings. These commentators expressed the belief that the ASOP should address rate filings and the issues related to the interactions between ratemaking, pricing decisions, and rate regulation.
Response	The reviewers disagree with expanding the scope of the standard to include preparation of rate filings and the issues related to the interactions between ratemaking, pricing decisions, and rate regulation. In addition, the development of future cost estimates are not limited to rate filings. Upon completion of this proposed ASOP, the ASB will give consideration to the development of an ASOP on rate filings in an attempt to address the issues expressed by the commentator.
Comment	One commentator noted that the difference between rate and price is unclear, and that there are instances in the estimating of risk-transfer and risk-retention costs where the term “rate” does not make sense. If the intent is to have the proposed ASOP apply to these situations, it should not refer to a “rate.”
Response	The reviewers agree that the terms “rate” and price could be confusing when speaking of risk-transfer and risk-retention costs. This confusion is one of the reasons for the change in title and scope from “ratemaking” to “estimating future costs for prospective risk transfer and risk funding.”
TRANSMITTAL MEMORANDUM QUESTIONS	
Question 1: Are there any conflicts between the proposed ASOP and existing practices?	
Comment	Several commentators stated that there were no conflicts between the proposed ASOP and existing practices.
Comment	Two commentators noted that the fairly strict construct of a rate being “per exposure unit” potentially conflicts with current practices, where rates are developed as flat charges, which is common for some types of reinsurance where there is no exposure unit.
Response	The reviewers note that some analysis of the potential future costs relative to some aspect of exposure to loss would be necessary before the flat charge could be determined, and therefore made no change in response to this comment.
Comment	One commentator stated that the draft does not provide guidance when the purpose of the ratemaking services is pricing, as opposed to costing. The commentator suggested that the proposed ASOP address the different intended purposes of ratemaking actuarial services, including pricing and costing.
Response	The reviewers agree that the proposed ASOP does not provide guidance on pricing and note that the scope is limited to the estimation of future costs. The reviewers limited the scope of this proposed ASOP to estimating future costs for risk transfer and risk funding, sometimes referred to as the indication process, which is a foundational element of ratemaking. Pricing is a complex process often subject to many factors beyond the scope of this proposed ASOP.
Question 2: This standard is proposed to be effective for work “performed on or after” four months following the adoption of the standard. Does this language appear to create any undue burden?	
Comment	Three commentators expressed concern that the language could prove to be a problem, particularly if there were any delays in the process, either in the preparation or review of material, particularly if the review involved a regulatory filing. One commentator suggested that the language be changed to “actuarial services initiated X months after the standard is adopted.”
Response	The reviewers recognize the concern and adjusted the timeframe to 6 months.

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Question 3: Is it clear that this ASOP does not provide any guidance on the use of what is generally referred to as “price optimization,” which relates to the company’s decisions in determining price?	
Comment	Several commentators stated that it was clear that this proposed ASOP does not provide guidance on price optimization.
Comment	One commentator expressed concern that the removal of the term “expected” from the definition of “rate” makes it unclear whether the guidance applies to “price optimization.” The commentator wrote that some practitioners of price optimization have explained the process (in the U.S.) as selecting an estimate(s) from the analysis that best fits their business needs. If the “rate” is only an estimate, the decision regarding which estimate to use may be included under some definitions of price optimization and would still be covered by this proposed ASOP. The commentator said that reinstating the term “expected” would make it clear that the “rate” is measuring the expected value or mean point estimate, and that the selection of an estimate other than the expected value would be market driven and not guided by this proposed ASOP.
Response	The reviewers note that although this third exposure draft of the proposed ASOP removes reference to “expected” cost, it states that “the actuary should identify and disclose the intended measure used in developing or reviewing future cost estimates.” This proposed ASOP is limited to cost estimation and does not recommend any practices with respect to price selection. In addition, the definition of “rate” has been removed from the proposed ASOP.
Question 4: The task force eliminated the reference to “expected” value of all future costs to eliminate the possible confusion that the only appropriate estimate of all future costs was a mean value without any consideration of potential variability. Is this change appropriate? Does this change lead to confusion about what is being estimated?	
Comment	Several commentators stated that the change did not lead to any confusion about what was being estimated.
Comment	Several commentators noted that the removal of “expected value” could lead to confusion about what was being estimated unless the proposed ASOP required the actuary to disclose an “intended measure” for the estimate.
Response	The reviewers agree that removing the term “expected value” without requiring the actuary to state the basis for the estimation of future costs would cause confusion. The reviewers redrafted the proposed ASOP to include wording pertaining to the identification and disclosure of the intended measure.
Comment	One commentator felt that the change made sense but suggested expanding the list of items outside the scope to include pricing for variability that may not be fully reflected in the cost of capital.
Response	The reviewers note that this is an example of some of the complexities that arise in pricing, which is one of the reasons the reviewers have restricted the scope to the estimation of future costs. In addition, the reviewers deleted the list of items excluded from the scope and therefore did not make a change in response to this comment.
Question 5: Is it clear within the definition of ratemaking, section 2.8, that the ASOP provides guidance regarding the estimation of future costs at more refined levels than the aggregate?	
Comment	Three commentators stated that it was unclear what was intended by estimation of future costs at more refined levels than the aggregate.
Response	The definition of ratemaking has been deleted, but the reviewers clarified the language elsewhere to refer to estimates of future cost at a class level within a risk classification system.

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Comment	One commentator noted that varying phrases such as “subset of the elements of the rate,” “costs at a more refined level than the aggregate,” and “underlying levels of the estimate of future cost” are used throughout the draft, and that it was unclear whether the intention of each of these is the same or different.
Response	The reviewers modified the language to use the word “element” consistently to refer to different kinds of costs (for example, loss and loss adjustment expenses, operational and administrative expenses, and the cost of capital). Although section 2.8 (the definition of ratemaking) was deleted, the reviewers clarified in the scope that the standard also applies to developing or reviewing the future cost estimate by class within a risk classification system.
Question 6: Is it clear that this ASOP applies to elements of the rate, such as loss costs developed by advisory organizations such as ISO, NCCI, and AAIS?	
Comment	The commentators were divided on how clear this point was. Three commentators said that it was clear, but another three said that it was not as clear as it could be and suggested adding loss costs to the list of items that are elements of the estimate of future costs.
Response	The reviewers note that the second exposure draft applied to ratemaking and that loss costs are clearly an element of a rate. However, since the reviewers revised the proposed ASOP to apply to the estimation of future costs, the elements are, for example, loss and loss adjustment expenses, operational and administrative expenses, and the cost of capital.
SECTION 1. PURPOSE, SCOPE, CROSS REFERENCES, AND EFFECTIVE DATE	
Section 1.2, Scope	
Comment	Three commentators suggested deleting “...while the actuary may play a key role in the company’s decisions in determining the price charged after taking into account other considerations, such as marketing goals, competition, and legal restrictions, this standard does not address the other considerations...”, as the scope clearly states that the standard is limited to the estimation of future costs. The commentator said that including this sentence could be understood to endorse the inclusion of certain other elements such as price optimization.
Response	The reviewers agree and deleted this sentence.
Comment	One commentator suggested that the proposed ASOP provide guidance for pricing as well as ratemaking. The commentator stated that the proposed ASOP should be more specific to be useful for ratemaking in the context of rate filings and compliance with rate laws and regulation. The commentator said that without this additional element, limiting the scope to the estimation of costs does not meet the needs of the actuary or the regulator for rate filings. The commentator also noted that market goals, competition, and legal restrictions are reflected in many rate filings and therefore should not be beyond the scope of this proposed ASOP.
Response	The reviewers agree that open questions remain about the relationship between prospective cost estimates and rate filings and have limited the scope of this proposed ASOP to estimating future costs for prospective property/casualty risk transfer and risk funding. The preparation of rate filings and pricing exercises are complex processes that are subject to a myriad of issues, including jurisdictional variation, line of business differences, and influences beyond the scope of this proposed ASOP. In addition, not all future cost estimates are submitted as part of a rate filing.
Comment	One commentator said that the reference in the second sentence to a “subset of elements” was vague and suggested clarifying that these elements were not necessarily simple elements.
Response	The reviewers agree and added examples to clarify the meaning of the word “element” and eliminated “subset of the elements.”

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Comment	One commentator noted that the section mentions the “actuary’s role” and suggested that, since this is a standard of practice, it would be more appropriate to refer to “the actuary’s professional services.”
Response	The reviewers agree and revised the language to refer to the actuary’s actuarial services.
Comment	One commentator suggested that the reference to “company’s decisions in determining price” should be broader than just “company’s decisions.”
Response	The reviewers agree and deleted this paragraph.
Comment	One commentator suggested that the language “this standard is limited to the estimations of future costs” appears to contradict other sentences in the scope that explicitly include reviewing and evaluation.
Response	The reviewers agree and use “developing or reviewing” in place of “estimating” where more clarity and emphasis is needed.
SECTION 2. DEFINITIONS	
<p>The changes made to this proposed ASOP in response to comments resulted in the deletion of several terms that were defined in the second exposure draft. The reviewers appreciate the time commentators took to compose comments on these terms, but since the terms do not appear in the current draft, the reviewers will not respond to each one separately. The following terms were deleted:</p> <ul style="list-style-type: none"> • Experience Rating (section 2.2) • Premium (section 2.6) • Rate (section 2.7) • Ratemaking (section 2.8) • Retrospective Rating (section 2.9) • Schedule Rating (section 2.10) 	
Section 2.1, Coverage	
Comment	One commentator suggested that the term “claim payment” is too restrictive and should be changed to “payments for benefits, expenses, or claims.”
Response	The reviewers agree and revised the language to eliminate claim payment and changed the section to read “to pay benefits, expenses, or claims....”
Section 2.3, Exposure Base (now 2.2)	
Comment	Three commentators noted that the phrase “the basic unit” may be inappropriate as there are instances where the exposure measure may not be unique because two or more elements may have different units that are proportional to the propensity for loss.
Response	The reviewers agree and revised the definition to reflect that the unit chosen may vary by element of cost.
Section 2.4, Method (now 2.3)	
Comment	One commentator objected to the word “systematic” with respect to the procedure, as it appears to impose a requirement without any explanation of what the requirement might be. The commentator suggested that “systematic” be replaced by “defined” or a similar word.
Response	The reviewers note that “systematic” is not restrictive but rather descriptive of a process that is ordered and not ad hoc, and therefore made no change in response to this comment.

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Section 2.5, Model (now 2.4)	
Comment	One commentator said that the word “phenomenon” was inappropriate based on the word’s popular usage to describe an extraordinary event. The commentator suggested that the phrase “real-life situation” would be more appropriate.
Response	The reviewers agree, eliminated the word “phenomenon,” and further revised the language to be similar to that being considered in the draft modeling ASOP.
Comment	One commentator noted that this section may need to be revised, depending on the outcome of the proposed modeling ASOP, and suggested adding a note similar to the one in section 3.11. The commentator also said that the definition of model used here should be consistent with the definition used in the modeling ASOP.
Response	The reviewers generally agree and included language similar to that being considered in the draft modeling ASOP.
SECTION 3. ANALYSIS OF ISSUES AND RECOMMENDED PRACTICES	
Section 3.1, Introduction (now Future Cost Estimate)	
Comment	Two commentators said that the proposed ASOP should add that the actuary should identify the “intended measure” or “intended purpose” in considering all the costs associated with the elements that make up the rate.
Response	The reviewers agree and added section 3.2, Intended Measure.
Comment	Two commentators said that the use of the phrase “should” in the second sentence as in “such elements should include, but are not limited to, loss and loss adjustment expenses, operational and administrative expenses and the cost of capital” was too prescriptive and should be replaced with “may.”
Response	The reviewers agree and made the change.
Comment	One commentator noted that the actuary should also “disclose the costs that make up the rate” since, as currently written, the draft requires the actuary only to identify and consider the various cost elements.
Response	The reviewers agree and expanded the disclosures in section 4 to correspond to the guidance in section 3.1.
Section 3.2, Organization of Data (now 3.3)	
Comment	One commentator noted that throughout the proposed ASOP terms such as component, element, or portion of the rate are used seemingly interchangeably. The commentator said that if they are interchangeable, it should be made clear; if not, consistent wording should be adopted.
Response	The reviewers agree, eliminated the use of “component” and “portion,” and made changes to use the word “element” more consistently.
Comment	One commentator suggested adding “element of the rate being estimated” in the second paragraph as another influence on the selection of the data aggregation method.
Response	The reviewers agree and modified the language.

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Comment	One commentator noted that, as drafted, the section presumes that data will be used to estimate the rate. Given that there are situations (per section 3.9) where historical actual data may not be available, the commentator suggested that section 3.2 include the following introduction: “If the actuary plans to use historical insurance data...”
Response	The reviewers agree and included the following introduction: “If appropriate data is available....”
Comment	One commentator noted that the language “there are several acceptable methods” does not supply the actuary with sufficient guidance. The commentator suggested “...the actuary should consider which aggregation method is appropriate. Examples of such aggregation methods may include, but are not limited to....”
Response	The reviewers agree and made the change.
Comment	One commentator suggested several editorial clarifications regarding the phrases “element,” “level of granularity,” and “overall rate.”
Response	The reviewers agree and made several clarifying changes.
Section 3.4 Methods, Models, and Assumptions (now 3.5)	
Comment	One commentator said that the language regarding the selection of methods, models, and assumptions for estimating future costs of the components should state that these methods, models, and assumptions must be consistent with the intended measure.
Response	The reviewers agree and made the change.
Comment	One commentator said that the reference to methods and models should be changed to methods or models to avoid the interpretation that the actuary must always select methods and models. The commentator suggested that the phrase “methods, models, and assumptions” should be revised to “methods, models, or assumptions” for the same reason.
Response	The reviewers revised the language to use “or” in order to convey that the actuary may consider one (methods or models) or both (methods and models).
Comment	One commentator suggested that the phrase “no known significant bias to underestimation or overestimation and are not internally inconsistent” was awkward and should be replaced with language that is more familiar to practitioners, such as “that produce rates that are not excessive, inadequate, or unfairly discriminatory.”
Response	The reviewers agree that the phrase was awkward and revised the language.
Comment	One commentator suggested including language like “relative to the intended measure of the future costs estimate.”
Response	The reviewers agree and modified the language.
Comment	One commentator said that the lack of any reference in this section (or elsewhere in this proposed ASOP) to actuarial soundness of the cost estimates was a deficiency that needed to be addressed either explicitly or by reference to ASOP No.1, <i>Introductory Standard of Practice</i> .
Response	Given the scope of this standard, the reviewers believe that reference to actuarial soundness is not needed, and therefore made no change in response to this comment.

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Section 3.5, Exposure Base (now 3.6)	
Comment	Two commentators suggested changing “a strong relationship to the risk transfer cost” to “the exposure base may reasonably be assumed to be proportional to the propensity for loss” or “is a reasonable basis as a scaling factor for risk transfer costs.”
Response	The reviewers believe that the suggested language is not sufficiently broad and therefore made no change.
Comment	One commentator noted that the language “for the ratemaking exercise” could be misunderstood as some sort of optional exercise. The commentator suggested a change to “when performing professional actuarial services.”
Response	The reviewers agree that “for the ratemaking exercise” was potentially misleading and removed it.
Comment	One commentator noted that the current language seems to preclude situations in which it may be appropriate to have multiple exposure bases for future costs estimates given the nature of the costs being estimated.
Response	The reviewers believe the second paragraph of this section, which says that “Some risk-transfer and risk-funding plans have multiple exposure bases, with difference exposure bases applying to different aspects of coverage provided” recognizes the fact that, in estimating future costs, it may be appropriate to use multiple exposure bases. The reviewers therefore made no change.
Section 3.6, Risk Classification System (now 3.7)	
Comment	One commentator suggests adding language that identifies off-balancing as a concept the actuary should consider when making changes to a class system.
Response	The reviewers believe the suggested language is too prescriptive for the level of guidance needed in the proposed ASOP and made no change.
Section 3.7.1, Use of Historical Exposure and Premium Data (now 3.8.1)	
Comment	Three commentators suggested that the language in section 3.7.1 should be made consistent with the advice given in section 3.7.2. They suggested that “the actuary should adjust historical” should be modified to “the actuary should consider adjusting historical.”
Response	The reviewers agree and made the change.
Comment	One commentator suggested changing “the method of adjustment is often dictated by the nature of the data collected and the purpose of the analysis” to “the actuary should select an appropriate approach for adjustments that considers the nature of the data available....”
Response	The reviewers agree and added “intended measure” after “nature of the data.”
Section 3.7.2, Use of Historical Loss and Loss Adjustment Expenses (now 3.8.2)	
Comment	One commentator suggested adding “and reserving” to the last sentence of the first paragraph so that it would read “the underlying claims adjustment and reserving process.”
Response	The reviewers agree and made the change.
Comment	One commentator suggested that the phrase “methods and models” was too narrow and that it should be changed throughout this section to “assumptions, methods, or models” to reflect a broader concept.
Response	The reviewers revised the language to use “or” to convey that the actuary may consider one (methods or models) or both (methods and models).

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Comment	One commentator suggested that the language “adjusting historical data using methods and models that...reflect the potential for future development of loss and loss adjustment expense” could be misinterpreted and proposed “adjusting historical data using methods and models that ... reflect the ultimate value of the loss.”
Response	The reviewers agree and clarified the language.
Section 3.7.3, Additional Adjustments to Historical Data (now 3.8.3)	
Comment	One commentator suggested changing the last sentence of the introductory paragraph to include the word “may,” so that it would read “these adjustments may include, but are not limited to” as not all items will always need to be included.
Response	The reviewers agree and made the change.
Comment	One commentator suggested deleting the phrase “that impact expenses” from item (e), as none of the other items are limited to such a degree.
Response	The reviewers agree and made the change.
Section 3.9, Ratemaking for New Coverages or Exposures (now 3.10, New Coverages or Exposures)	
Comment	One commentator suggested adding a reference to ASOP No. 38, <i>Using Models Outside the Actuary’s Area of Expertise</i> , to this section because when pricing new products with limited/no data, the actuary may often need to rely on non-traditional ways of using information that may be outside the actuary’s field of expertise.
Response	The reviewers agree and added a reference to ASOP No. 38 to section 3.5, Methods, Models, and Assumptions.
Comment	One commentator suggested that in sections 3.9(a), and 3.9(b), the phrase “data” should be expanded to “data, models, and assumptions” as “data” alone fails to recognize the common situations in which data on phenomena or events is likely to be scarce and in which models and assumptions are used in lieu of data.
Response	The reviewers agree and made changes in the introduction to this section.
Section 3.10, Credibility (now 3.11)	
Comment	One commentator suggested adding language to this section to clarify that ASOP No. 25, <i>Credibility Procedures</i> , also provides guidance related to selecting the complement of credibility (i.e., relevant experience), which is an equally important aspect within the ratemaking process.
Response	The reviewers agree and made the change.
Section 3.14, Reinsurance Provisions (now 3.15, Reinsurance)	
Comment	One commentator suggested that the limitations on selecting appropriate “methods or models” is too narrow and may prove to be restrictive. The commentator suggested modifying the phrase to “assumptions, methods, or models,” which reflects a broader concept.
Response	The reviewers agree and modified the language to include reference to assumptions as well.

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Section 3.15, Profit and Contingency Provisions and the Cost of Capital (now 3.16)	
Comment	One commentator suggested adding language to clarify that ASOP No. 30, <i>Treatment of Profit and Contingency Provisions and the Cost of Capital in Property/Casualty Insurance Ratemaking</i> , also provides guidance related to discounting cash flows to be used in the ratemaking process.
Response	The reviewers believe that a reference to ASOP No. 30 is sufficient, and therefore made no change in response to this comment.
Section 3.16, Additional Funding Sources (now 3.17)	
Comment	One commentator suggested changing “take into account” to “should consider.”
Response	The reviewers agree and made the change.
Section 3.17, Impact of Individual Risk Rating (deleted)	
Comment	One commentator suggested that the language “should reflect” is not well understood and that “should consider” would be clearer.
Response	The reviewers eliminated this section, moved the language regarding individual risk rating to section 3.8.1, and used “should consider.”