ACTUARIAL STANDARDS BOARD

● SECOND EXPOSURE DRAFT ●

Proposed
Actuarial Standard
of Practice

Capital Adequacy Assessment for Insurers

Comment Deadline:
March 1, 2018

Developed by the
Enterprise Risk Management Committee of the
Actuarial Standards Board

Approved for Exposure by the
Actuarial Standards Board
September 2017

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September 2017

TO: Members of Actuarial Organizations Governed by the Standards of Practice of the Actuarial Standards Board and Other Persons Interested in Capital Adequacy Assessment

FROM: Actuarial Standards Board (ASB)

SUBJ: Proposed Actuarial Standard of Practice (ASOP), *Capital Adequacy Assessment for Insurers*

This document contains the second exposure draft of a proposed actuarial standard of practice titled *Capital Adequacy Assessment for Insurers*. Please review this exposure draft and give the ASB the benefit of your comments and suggestions. Each response 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. Please note: 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:

Capital Adequacy Assessment for Insurers
Actuarial Standards Board
1850 M St. NW, Suite 300
Washington, DC 20036-5805

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: **March 1, 2018**

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Background

When the Actuarial Standards Board's Enterprise Risk Management (ERM) Task Force (now Committee) started work on ASOP No. 46, *Risk Evaluation in Enterprise Risk Management*, and ASOP No. 47, *Risk Treatment in Enterprise Risk Management*, it was intended that those standards would, in addition to providing general guidance to actuaries performing ERM work, provide support as building blocks for a standard on actuarial opinions regarding the still-developing own risk and solvency assessment (ORSA) process.

Starting in 2012, insurance regulators began implementing the ORSA process throughout the world. Specifically, the ORSA process is a part of the Insurance Core Principles (ICP) set out by the International Association of Insurance Supervisors (IAIS) and required by most U.S. states. A key feature of ORSA is that it requires a formal assessment of capital adequacy be a part of an insurer's ERM program. However, what is included in a capital adequacy assessment varies significantly across the industry. Given the disparity in current practices, the ASB determined that a separate ASOP covering capital adequacy assessments was needed to supplement ASOP Nos. 46 and 47.

In addition to satisfying regulatory requirements, risk-taking enterprises will, on occasion, want to assess their capital adequacy. The purpose of this proposed standard is to provide additional guidance specifically to actuaries preparing an assessment of capital adequacy, whether for a specific regulatory requirement or for general management purposes.

The ASB released an exposure draft of this ASOP in September 2016 with a comment deadline of January 31, 2017. Nine comment letters were received and considered in developing modifications that are reflected in this draft. For a summary of the issues contained in these comment letters, please see appendix 2. In general, the suggestions helped improve the clarity of the standard.

Key Changes from the First Exposure Draft

1. Added risk retention groups and public entity pools to the scope.

2. Eliminated the term "complex insurance organization" and clarified how the ASOP applies to insurers that are part of a group or operate across jurisdictions.

3. Modified definitions of risk capital threshold and risk capital target definitions, and added a definition of valuation basis.

4. Eliminated references to liquidity and fungibility and added timing and variability of cash flows to section 3.1, General Considerations.

Request for Comments

The ASB appreciates comments on all areas of this proposed ASOP and would like to draw the readers' attention to the following areas in particular:

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1. Given the expanded scope, is the level of guidance appropriate?

2. With respect to companies that have operations in multiple jurisdictions or as part of a group, does the exposure draft provide appropriate guidance?

3. Do the changes in the exposure draft necessitated by eliminating liquidity and fungibility provide adequate guidance?

4. Are there situations in which the definition of capital in this standard would not be appropriate for a capital adequacy assessment?

5. Are the revised definitions of risk capital target and risk capital threshold clear and appropriate?

The ASB reviewed the draft at its September 2017 meeting and approved its exposure.

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.

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PROPOSED ACTUARIAL STANDARD OF PRACTICE

CAPITAL ADEQUACY ASSESSMENT FOR INSURERS

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 professional services with respect to a review of the resiliency of an insurer through a **capital adequacy assessment**.

1.2 Scope—This standard applies to actuaries involved in **capital adequacy assessment** work for life or health insurers, including fraternal benefit societies and health benefit plans, property and casualty insurers, mortgage and title insurers, financial guaranty insurance companies, risk retention groups, public entity pools, captive insurers, and similar entities or a combination of such entities, when affiliated (collectively, referred to as “insurer”).

The scope of this standard includes **capital adequacy assessment** work related to the design, performance, or review of a **capital adequacy assessment**, whether for an insurer’s internal or external stakeholders (for example, a regulator).

If the actuary departs from the guidance set forth in this ASOP 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 ASOP 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 consider the guidance in this ASOP to the extent it is applicable and appropriate.

1.4 Effective Date—This standard is effective for work commenced on or after four months after adoption by the Actuarial Standards Board.

Section 2. Definitions

The terms below are defined for use in this actuarial standard of practice.

2.1 Adverse Capital Event—A modeled or actual event that either a) causes **capital** to be significantly less than the **risk capital target(s)** or b) causes **capital** to be less than the **risk capital threshold(s)**.

2.2 Capital—The excess of the value of assets over the value of liabilities, which depends on the **valuation basis** chosen.

2.3 Capital Adequacy Assessment—An assessment of **capital** of an insurer relative to its **risk capital targets** or **risk capital thresholds**.

2.4 Group—Affiliated group of individual organizations, of which at least one is an insurer.

2.5 Risk Appetite—The level of aggregate risk that an organization chooses to take in pursuit of its objectives.

2.6 Risk Capital Target—The preferred level of **capital** based on specified criteria, which is expressed as a function of a measure of risk. This can result in a single value or a range. There may be multiple **risk capital targets** based on different risk metrics at any one time. Any **risk capital target** is a function of, and aligned with, the insurer's **risk tolerance**.

2.7 Risk Capital Threshold—The minimum level of **capital** necessary for an organization to operate effectively based on specified criteria and expressed as a function of a measure of risk. There may be multiple **risk capital thresholds** based on different risk metrics at any one time. Any **risk capital threshold** is a function of, and aligned with, the insurer's **risk tolerance**.

2.8 Risk Profile—The risks to which an organization is exposed over a specified period of time.

2.9 Risk Tolerance—The aggregate risk-taking capacity of an organization.

2.10 Valuation Basis—An accounting or economic framework for the recognition and measurement of assets and liabilities.

Section 3. Analysis of Issues and Recommended Practices

3.1 General Considerations—In designing, performing, or reviewing a **capital adequacy assessment**, the actuary should reflect the impact of the following:

a. the insurer's **risk profile** and **capital**;

b. the business and risk drivers, including the legal, regulatory, and economic environments in which the insurer operates, as well as any past and anticipated changes or trends in those drivers;

c. the insurer's strategy and plans and the likelihood of their successful execution;

d. the timing and variability of projected liability-related and asset-related cash flows, including the marketability and availability of assets and other financial resources;

e. the timing and intensity of future calls on **capital** and the means and ability to replenish **capital** in a timely manner;

f. current or available resources, including those available from affiliated entities as well as the capabilities of the insurer and affiliated entities;

g. the effect on capital adequacy of changes, or projected changes, in the **risk profile**;

h. correlation of risks and events, diversification benefits, and the uncertainty of the interdependence between risks;

i. projections of future economic conditions; and

j. parameter uncertainty.

3.2 Additional General Considerations—In designing, performing, or reviewing a **capital adequacy assessment**, the actuary should consider the following:

a. the insurer's definition of risk, the primary risk metric(s) used in the risk management system of the insurer, the risk identification process, the risks identified by the insurer, relevant management risk reports, and the limitations of the analytical tools and processes that will be used by the insurer to evaluate and quantify each risk;

b. the insurer's **risk appetite** and **risk tolerance**, as discussed in ASOP No. 46, *Risk Evaluation in Enterprise Risk Management*, including any conflicts between the **risk profile** and the **risk appetite** and how the **risk appetite** and **risk profile** are expected to change over time;

c. inconsistencies between the **capital adequacy assessment** and information contained in publicly released reports the actuary considers relevant, such as annual statements, reserve analyses, and rate filings, and the rationale for any inconsistencies;

d. prior **capital adequacy assessments**;

e. if the insurer is part of a **group**:

1. availability of **capital** among the entities in the **group**;

2. intra-**group** transactions, including, for example, dividends, reinsurance, and guarantees;

3. transfers of risks from the **group** to each individual organization, for example, reinsurance with aggregates or limits on a multi-company basis; and

4. transfers of risks from each organization to the **group** and the degree to which the **group** manages capital adequacy for each individual organization or primarily at the **group** level; and

f. management actions in response to **adverse capital events** (see section 3.7).

If the actuary finds any of the above items to be material and relevant to the **capital adequacy assessment**, the actuary should document and disclose them.

3.3 Valuation Bases Underlying a Capital Adequacy Assessment—When designing or reviewing a **capital adequacy assessment**, the actuary should review the selected valuation bases for assets and liabilities to determine whether they are consistent with and appropriate for the intended use of the **capital adequacy assessment**. When doing so, the actuary should consider the following:

a. criteria used by management for making risk and other financial decisions;

b. any differences between the selected valuation bases and any mandated valuation bases;

c. the time horizon(s) considered by management in decision-making;

d. the characteristics and implications of the selected valuation bases; and

e. any restrictions on assets or **capital** that are not otherwise reflected in the valuation bases.

3.4 Risk Capital Target or Risk Capital Threshold—When the actuary assists in the design of or the review of the appropriateness or applicability of **risk capital target(s)** or **risk capital threshold(s)**, the actuary should take into account the following (on a historical, current, and prospective basis, as appropriate):

a. the valuation bases;

b. the principal's objectives for **capital** (such as maintaining minimum ratios of regulatory or rating agency capital, insurer stability, acquisition plans, or infrastructure investment) and reasons they could change;

c. normal and adverse environments;

d. the time horizon over which the **capital** is assessed;

e. the methods used to aggregate results, including diversification benefits and the uncertainty of the interdependence among the risks; and

f. alignment with any existing **risk appetite** and **risk tolerance**.

3.5 Additional Considerations Regarding Risk Capital Target or Risk Capital Threshold—When the actuary assists in the design of or the review of the appropriateness or applicability of **risk capital target(s)** or **risk capital threshold(s)**, the actuary should consider the following:

a. the approach used to determine the "sufficient" level of **capital** (such as models based on factors, historical averages, and economic capital), as well as the uncertainty inherent in the approach;

b. the relative merits of using a range for the **risk capital target** versus a single number;

c. whether the insurer will be able to access additional **capital** if and when needed, including the availability and sources of **capital** among affiliates;

d. the **risk capital targets** and **risk capital thresholds** that are in use by affiliates; and

e. the relationship of **risk capital targets** and **risk capital thresholds** established by management and external stakeholders (such as rating agencies and regulators), as well as regulatory capital requirements, to the current **capital** and risks of the insurer.

3.6 Selecting Scenario Tests and Stress Tests—When an actuary includes scenario tests and stress tests in a **capital adequacy assessment**, the actuary should follow applicable guidance for scenario testing and stress testing in ASOP No. 46 and ASOP No. 47, *Risk Treatment in Enterprise Risk Management*. In addition, the actuary should consider the following:

3.6.1 Types of Tests—One or more forms of scenario tests or stress tests such as the following:

a. Deterministic—Tests to challenge the insurer in specific ways based on its unique exposures. For example, emerging risks may be considered using deterministic stress tests;

b. Stochastic—Tests chosen from one or more sets of stochastically generated scenarios;

c. Combination—Tests where multiple events happen simultaneously or sequentially; and

d. Reverse—Reverse-engineered tests that create an **adverse capital event**.

3.6.2 Level of Adversity—Different levels of adversity such as the following:

a. periods of normal volatility;

b. plausible adverse conditions; and

c. extremely unlikely catastrophic events.

3.6.3 Sensitivity Testing—The actuary may use sensitivity testing as part of a **capital adequacy assessment**. For example, sensitivity testing can be used to determine the applicability of the results of the scenario tests and stress tests under changing conditions, including the passage of time, as well as testing the materiality or impact of different assumptions.

3.7 Incorporating Management Actions—When management actions are incorporated into a **capital adequacy assessment**, the actuary should consider the following:

a. effectiveness and applicability of prior management actions, given changes between when such actions were taken and the projection period, for example:

1. the magnitude of the impact of the prior action compared with the impact needed in the projection;

2. the differences in risk environment, including differences in the insurer's business and operations, and the legal and regulatory environment;

3. differences in the insurer's enterprise risk management program and **risk profile**; and

4. differences in the insurer's financial strength;

b. feedback from board members or management;

c. legal, regulatory, and execution timing requirements;

d. experience of other insurers and non-insurance firms who took similar actions, if available; and

e. expected reactions of regulators and other stakeholders.

3.8 Insurers that Operate in Multiple Jurisdictions—When the actuary is designing, performing, or reviewing a **capital adequacy assessment** of an insurer that individually or as part of a **group** operates in more than one jurisdiction, the actuary should reflect the impact of the following factors:

a. different regulatory regimes that might apply to different parts of the insurer or different entities (including non-insurance organizations) of the **group**, including:

1. cooperation and existence or non-existence of memorandums of understanding between regulators;

2. differing requirements for **capital**, scenario and stress tests, and financial reporting structures;

3. expected regulatory changes in some jurisdictions;

4. differing amounts of regulatory oversight;

5. impact of rules, restrictions, and time-lags on **capital** availability;

6. differing definitions of "insurance company" and "regulated entity";

7. differing valuation bases; and

b. political risk, variations in taxation, and variations in approach to litigation in various regulatory regimes.

3.9 Additional Considerations Regarding Insurers that Are Part of a Group—When the actuary is designing, performing, or reviewing a **capital adequacy assessment** of an insurer that is part of a **group**, the actuary should consider the following, if applicable:

a. level of complexity and extent of information available across all entities in the **group**;

b. levels of autonomy in selecting **capital** strategies for individual organizations within the **group**; and

c. the impact of varying ownership interests, including the following:

1. ownership splits, particularly between customers and shareholders;

2. shares listed on multiple stock exchanges; and

3. ownership concentrations.

3.10 Reliance on Data or Other Information Supplied by Others—When relying on data or other information supplied by others, the actuary should refer to the following ASOPs for guidance: ASOP No. 23, *Data Quality*; ASOP No. 41, *Actuarial Communications*; and, if applicable, ASOP No. 38, *Using Models Outside the Actuary's Area of Expertise (Property and Casualty)*. When relying on projections or supporting analysis supplied by others, the actuary should disclose both the fact and the extent of such reliance. In addition, the actuary should refer to ASOP No. 23, deeming such projections or supporting analysis as data covered by ASOP No. 23.

Section 4. Communications and Disclosures

4.1 Actuarial Communication—When issuing an actuarial communication subject to this standard, the actuary should consider the intended purpose of the **capital adequacy assessment** and refer to ASOP Nos. 23, 41, 46, 47, and, if applicable, 38. In addition, consistent with the intended purpose or use, the actuary should disclose the following in an appropriate actuarial communication:

a. the businesses (insurance or non-insurance) that are included or excluded (and reasons for exclusion) in the assessment;

b. material changes in the considerations listed in section 3.1 from a prior report, if any;

c. the key current and future business and risk drivers, including the legal, regulatory, and economic environments in which the insurer operates (see section 3.1[b]);

d. the key elements of business and risk management strategies included in the **capital adequacy assessment** (see section 3.1[c]);

e. a discussion of the timing and variability of projected liability-related and asset-related cash flows, including the marketability and availability of assets and other financial resources (see section 3.1[d]);

f. a discussion of future calls on **capital,** and the insurer's means and ability to replenish it (see section 3.1[e]);

g. the treatment of interdependence and diversification (see section 3.1[h]);

h. the basis for projections of future conditions (see section 3.1[i]);

i. a discussion of the sensitivity of any assumption used to gauge the materiality of alternative assumptions, including any sensitivity tests of the parameters used in stochastic models (see section 3.1[j]);

j. the selected valuation bases for assets and liabilities, and why they are appropriate (see section 3.3); and

k. any limitations of the analysis.

4.2 Additional Actuarial Communication—Consistent with the intended purpose or use, the actuary should make the following disclosures in addition to those in section 4.1:

a. if information regarding prior sources and uses of **capital** was available, the actuary should disclose the extent to which such information was reflected in the **capital adequacy assessment**, including any reasons for deviations from past trends in such sources and uses;

b. if the actuary had access to publicly available or internal reports and analyses, the actuary should disclose any material differences between such reports and analyses and the assumptions underlying the **capital adequacy assessment** (see section 3.2[c]);

c. if the insurer is a part of a **group**, the actuary should describe how being part of the **group** is reflected in the **capital adequacy assessment** (see sections 3.2[e] and 3.9);

d. if the actuary had a role in the design of or reviewed the **risk capital targets** or **risk capital thresholds**, the actuary should disclose his or her role and the rationale underlying the design or the results of his or her review (see sections 3.4 and 3.5);

e. if the actuary performed scenario or stress tests as part of the **capital adequacy assessment**, the actuary should summarize the tests, including the type and levels of adversity, and the results of the tests (see section 3.6);

f. if the **capital adequacy assessment** reflects specific management actions, the actuary should describe the actions, their impact on the **capital adequacy assessment**, and whether the actions could be effectively implemented in a timely manner (see section 3.7); and

g. if the insurer operates, either individually or as part of a **group**, in multiple jurisdictions, the actuary should describe how operating in the various jurisdictions is reflected in the **capital adequacy assessment** (see section 3.8).

4.3 Additional Disclosures—The actuary should also include the following, as applicable, in an actuarial communication:

a. the disclosure in ASOP No. 41, section 4.2, if any material assumption or method was prescribed by applicable law (statutes, regulations, and other legally binding authority);

b. 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

c. 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

Enterprise risk management (ERM) has been the focus of the insurance industry, including insurers, regulators, and rating agencies, for some time. In response to this increased attention to ERM, the Actuarial Standards Board (ASB) created the ERM Task Force (now Committee), which developed ASOP No. 46, *Risk Evaluation in Enterprise Risk Management*, and ASOP No. 47, *Risk Treatment in Enterprise Risk Management*. These two ASOPs provide guidance to the actuary for overall ERM work.

Historically, most insurers did not undertake formal assessments of capital adequacy. Instead, they tended to use rules of thumb (for example, premium to surplus ratios) or relied on regulatory rules (for example, risk-based capital ratios) or rating agencies (for example, A. M. Best's Capital Adequacy Ratio). Many companies also relied on stress tests or what-if analyses to assess capital levels. Insurance regulators designed deterministic stress tests that reflected potential experience beyond the range of an insurer's normal operations. Over time, deterministic stress tests were developed for a wide variety of assumptions.

Starting in 2012, insurance regulators began implementing the own risk and solvency assessment (ORSA) process throughout the world. Specifically, the ORSA process is a part of the Insurance Core Principles (ICP 16) set out by the International Association of Insurance Supervisors (IAIS) and required by most U.S. states. A key feature of ORSA is that it requires a formal assessment of capital adequacy be a part of an insurer's ERM program.

Current Practices

Given the new ORSA requirements and the increasing demands from regulators, rating agencies, and other external stakeholders, insurers are under pressure to perform formal, more sophisticated capital adequacy assessments. These formal capital adequacy assessments typically involve considerations of complex contingencies in determining the impact of adverse experience on the insurer and its capital adequacy, making this a process that will usually involve actuaries in some or all of the assessment process.

Company practice in making these assessments varies significantly. Some companies have created their own stochastic models (or use commercially available software) that simulate underwriting results across all lines of business and geographies, as well as economic conditions and investment results. These models typically incorporate the insurer's strategic plan and may include complicated feedback loops that reflect management's responses, if any, to specific situations (for example, underwriting results, a recession, multiple catastrophic events, a pandemic). They may also include predictions of how regulators and rating agencies may react to changes in the financial condition of the insurer. Other models may analyze capital adequacy at very high levels of aggregation and have limited or no feedback loops (i.e., they analyze specific management actions one at a time).

Larger insurers may have whole departments focused on analyzing the global economy. For smaller insurers, this work may be tasked to a specific individual or may be outsourced to consultants. In many of these insurers, actuaries and non-actuaries are involved in these analyses and the building of the models.

Rating agencies and regulators are concerned with individual company and group-wide capital adequacy. Many insurers are part of complex, multi-national organizations (including insurers and non-insurers) that span many different accounting, financial, and regulatory regimes. The relationships among the members of a group and the differences among these regimes can have a significant impact on capital adequacy and the group’s ability to fulfill its promises to its customers. In most countries, ORSA requires groups operating in multiple countries to perform a group-wide assessment of their capital adequacy across all jurisdictions.

Appendix 2

Comments on the First Exposure Draft and Responses

The first exposure draft of this proposed ASOP, *Capital Adequacy Assessment for Insurers,* was issued in September 2016 with a comment deadline of January 31, 2017. Nine 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 Enterprise Risk Management Committee carefully considered all comments received, reviewed the first exposure draft, and proposed changes. 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 Enterprise Risk Management 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.

TRANSMITTAL MEMORANDUM QUESTIONS	
Question 1: Does the exposure draft provide sufficient guidance for an actuary designing, performing, or reviewing a capital adequacy assessment for life, property/casualty, and health insurers?	
Comment	Most commentators answered "yes," but several thought the guidance could be improved.
Response	The reviewers moved specific comments to the sections they believe most appropriate, and addressed the comments there.
Question 2: Does this exposure draft give sufficient context for users of the actuarial work product to understand and rely upon actuarial work prepared under this guidance?	
Comment	Most commentators answered "yes," but several thought the guidance could be improved.
Response	The reviewers moved specific comments to the sections they believe most appropriate, and addressed the comments there.
Question 3: Does this exposure draft provide enough guidance for actuaries addressing complex insurance organizations such as holding companies with multiple subsidiaries and jurisdictions?	
Comment	No commentators responded directly to this question, but comments were received on specific sections.
Question 4: Are there areas where the exposure draft is too restrictive or too prescriptive?	
Comment	Most commentators provided specific areas where the guidance could be improved.
Response	The reviewers moved specific comments to the sections they believe most appropriate, and addressed the comments there.

Question 5: Are the scope of this standard and the definition of a capital adequacy assessment appropriate to where this standard should apply?	
Comment Response	Most commentators provided specific areas where the guidance could be improved. The reviewers moved specific comments to the sections they believe most appropriate, and addressed the comments there.
Question 6: Are the disclosures appropriate?	
Comment Response	Most commentators answered "yes," but several thought the guidance could be improved. The reviewers moved specific comments to the sections they believe most appropriate, and addressed the comments there.
GENERAL COMMENTS	
Comment Response	One commentator thought a definition of, and more commentary on, "liquidity" was needed. The reviewers agree that "liquidity" is not sufficiently defined in practice, but instead of retaining the term, the reviewers deleted references to "liquidity" and modified section 3.1(d).
Comment Response	One commentator suggested that this ASOP should be reviewed if the Federal Reserve Board, NAIC, or IAIS promulgates new requirements. The reviewers agree that any ASOP may be reviewed whenever any material or relevant requirements are promulgated.
Comment Response	One commentator wondered why there was no mention of "tiering" and "capital resources" in this ASOP as discussed in the International Association of Insurance Supervisors' Insurance Capital Standard. The reviewers believe the current guidance is appropriate, as these specific terms are not currently used in U.S. practice, and therefore made no change.
Comment Response	Several commentators suggested comments regarding specific sections of the ASOP. The reviewers moved specific comments to the sections they believe most appropriate, and addressed the comments there.
SECTION 1. PURPOSE, SCOPE, CROSS REFERENCES, AND EFFECTIVE DATE	
Section 1.2, Scope	
Comment Response	One commentator suggested expanding the scope of the ASOP to include captive insurers, risk retention groups, and public entity pools. The reviewers agree and added these to the types of entities covered by the ASOP.
Comment Response	One commentator thought it unclear whether the term "insurer" applied to a group of insurers or just individual insurers. The reviewers agree and clarified the language.

SECTION 2. DEFINITIONS	
Comment Response	One commentator suggested adding definitions of “scenario” and “stress test.” The reviewers believe the guidance in this ASOP and ASOP Nos. 46 and 47 is sufficient, and therefore made no change.
Comment Response	One commentator suggested adding definitions of “risk management” and “capital management policy.” The reviewers believe these terms are appropriate and widely used in the industry, and therefore made no change.
Comment Response	Two commentators said a definition of “fungibility” was needed, as this term is not widely used. The reviewers agree that the use of the term was unclear and eliminated it from the ASOP.
Comment Response	One commentator suggested adding a definition of “economic environment.” The reviewers believe this term is in widespread use, and therefore made no change.
Section 2.1, Adverse Capital Event	
Comment Response	One commentator suggested expanding the definition of “adverse capital event” to include any material reduction in capital, not just those that result in capital below either the risk capital threshold or any of the risk capital targets. For the purposes of this standard, the reviewers believe a narrower definition is appropriate, and therefore made no change.
Section 2.2, Capital	
Comment Response	One commentator suggested expanding the definition of capital to include forms of debt. The reviewers believe that the current definition of capital is appropriate and widely used in the industry, and therefore made no change.
Section 2.3, Capital Adequacy Assessment	
Comment Response	Several commentators thought limiting the definition of “capital adequacy assessment” to “projected capital” was too narrow. The reviewers agree and deleted “projected” from the definition.
Section 2.4, Complex Insurance Organization (now section 2.4, Group)	
Comment Response	One commentator recommended including “complex insurance organizations” explicitly in the list of entities considered to be an “insurer.” The reviewers agree “insurer” should include “complex insurance organizations,” but based on concerns about the definition of “complex insurance organization” raised by other commentators, the reviewers eliminated the term altogether and replaced it with “group,” and made changes to various sections of the standard, including section 1.2.
Comment Response	Many commentators raised concerns regarding the definition of “complex insurance organizations” and their treatment under this ASOP. For example, one commentator was concerned that the term was too narrow, as all companies are constrained by legal or regulatory restrictions. Others were concerned that it included insurance groups that were not complex. The reviewers agree that the definition and treatment of “complex insurance organizations” was confusing, eliminated references to “complex insurance organizations,” and revised the ASOP to more appropriately address the issues raised by “complex insurance organizations.”

Section 2.5, Risk Appetite	
Comment Response	A few commentators had questions regarding how to apply the definitions of "risk appetite" and "risk tolerance" in the specific context of a capital adequacy assessment. The reviewers believe that the level of detail is appropriate, and therefore made no changes. The reviewers note that further guidance for "risk appetite" and "risk tolerance" is included in ASOP Nos. 46, *Risk Evaluation in Enterprise Risk Management,* and 47, *Risk Treatment in Enterprise Risk Management*. The reviewers added these definitions unchanged to this ASOP.
Section 2.6, Risk Capital Target	
Comment Response	One commentator wanted more clarity on what constituted "measures of risk" in the definitions of "risk capital targets" and "risk capital threshold." For example, would setting a risk capital threshold equal to the capital required to maintain a given rating qualify as a measure of risk. The reviewers believe the definition is sufficiently broad to cover a wide range of capital targets and thresholds, and therefore made no change.
Comment Response	One commentator wanted to add an example to clarify how to establish multiple "risk capital targets." The reviewers believe that specific examples of risk-capital targets are not appropriate, and therefore made no change.
Comment Response	One commentator noted that in certain circumstances (for example, when a regulator or owner has commissioned the assessment), management may not be who sets the "risk capital targets" and "risk capital threshold" and, therefore, suggested changing "management" to "principal" in the definitions of these terms. The reviewers agree, modified the definitions, and changed a number of references in other sections from "management" to "principal."
Section 2.7, Risk Capital Threshold	
Comment Response	One commentator wanted more clarity on "operate effectively" in the context of a risk capital threshold. The reviewers believe that the level of detail is sufficient, and therefore made no change.
Section 2.9, Risk Tolerance	
Comment Response	One commentator wanted clarity between "risk capital threshold" and "risk tolerance." The reviewers agree more clarity is needed and modified the definitions of "risk capital threshold" and "risk capital target."
SECTION 3. ANALYSIS OF ISSUES AND RECOMMENDED PRACTICES	
Section 3.1, General Considerations	
Comment Response	Regarding section 3.1 (b), one commentator said more guidance should be given regarding the reasonableness, applicability, and likely success of the company's business plans and strategy. The reviewers believe that the level of detail is sufficient, and therefore made no change.

Comment Response	Regarding section 3.1 (c) (now section 3.1 [d], one commentator was concerned a cash flow analysis would be required for all capital adequacy assessments, even if the business was short-tailed. The reviewers noted the comment and modified the language to clarify the intent.
Comment Response	Regarding section 3.1(e-f) (now subsection h-i), a few commentators questioned why economic conditions and diversification were singled out for consideration by the actuary. One commentator suggested that the list of considerations should be expanded. Another commentator suggested these two considerations could be replaced by a reference to the overall uncertainty in the modeling process. The reviewers believe that the list of items is appropriate, and therefore made no change.
Comment Response	One commentator requested clarification regarding the "projections of economic conditions" specifically to limit the range of possible economic conditions to be included in the modeling. The reviewers believe the current guidance is sufficient, and therefore made no change.
Section 3.2, Additional General Considerations	
Comment Response	A few commentators had concerns about the ability of the actuary performing the capital adequacy assessment to be able to "rely on others who have considered" for many of the additional general considerations. One thought the actuary should be able to do so only after performing due diligence. Another questioned whether an actuary should rely on others to review prior capital adequacy assessments. The reviewers understand the commentator's concerns, modified the language, and note that section 3.10 provides guidance when relying on data or other information supplied by others.
Comment Response	Regarding section 3.2 (b), two commentators suggested deleting "any conflicts" between the risk profile and risk appetite and replace it with "relationship." The reviewers believe the current guidance is appropriate, and therefore made no change.
Comment Response	Regarding section 3.2 (c), one commentator suggested the list of reports given when there is an inconsistency between the capital adequacy assessment and published reports was not meaningful or instructive. The reviewers agree and modified the list.
Comment Response	Regarding section 3.2 (c), one commentator thought the actuary should be able to use professional judgment to determine which publicly released reports were relevant to compare to the capital adequacy assessment. The reviewers agree that the actuary should be able to consider the relevance of publicly published reports, and therefore modified the guidance.
Section 3.3, Valuation Bases Underlying a Capital Adequacy Assessment	
Comment Response	One commentator believed "criteria used by management" and "other financial decisions" were too general and suggested that the requirement to consider these be limited to when they were provided to the actuary. The reviewers believe the current guidance is appropriate, and therefore made no change.

Section 3.4, Risk Capital Target or Risk Capital Threshold	
Comment Response	One commentator believed the actuary should separately validate the risk capital targets and risk capital thresholds against external models such as rating agency or regulatory models. The reviewers disagree that requiring this type of validation is appropriate, and therefore made no change.
Comment Response	Regarding section 3.4 (b), one commentator believed the examples for "uses of capital" in setting risk capital targets of risk capital threshold should include regulatory risk based capital. The reviewers agree and added both regulatory and rating agency capital to the list of examples.
Comment Response	Regarding section 3.4 (b), one commentator said that return on equity should not be used as an example of "uses of capital" in setting risk capital targets or risk capital thresholds because it is the consequence of the level of capital and could be manipulated to achieve a desired result. The reviewers agree and deleted "return on equity."
Section 3.5, Additional Considerations Regarding Risk Capital Target or Risk Capital Threshold	
Comment Response	Regarding section 3.5 (a), one commentator wanted clarity on "factors" and "historical averages" in the examples listed for the approach used to determine the "sufficient" level of capital. The reviewers agree the language was confusing and revised the list to "such as models based on factors, historical averages, and economic capital" to make it clear that factors and historical averages were bases for models rather than stand-alone items.
Comment Response	Regarding section 3.5 (c), one commentator thought "internal to a group of insurers" was confusing. The reviewers agree and modified the language to "among affiliates."
Comment Response	Regarding section 3.5 (d), one commentator thought "various members of the group" was unclear. The reviewers agree and modified the language to "affiliates."
Comment Response	Regarding section 3.5 (e), one commentator thought regulators should be added to the examples of "external stakeholders." The reviewers agree and added "regulators."
Section 3.6, Selecting Scenario Tests and Stress Tests	
Comment Response	One commentator believed that scenario testing should be a part of any capital adequacy assessment and that the general considerations, scenario and stress testing, and disclosure sections should be modified. The reviewers believe that the decision of whether to perform scenario and stress testing should be left to the professional judgment of the actuary, and therefore made no change.
Section 3.6.1, Types of Tests	
Comment Response	Two commentators suggested adding stochastic scenario testing. The reviewers agree, and added a new consideration in section 3.1, General Considerations, and stochastic testing as another form of testing in section 3.6.1.
Comment Response	One commentator suggested changing "unique exposures" in the description of deterministic tests to "specific exposures." The reviewers believe the current guidance is appropriate, and therefore made no change.

Section 3.6.2, Level of Adversity	
Comment Response	Two commentators were confused by the levels of adversity shown for scenario and stress testing. The reviewers agree and modified the language.
Comment Response	One commentator suggested qualifying the list of adversity levels by adding "Whether the level of adversity is appropriate for the intended use of the capital adequacy assessment." The reviewers modified the language regarding the levels of adversity, and therefore did not make this change.
Section 3.6.3, Sensitivity Testing	
Comment Response	One commentator stated that sensitivity testing is a valuable tool for use in capital adequacy assessments and that the ASOP's focus on doing such testing under changing conditions was too narrow. The reviewers agree, and therefore modified the section on sensitivity testing and added sensitivity testing to section 3.1.
Section 3.7, Incorporating Management Actions	
Comment Response	One commentator wanted more clarity/guidance on when management actions should be reflected in a capital adequacy assessment. The reviewers believe that the level of detail is sufficient, and therefore made no change.
Section 3.8, Capital Adequacy in Complex Insurance Organizations (now Insurers that Operate in Multiple Jurisdictions)	
Comment Response	One commentator suggested that assessing adequacy for complex insurance organizations should include "Guarantees between members of a complex insurance organization." Based on this and other comments, the reviewers modified the ASOP to eliminate the term "complex insurance organization" and modified the guidance to deal with these types of entities.
Comment Response Comment Response	One commentator felt that the list of factors that the actuary should reflect when assessing the capital of a complex insurance organization was too onerous, and that the actuary may not have access to all of the information needed or have the ability to reflect them. The reviewers believe the guidance is appropriate, and therefore made no change. Regarding section 3.8(b)(8) (now section 3.8[a][8]), one commentator suggested adding a definition of "non-insurance regulatory regime." The reviewers believe the term is self-explanatory, and therefore made no change.
Comment Response	Regarding section 3.8(d) (now section 3.2[e][2]), one commentator questioned why the actuary should consider only "intra-group transactions" that were "scheduled and likely." The reviewers agree and modified the language.
Section 3.9, Additional Considerations Regarding Complex Organizations (now Additional Considerations Regarding Insurers that Are Part of a Group)	
Comment Response	Regarding section 3.9(c)(2), one commentator questioned how the exchange where shares were traded would impact a capital adequacy assessment. The reviewers believe the current guidance is appropriate and made no change.

Section 3.10, Reliance on Data or Other Information Supplied by Others	
Comment Response	Two commentators thought that the actuary should be required to perform due diligence if he/she is relying on a model, or data or other information supplied by others. The reviewers disagree and made no change, but note that further guidance may be found in ASOP Nos. 23, *Data Quality*, and 38, *Using Models Outside the Actuary's Area of Expertise (Property and Casualty)*.
SECTION 4. COMMUNICATIONS AND DISCLOSURES	
Comment Response	One commentator recommended including requirements that actuaries recognize and communicate the limitations surrounding the evaluation of target capital and their impacts on the capital assessment. The reviewers agree and added a requirement, in new section 4.1(k), to disclose "any limitations of the analysis."
Comment Response	One commentator suggested the disclosures required by the ASOP should be "appropriate to the nature, scale, and complexity of an insurer or insurance group." The reviewers believe that whether an assessment is performed could be subject to conditions such as those suggested, but once it is determined that an assessment will be performed, then this ASOP would apply in all situations.
Section 4.1, Actuarial Communication	
Comment Response	One commentator suggested the language "and refer to" be softened to something like "and, as appropriate, refer to." For example, ASOP No. 38 is currently applicable only to property and casualty companies. The reviewers agree that the reference to ASOP No. 38 should be qualified, but believe the references to the other ASOPs are appropriate. The reviewers modified the wording accordingly.
Comment Response	One commentator suggested that if the intended users of the assessment are already familiar with the required disclosures then it shouldn't be necessary to disclose them again. For example, if an internal capital adequacy assessment is intended for senior management, it could be distracting to reiterate the business plans. The reviewers disagree and believe that the disclosures are appropriate. Therefore, the reviewers made no change.
Comment Response	Regarding section 4.1(a), one commentator questioned why the required disclosures were limited to the considerations listed in section 3.1 versus any material change in considerations from a prior report. The reviewers believe the guidance is sufficient and therefore made no change.
Comment Response	Regarding section 4.1(e) (now section 4.1[f]), one commentator questioned why "the businesses (insurance or non-insurance) that are included or excluded in the assessment" was not the first required disclosure. The reviewers did not put the list of General Considerations in any order of priority because they believe all of the items are important. In addition, the list of required disclosures is in the same order as the General Considerations. Therefore, the reviewers made no change.
Comment Response	One commentator believed that the actuary should be required to disclose why a certain business of the insurer was excluded from the assessment, not just its exclusion. The reviewers agree and modified the disclosure requirement.

Section 4.2, Additional Disclosures	
Comment Response	One commentator suggested adding a qualifier such as "where appropriate" to this section. The reviewers believe that each additional disclosure is separately qualified, and therefore made no change.
Comment Response	One commentator suggested that the actuary should disclose manual adjustments or the application of expert judgment. The reviewers believe the disclosure requirements of section 4.2(b) are sufficient, and therefore made no change.
Comment Response	Regarding section 4.2 (a), one commentator suggested deleting the disclosure regarding prior sources or uses of capital to a current capital assessment because it has little or no relevance to the current capital adequacy assessment. The reviewers believe the current guidance is appropriate, and therefore made no change.
Comment Response	Regarding section 4.2 (b), one commentator asked for more guidance on what constituted a "material difference" between assumptions used in the capital adequacy assessment and internal or public reports. The reviewers believe that "material difference" is widely used and note that "materiality" is defined in ASOP No. 1, *Introductory Actuarial Standard of Practice*, and therefore made no change.
Comment Response	Regarding section 4.2 (b), one commentator said that requiring the actuary to disclose differences between his assumptions and internal and publicly available reports and analyses may be onerous and create confidentiality issues. The reviewers believe that is it essential for the actuary to comment on any material differences between his or her assumptions and information to which he or she has access, and therefore made no change.
Comment Response	Regarding section 4.2(c) (now section 4.2[d]), one commentator believed that any disclosure regarding the actuary's role in developing the risk capital targets or risk capital threshold in the assessment should be provided to management separately from the assessment and, therefore, no disclosure as part of the assessment should be required. The reviewers believe that the actuary's role is important information that should be available to all users of the assessment, and therefore made no change.
Comment Response	Regarding section 4.2(c) (now section 4.2[d]), a few commentators questioned the relevance of disclosing the actuary's role in setting the risk capital targets or risk capital threshold in the past or as part of a prior assessment. Another questioned whether it was necessary to disclose the actuary's role if the assessment was for internal use only. The reviewers believe that the passage of time or the intended use does not diminish the importance of knowing the actuary's role in setting the risk capital targets or risk capital thresholds, and therefore made no change.
Comment Response	Regarding section 4.2(c) (now section 4.2[d]), one commentator asked whether the actuary had a duty to assess appropriateness of the risk capital targets or risk capital threshold and then disclose his/her assessment. The reviewers believe that the level of detail is appropriate, and therefore, made no change.

Comment	Regarding section 4.2(d) (now section 4.2[e]), one commentator was concerned that the current language for disclosing scenario and stress tests could be interpreted to require too much detail.
Response	The reviewers agree and changed the disclosure requirement from "describe" to "summarize" the scenario and stress tests.
Comment	Regarding section 4.2(e) (now section 4.2[f]), one commentator asked whether the actuary had to disclose possible management actions that were provided by people other than management.
Response	The reviewers believe the guidance is appropriate, and therefore made no change.
Section 4.3, Deviation from Guidance in the Standard	
Comment	One commentator thought the language of the deviation disclosures was confusing.
Response	The reviewers agree that the introductory language was confusing, but note that the three items listed use language that is standard across all of the ASOPs. The reviewers combined sections 4.2 and 4.3.