



ASOPs that Affect Reserving

A selective tour of 6 ASOPs through
the eyes of 3 reserving actuaries

Presented by:

N. Terry Godbold, ACAS, MAAA

Alejandra Nolibos, FCAS, MAAA

Paul J. Struzzieri, FCAS, MAAA

Casualty Loss Reserve Seminar

September 6, 2012



Antitrust Notice

- **The Casualty Actuarial Society is committed to adhering strictly to the letter and spirit of the antitrust laws. Seminars conducted under the auspices of the CAS are designed solely to provide a forum for the expression of various points of view on topics described in the programs or agendas for such meetings.**
- **Under no circumstances shall CAS seminars be used as a means for competing companies or firms to reach any understanding – expressed or implied – that restricts competition or in any way impairs the ability of members to exercise independent business judgment regarding matters affecting competition.**
- **It is the responsibility of all seminar participants to be aware of antitrust regulations, to prevent any written or verbal discussions that appear to violate these laws, and to adhere in every respect to the CAS antitrust compliance policy.**



Learning Objectives

- Most of us are familiar with:
 - ASOP No. 43 (P/C Unpaid Claim Estimates)
 - ASOP No. 36 (Statements of Actuarial Opinion)
- But there are several other ASOPs that impact loss reserving, such as:
 - ASOP 23 (Data Quality)
 - ASOP 13 (Trending Procedures in P/C Insurance)
 - ASOP 20 (Discounting of P/C Unpaid Claim Estimates)
 - ASOP 38 (Using Models Outside Actuary's Area of Expertise)
 - ASOP 21 (...Assisting Auditors or Examiners...)
 - ASOP 41 (Actuarial Communications)



Presentation Outline

- High level overview of ASOPs 36 & 43
- A selective tour of the following ASOPs as seen through the eyes of reserving actuaries:
 - ASOPs 13 & 23 – Paul Struzzieri
 - ASOPs 20 & 38 – Alejandra Nolibos
 - ASOPs 21 & 41 – Terry Godbold



Words of Caution

- These are our views
 - Not the views of our employers
- We do not represent the AAA
- You must understand how ASOPs affect your own work
- We will focus on just a few nuggets that we found interesting
 - Not exhaustive!
 - Illustrative
 - Lots more in the ASOPs

ASOPs that Affect Reserving ASOP Nos. 36 and 43 (Background) ASOP Nos. 23 and 13

Presented by
Paul J. Struzzieri, FCAS, MAAA

Casualty Loss Reserve Seminar
September 6, 2012

ASOP No. 36

History and background

- Statements of Actuarial Opinion (SAO) regarding P/C loss and loss adjustment expense reserves
- Originally adopted in 2000; revised in 2011
- Reasons to revise ASOP No. 36:
 - Consistency with ASOP No. 43
 - Consistency with other current ASOPs
- Revision process included two exposure drafts
- Effective: Opinions issued on and after May 1, 2011

ASOP No. 36

Purpose and scope of the standard

- Written SAO under particular circumstances
 - In compliance with NAIC Property and Casualty Annual Statement Instructions
 - Otherwise prescribed by law or regulation
 - Represented by actuary as being in compliance with this standard
- Items other than loss and loss adjustment expense reserves are not covered by this ASOP, even if the particular SAO includes those items

ASOP No. 36

New or reframed sections—Section 3.7

- Role of ASOP No. 43
 - ASOP No. 36 previously provided guidance on performing the underlying review of the unpaid claim estimates and included reference to Statement of Principles Regarding Property and Casualty Loss and Loss Adjustment Expense Reserves
 - ASOP No. 43 reference replaces that guidance
 - ASOP No. 43 governs the work underlying the report that is prepared to support an NAIC opinion
 - Range of reserves defined in relation to consistency with ASOP No. 43

ASOP No. 36

New or reframed sections—Summary

- Dates—explicit disclosure requirements
- Reserve opined upon—explicit disclosure requirement
- Accounting standards
- Acknowledgement of role of ASOP No. 43
- Use of another's unpaid claim estimate

ASOP No. 43

History

- Until 2007, there was no ASOP on unpaid claim estimates (or loss reserves)
- The Casualty Actuarial Society's *Statement of Principles Regarding Property and Casualty Loss and Loss Adjustment Expense Reserves* had served as guidance
- ASOP No. 43 was developed to be the authoritative guidance
- Effective June 2007

ASOP No. 43

Purpose and scope of the standard

- Applies to unpaid claim (loss and expense) estimates for events that have occurred as of a given balance sheet date
- Does not apply to estimates solely for ratemaking or health/disability claims that may be covered by other ASOPs (but applies to health benefits in connection with workers' compensation liabilities)
- Applies to “unpaid claim estimates communicated as an actuarial finding in written or electronic form”
 - Internal work products supporting a position on reserves
 - Analysis and report supporting a prescribed Statement of Actuarial Opinion (PSAO) on loss reserves (under the revised U.S. Qualification Standards, all PSAOs are considered SAOs)



ASOP No. 43

Intended measure

- Identification of the intended measure of the unpaid claim estimate—examples:
 - Mean
 - Mean plus risk margin
 - Median
 - Low estimate
 - High estimate
 - 75th percentile
- “Best estimate” and “actuarial estimate” are not sufficient identifications of the intended measure

ASOP No. 43

Intended measure (continued)

- Intended measure in the context of an NAIC actuarial opinion
 - Management's best estimate
 - Opining actuary's measure of reasonability of management's best estimate
- Places to put a reference to the actuary's intended measure for NAIC opinions
 - Actuarial opinion summary (AOS)
 - Report supporting the NAIC opinion

ASOP No. 43

Unpaid claim estimate analysis

- Methods and models
- Assumptions
- Data
- Recoverable interaction
- Gross versus net
- External conditions
- Changing conditions
- Uncertainty

Tour of ASOP Nos. 23 and 13

ASOP No. 23:

Data Quality

Originally adopted by ASB in 1993

Revised December 2004 (and May 2011)

ASOP No. 13:

Trending Procedures in Property/Casualty Insurance

Originally adopted by ASB in July 1990

Revised June 2009 (and May 2011)

ASOP No. 23 – Data Quality

What is the actuary's responsibility with respect to:

1. Reliance on data and information supplied by others
2. Review of Data
3. Use of Data

Are there limitations to the actuary's responsibility?

ASOP No. 23 – Reliance on Data

- Section 3.3 – reliance on data supplied by others
 - Accuracy and completeness of data = responsibility of those who supply the data
 - Actuary has responsibility to “review” the data (see next slide)
- Section 3.4 – reliance on other information
 - Validity and comprehensiveness of information = responsibility of those who supply the information
 - Actuary has no responsibility to review the information
 - May use information “unless it is or becomes apparent that the information contains material errors or is otherwise unreliable”
- Actuary must disclose reliance – in both cases

ASOP No. 23 – Review of Data

- Section 3.5: The actuary must “review data for reasonableness and consistency”. This means:
 - Data Definitions – make reasonable effort to determine the definition of each data element
 - Identify Questionable Values – review the data to determine questionable data or inconsistent relationships
 - if material, the actuary must consider steps to improve the quality of the data
 - Review of Prior Data – compare current data to prior data for consistency
 - Of new actuary, consider requesting the prior data
- No review of data if, in the actuary’s judgment, such review is not necessary or impractical

ASOP No. 23 – Use of Data

Section 3.7: Use of Data – 5 Different Possibilities

1. Data is of sufficient quality to perform the analysis
2. Data needs to be enhanced or corrected before analysis can be performed
3. Data needs to be judgmentally adjusted; but actuary must disclose if results are highly uncertain or biased
4. Data contains material defects – determine the extent it has been audited and arrange for a more extensive audit or review, if necessary
5. Data is inadequate – use different data or decline to perform the assignment

ASOP No. 23 – Limited Responsibility

Q: Are there limitations to the actuary's responsibility?

A: Yes, the actuary is NOT required to (section 3.6):

- Determine whether data or information supplied by others are falsified or intentionally misleading
- Develop additional data compilations solely for the purpose of searching for questionable data points
- Audit the data

ASOP No. 13 – Trending Procedures

- ASOP No. 13 applies to “ratemaking, reserving, valuations, underwriting and marketing”
 - Not just ratemaking
- Example of how it applies to reserving:
- “Changes between exposure periods are included under this standard but NOT changes within an exposure period (i.e., loss development)
- See example on next slide of initial expected loss ratio for Bornhuetter Ferguson Method

ASOP No. 13 – Trending Example

Use of Trend in Initial Expected Loss Ratio

Accident Year	Ultimate Loss Ratio	Loss Ratio Trend	Trended Ultimate Loss Ratio	De-Trended Ultimate Loss Ratio
2008	62%	1.170	73%	63%
2009	65%	1.125	73%	66%
2010	71%	1.082	77%	68%
2011	70%	1.040	73%	71%
2012	74%	1.000	74%	74%
		Selected:	74%	



ASOPs that Affect Reserving

ASOP Nos. 20 and 38

**A presentation to the CLRS audience
by Alejandra Nolibos
September 6, 2012**



Know your ASOPs

	ASOP 20	ASOP 38
Name	Discounting of property/casualty unpaid claims estimates	Using models outside the actuary's area of expertise
Scope	Discounting of unpaid claims estimates ONLY	Professional services in connection with property and casualty insurance (or similar)
Effective date	January 1, 2012	December 15, 2000
And...	(Relatively) NEW!	In the process of being re-written

Have you ever...

- Calculated discounted unpaid claims estimates in the context of ...
 - Evaluation of a loss portfolio transfer (assuming party)?
 - Allocation of capital to a particular line of business?
 - Valuation of an insurance operation in an M&A transaction?
 - Funding calculations for a self-insurance trust fund?
 - Other?
- What could be appropriate for use in each context?
- Likely not a single answer even in same context
 - Agreement between seller/cedant and buyer/reinsurer
 - Input from auditors

Appropriateness in context (3.1)

“The actuary should be aware of the context in which the discounted unpaid claims estimate is to be used. The actuary should use a methodology and assumptions in the discounting process that are appropriate for that context.”

Do your assumptions affect the results?

- Would different reasonable assumptions yield materially different results?
 - What is material?
- Is one assumption preferable to another?
- “Smoothing” of patterns
- Split by origin period

Payment timing for discounting: Assumptions (3.3.1)

“...The actuary should consider the sensitivity of the timing of future payments to reasonable alternative assumptions...”

Identifying and disclosing risks and uncertainties

- Significance will probably depend on audience and context
- Not only through different payment patterns
 - Large claims
 - Recoveries
 - Mix of claims

Actuarial communications: Risk and uncertainties (4.1.f)

“...the actuary should disclose the following in an appropriate actuarial communication... specific significant risks and uncertainties, if any, with regard to actual timing of future payments”

When assumptions are not your own...

- Disclosures in ASOP 41 usually considered for discount rates
 - Mandated interest rates?
 - Auditors?
 - Parties to a transaction?
 - Investment managers?
 - Outside scope
- But... other assumptions
 - Timing of recoveries/large loss payments

Actuarial communications: ASOP 41 (4.1.h and i)

“...ASOP No. 41, section 4.2, if any material assumption or method was prescribed by applicable law...”

“... 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 third party...”



Reminder: Know your ASOPs

	ASOP 20	ASOP 38
Name	Discounting of property/casualty unpaid claims estimates	Using models outside the actuary's area of expertise
Scope	Discounting of unpaid claims estimates ONLY	Professional services in connection with property and casualty insurance (or similar)
Effective date	January 1, 2012	December 15, 2000
And...	(Relatively) NEW!	In the process of being re-written

Do you ever use models outside your area of expertise to estimate unpaid claims?

- Recent catastrophes
- Workers' compensation indemnity benefits
- Emergence of claims related to latent diseases

Analysis of issues and recommended practices (3.1)

“...the actuary should do all of the following:

- a. determine appropriate reliance on experts;*
- b. have a basic understanding of the model;*
- c. evaluate whether the model is appropriate for the intended application;*
- d. determine that appropriate validation has occurred; and*
- e. determine the appropriate use of the model”*

- Materiality matters!

Inputs and outputs:

Are you reasonably familiar with the basics of the model?

- Catastrophe models used for reserving
 - What exposure information is going in?
 - Actual from underwriting systems? Estimated?
 - Public?
 - What level of detail?
 - Exact locations
 - Building details
 - Output
 - Insured losses?
 - Deductibles?

Analysis of issues and recommended practices: Understanding of the model (3.3.2 and 3.3.3)

“...understanding includes the level of detail required in the user input to produce results that are consistent with the intended use of the model.

...determine that the model output is consistent with the actuary’s intended use of the model.”

Is the model appropriate for the intended application?

- Mortality models for workers' compensation indemnity reserves
 - Does the model take into effect the benefit structure?
 - COLA
 - Benefit caps
 - Survivors' benefits
 - Are the assumptions consistent with the use?
 - Mortality
 - Drop-out

Analysis of issues and recommended practices: Appropriateness of the model for the intended application (3.4)

"...should evaluate whether the model is appropriate for the particular actuarial analysis, and consider the limitations ..., modifications..., and assumptions needed in order to apply the model output."

What about proprietary information?

- Document how you complied with the standards...
 - Including understanding and evaluating the model

Communications and disclosures: Proprietary Information (4.2)

“If the model has proprietary aspects or contains proprietary information, the actuary should document the steps taken to comply with this standard in light of the proprietary aspects or information”

ASOPs that Affect Reserving

ASOP Nos. 21 and 41



N. Terry Godbold, ACAS, MAAA
Principal and Consulting Actuary

Casualty Loss Reserve Seminar
September 6, 2012

ASOP 21

Title of ASOP 21

**Responding To or Assisting Auditors or
Examiners in Connection with Financial
Statements for All Practice Areas**

ASOP 21

Applies to:

- Actuaries providing professional services as a responding actuary or a reviewing actuary (Section 1.2)
 - In connection with an audit or examination of a financial statement
- Does Not Apply to:
 - Actuaries providing services in connection with filings
 - Tax returns
 - Form 5500 filings

ASOP 21

Definitions:

- Responding Actuary (Section 2.5)
 - Expressly designated by an entity to respond to the auditor or examiner.
 - Response is on those elements of an entity's financial statement that are based on actuarial considerations.
 - An entity may expressly designated one or more actuaries as responding actuaries.

ASOP 21

Definitions:

- Reviewing Actuary (Section 2.6)
 - Expressly designated by the auditor or examiner to assist with the audit or examination of a financial statement.
 - Assistance is on those elements of an entity's financial statement that are based on actuarial considerations.

ASOP 21

Responsibilities:

- Responding Actuary (Section 3.1)
 - Discuss Data, Assumptions and Methods
 - Discuss Environmental Considerations
 - Appropriately responsive to auditor's or examiner's requests for other data, calculations, and analysis

ASOP 21

Responsibilities:

- Reviewing Actuary (Section 3.2)
 - Planning
 - Documentation (In addition to ASOP 41)
 - audit plan
 - summary of items subject to reviewing audit procedures
 - summary description of procedures followed by reviewing actuary.
 - summary description of results providing findings
 - Disclosure of Relationships
 - Confidentiality

ASOP 21

Communication and Disclosure (Section 4)

- Both Responding and Reviewing Actuary should comply with ASOP 41.



ASOP No. 41 – Actuarial Communications

- What is an Actuarial Communication?
 - 1. A Written Communication -- paper, spreadsheets
 - 2. An Electronic Communication -- emails, web sites
 - 3. An Oral Communication -- such as a recording or transcription
 - 4. Any of above issued by an actuary with respect to actuarial services.
- What is an Actuarial Document?
 - An actuarial communication in any recorded form.
- What is an Actuarial Report ?
 - A set of actuarial documents relevant to specific findings available to the intended user.

What Should the Actuarial Report Contain?

1. Actuarial findings
2. Methods, procedures, assumptions and data used to allow review by another qualified actuary.
3. Disclosures:
 - a) The intended users
 - b) The scope and purpose
 - c) The actuary's qualifications
 - d) Cautions about risk and uncertainty
 - e) Any conflict of interest
 - f) Any information that has a material impact on the actuarial findings for which the actuary does not assume responsibility.

What Should the Actuarial Report Contain?

4. Information date of report – Indicate to the intended user the date(s) through which information has been considered.
5. If the actuary learns of changes to data that occurred before the information date of report after some actuarial findings have been communicated but before the report is completed, the actuary should communicate such changes to the intended user.
6. Indicate what specific documents comprise the actuarial report.

Specifics about Methods or Assumptions

- a) Identify if a material method or assumption is prescribed by law and identify the applicable law.
- b) Specify that the actuarial report was prepared in accordance with an applicable law.
- c) Identify if an assumption or method was set by another.
- d) Identify the party who set the assumption.
- e) Specify why this party rather than the actuary has set the assumption or method.
- f) If this assumption or method conflicts with actuary's judgment or such determination is beyond the scope of the assignment, this needs to be included either in the actuarial report or a separate communication such as a covering letter.

Deviation from the Guidance of an ASOP

- What is an actuary's responsibility in the case of a deviation from an ASOP?

A statement in the actuarial communication with respect to:

- a) The nature of the deviation
- b) The rationale of the deviation
- c) Effect of the deviation

Questions?
