

# The Financial Reporter

*The Newsletter of the Life Insurance Company Financial Reporting Section*

## Statement of Financial Accounting Standards No. 159 (SFAS 159)

### *The Fair Value Option for Financial Assets and Financial Liabilities*

*by Ken LaSorella*

*Disclaimer: The author is not a CPA and is not purporting to give accounting advice, but is describing what the Life Financial Reporting Committee (LFRC) understands to be a developing area of interest and concern for actuaries. Companies should seek accounting advice from their accountants in the application of all FASB standards.*

SFAS 159, The Fair Value Option for Financial Assets and Financial Liabilities, was adopted in February 2007 for fiscal years beginning after Nov. 15, 2007. SFAS 159 creates a fair value option under which a company may irrevocably elect fair value as the initial and subsequent measurement attribute for certain financial assets and financial liabilities on a contract-by-contract basis, with changes in fair value reported in earnings. The objective is to improve financial reporting by giving entities an opportunity to mitigate volatility in reported earnings caused by measuring related assets and liabilities differently without having to apply complex hedge accounting provisions. In addition, permitting the fair value option achieves further convergence with the International Accounting Standards Board (IASB), which has incorporated a fair value option in its authoritative guidance, IAS 39, Financial Instruments: Recognition and Measurement (although IAS 39 does not apply to insurance contracts).

Regarding financial assets, for the most part, accountants and investment professionals are well aware of the option to classify debt and equity securities as trading securities, as defined in SFAS 115, Accounting for Certain Investments in Debt and Equity Securities, which allows such



assets to be held at fair value, with changes in fair value reported in earnings. Likewise, there is awareness of the requirement to hold all derivatives, both free-standing and embedded, at fair value as mandated by SFAS 133, Accounting for Derivative Instruments and Hedging Activities. SFAS 159 provides the option of similar treatment of other financial assets (as does SFAS 155 for host contracts of derivatives).

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# The Financial Reporter

September 2007 Issue No. 70

Published by the Life Insurance Company  
Financial Reporting Section of the Society  
of Actuaries

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This newsletter is free to section members. Current-year issues are available from the communications department. Back issues of section newsletters have been placed in the SOA library and on the SOA Web site ([www.soa.org](http://www.soa.org)). Photocopies of back issues may be requested for a nominal fee.

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## 1. Advantage of Electing the Fair Value Option for Actuarial Liabilities

The primary advantage of valuing liabilities at fair value is that changes in value can be matched against changes in the value of supporting assets, also assumed to be held at fair value. Valuing both assets and liabilities on a consistent basis should not only reduce earnings volatility but should allow earnings to show the true economics of a matched position of assets and liabilities. Of course, to the extent asset and liability cash flows are not properly matched, such as, for example, the duration of one being longer than that of the other, earnings volatility is likely to result. However, this type of volatility is likely to result. However, this type of volatility is appropriate, since it simply reflects an economic mismatch reality. Without the fair value option, even a matched block of business might exhibit earnings volatility solely because assets and liabilities are not valued on a consistent basis.

For example, the SFAS 97 benefit reserve for general account deferred annuities and UL contracts is the policyholder account value (AV). Supporting assets are typically classified as available for sale (AFS), with dividends, interest income (including amortization of premium and discount), and net realized gains flowing through earnings. Selling assets to meet unexpected cash flow demands (e.g., excess surrenders), improve the quality of the portfolio or to achieve better matching would result in net realized gains that would fully impact investment income, have a limited impact on DAC, and have no impact on the AV liability at all. Earnings volatility would be likely. Also, if such AV liabilities have no accompanying DAC, even greater earnings volatility would be expected.

## 2. Contract-by-Contract Election

SFAS 159 requires the election to be made contract by contract and does not allow the election to be made for part of a contract, such as for a particular benefit feature. Companies hedging a contractual benefit might have benefited by an election to value the benefit at fair value to match hedging assets (derivatives held at fair value). For example, a company hedging a guaranteed minimum death benefit

(GMDB) on a variable annuity contract has to value the liability in accordance with SOP 03-1, which accrues the liability as a uniform percentage of contract holder assessments (benefit ratio method). Since derivatives used to hedge the benefit would be held at fair value, an asset-liability mismatch would occur, creating potential income volatility. If it were allowed, some income volatility could be mitigated by applying the fair value option to just the GMDB liability, without having to value the entire contract at fair value (which might be an undesirable or difficult exercise for some companies). However, SFAS 159 does not allow such an election for part of a contract.

## 3. Fair Value Liability (FVL)

Although it may be advantageous to value both assets and liabilities at fair value, it is typically easier to compute the fair value of supporting assets than to compute the fair value of corresponding liabilities. There are many valuation techniques that can be used to derive the fair value liability (FVL). However, there is much debate about which technique delivers a market consistent FVL. SFAS 157, Fair Value Measurements (discussed subsequently), defines fair value as “the price that would be received to sell an asset or paid to transfer a liability in an orderly transaction between market participants at the measurement date.”

Unfortunately, there is no active, complete, liquid and efficient market for the sale of in-force business. In practice, the valuation method frequently used in support of acquisitions is the actuarial appraisal method (AAM). The AAM values the in-force business as the present value of distributable earnings (PVDE), the maximum dividends that could be distributed to stockholders. Since PVDE is computed with market-based assumptions and a risk discount rate (RDR) that is market driven, it could be argued that this represents the fair value of in-force business (a price a willing buyer would pay a willing seller, with neither party under pressure to transact). Since supporting assets needed to run the business equal the sum of statutory reserves and required capital, FVL can be derived by subtracting PVDE from the

The primary advantage of valuing liabilities at fair value is that changes in value can be matched against changes in the value of supporting assets. ...

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market value of such supporting assets. [Note: This description ignores any required deferred tax adjustment, which is beyond the scope of this article.]

Determining FVL via the AAM has been called an indirect method. Other methods that compute FVL as the present value of net liability cash flows have been called direct methods. Luke Girard has demonstrated their equivalence in his paper, *Market Value of Insurance Liabilities: Reconciling the Actuarial Appraisal and Option Pricing Methods* (Girard 2000). J. Peter Duran, in his discussion of another Girard paper (Duran 2002), has demonstrated the equivalence of the indirect method (AAM) and three different approaches to the direct method: valuing FVL using an asset earnings rate, a liability rate, and the hurdle rate (or RDR). In addition, the Academy monograph, *Fair Value of Insurance Liabilities: Principles and Methods* (2002), also illustrates a direct method that reflects the cost of capital. Finally, risk neutral valuations, consistent with approaches for valuing securities and options, have also been used to fair-value certain liabilities, such as SFAS 133 embedded derivatives. Even in appraisals based on the AAM, embedded options that are likely to be hedged might be valued with risk neutral assumptions. Hence, there has been an array of approaches offered to calculate insurance liabilities and embedded options on a fair value basis.

The problem with a direct method is not with the theory, but with its overall complexity. There is some controversy surrounding the choice of market value margins (MVMs), margins to be added to best-esti-

mate assumptions to value liabilities on a market consistent basis. There are also issues with respect to assumptions, such as whether entity-specific estimates or market-based assumptions should be used, whether realistic or risk neutral probabilities should be assumed, and whether portfolio rates or new money risk free rates of interest should be assumed, and to what extent risk should be reflected in the projected cash flows and/or the discount rate. FVL direct valuation techniques are complex, evolving and beyond the scope of this article.

Finally, even if based on market consistent assumptions (such as those used to value traded options), if FVL by the direct method does not match that obtained by the AAM in support of an acquisition, it would be questionable whether it represents fair value as defined by the acquisitions market, despite its lack of depth and completeness.

### **SFAS 157**

SFAS 157, *Fair Value Measurements*, defines fair value, establishes a framework for measuring fair value and expands disclosures. However, it does *not* establish valuation standards. In fact, SFAS 157 recognizes that there are several acceptable valuation techniques consistent with the market approach, income approach and cost approach, giving reporting entities substantial leeway to choose valuation techniques that are appropriate to the circumstances and that can be supported with sufficient market data. Despite its lack of a specified methodology, SFAS 157 sheds considerable light on concepts and principles of fair value determination.

Fair value, as defined in SFAS 157, is based on a hypothetical transaction between market participants and represents, at the date of valuation, the price that would be received to sell an asset or paid to transfer a liability in an orderly transaction (i.e., not a forced liquidation or distress sale). In this regard, SFAS 157 clarifies that fair value is an exit price from the perspective of the reporting entity. In addition, to compute FVL, the liability should be assumed to be transferred to a market participant at the measurement date, allowing the liability to the counterparty to continue without being settled. This would eliminate cash surrender value (a settlement value) as a candidate for FVL. Also, since nonperformance risk must be assumed to be the same before and after the transfer, FVL should reflect the reporting entity's own credit standing (credit risk).



SFAS 157 also requires fair value to be based on assumptions that market participants would use in pricing the asset or liability, not entity-specific assumptions (a company's own assumptions). In the absence of observable market-based assumptions, a reporting entity may use its own assumptions about the assumptions that market participants would use to price the asset or liability based on the best information available (this is not necessarily the same as a company's own experience data). The objective is always to use assumptions market participants would use. Assumptions include risk and uncertainty, which SFAS 157 recognizes might be reflected in different ways or in combination. For example: market-based risk-adjusted cash flows might be discounted at the risk free rate (market's perception of risk is reflected in the cash flows); expected cash flows might be discounted at the risk free rate plus a risk premium (risk is reflected in cash flows and the discount rate); or for pricing risky cash flows using models, such as the Capital Asset Pricing Model (CAPM), conditional cash flows might be discounted at a market risk discount rate (risk is reflected in the discount rate).

#### 4. Some Candidates for FVL

The discussion of FVL candidates that follows does not consider deferred tax arising from any difference between FVL and the tax reserve as required by SFAS 109. The use of algebraic techniques to mitigate the impact of deferred tax is beyond the scope of this article.

##### 4.1 Canadian GAAP (CGAAP) Reserves

It has been suggested by some that CGAAP reserves serve as a good surrogate for FVL. The line of reasoning starts with the premise that FVL can be calculated as the present value of net liability cash outflows based on best-estimate assumptions plus market value margins (MVMs), in essence, provisions for adverse deviation (PADs) added to best-estimate assumptions to reproduce market values (analogous to risk margins). This direct method of computing FVL is a type of gross premium valuation. CGAAP reserves are also based on a type of gross premium valuation with best-estimate assumptions plus a PAD on each assumption (called margin for adverse deviations, MfAD). Whether based on required and/or optional deterministic scenarios (for some traditional products) or stochastic scenarios (for variable products), each assumption would be PADed except for scenario-tested assumptions (such as inter-

est and other assumptions driving a particular economic scenario). Reserves derived from stochastic scenarios are based on the conditional tail expectation (CTEx), the average of the highest (100%-x%) of the scenarios (e.g., for CTE60, average of the highest 40 percent). The difference between CTEx and CTE0 (average of all the scenarios) can be considered to be another PAD. If all such PADs are consistent with corresponding MVMs, the resulting CGAAP reserves might be close to FVL. Hence, an argument can be made that CGAAP reserves represent FVL.

If CGAAP reserves were assumed to qualify as FVL, election of the fair value option would allow Canadian companies (and U.S. companies using CGAAP valuation techniques) to set U.S. GAAP reserves equal to CGAAP reserves. This would eliminate the need for separately determined U.S. GAAP reserves.

The problem with this approach is the risk that, due to the choice of PADs and/or the method of computing expected cash flows, regulatory authorities and/or auditors might conclude at a later date that CGAAP reserves were not sufficiently close to FVL. The result would be required revaluation and possible restatement. In addition, if CGAAP reserves have supplanted U.S. GAAP reserves for an extended period, it is possible that maintenance of U.S. GAAP software and models might have ceased, exacerbating the problem of revaluation.

##### 4.2 AAM and EV-Derived FVL

Perhaps an approach to FVL via the AAM might be more easily supported. At least the AAM is used in practice and has been accepted for the establishment of purchase GAAP (PGAAP) balance sheet items which, according to SFAS 141, *Business Combinations*, must be fair value. For a block of in-force business, AAM typically computes the present value of distributable earnings (PVDE) using market-based best-estimate assumptions and an RDR consistent with the market's assessment of risk. Distributable earnings (DE) can be thought of as the maximum dividends that can be distributed to shareholders while maintaining solvency and meeting

... AAM typically computes the present value of distributable earnings (PVDE) using market-based best-estimate assumptions and an RDR consistent with the market's assessment of risk.

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minimum capital requirements. At the beginning of each modeled accounting period, assets are reset to equal statutory reserves plus required capital (RC). No additional surplus is allowed to accumulate, i.e., all would-be free surplus is assumed to be distributed. DE for a particular accounting period is the sum of net income plus (minus) the release (increase) of RC. FVL can then be obtained by subtracting PVDE from the initial market value of assets supporting reserves and RC. [Note: As previously mentioned, those embedded options that are typically hedged might be valued on a market consistent basis (e.g., using risk neutral assumptions), in which case the FVL derived above should be appropriately adjusted.]

FVL can be thought of as the market value of net assets that would be transferred from a seller to a buyer.

A variation on the PVDE theme is an Embedded Value (EV) approach. At the beginning of each modeled accounting period, assets are reset to equal statutory reserves. No surplus is allowed to accumulate. Book profit (BP) for a particular accounting period is the net income (i.e., after-tax income). The difference between net income in AAM and EV is the after-tax investment income on RC.

Recognizing that investors wish to make the RDR on all capital at risk, the EV approach adjusts for this by imposing a charge for cost of capital equal to the RC at the beginning of each period multiplied by the difference between the RDR and the after-tax earned rate on assets supporting RC. In-force business value (IBV) is the present value of book profits (PVBP) less the present value of cost of capital (PVCoC). FVL can then be obtained by subtracting IBV from the market value of assets supporting statutory reserves. [Note: A practical alternative to applying AAM or EV at each valuation date is to use AAM or EV results to calibrate a direct FVL model, which would then be used for actual valuations.]

#### 4.2 A. Simple Example

Assume the following:

Reserves = 1000

RC = 50

Total Required Assets = 1050

Market value, book value, and tax value of assets are equal.

Statutory reserves equal tax reserves (for simplicity, no Proxy DAC).

PVDE = 150

PVBP = 120

PVCoC = 20

Since  $IBV = PVBP - PVCoC$

$IBV = 120 - 20 = 100$

Then, FVL via AAM is given by:

$FVL = (\text{Market value of Total Required Assets}) - \text{PVDE}$

$FVL = 1050 - 150 = 900$

Alternatively, FVL via EV is:

$FVL = (\text{Market value of assets supporting Reserves}) - \text{IBV}$

$FVL = 1000 - 100 = 900$

With either approach, an FVL of 900 is obtained. FVL can be thought of as the market value of net assets that would be transferred from a seller to a buyer. For 900, the buyer would be willing to take on liabilities of 1000 and put up RC of 50 in order to have an expected return equal to the RDR.

#### 4.3 International GAAP (IGAAP)

Authoritative guidance for IGAAP comes from the International Accounting Standards Board (IASB) primarily via accounting standards. In addition, the International Actuarial Association (IAA) continues to provide technical support and papers on evolving FVL methodology. Recently there has been debate over an entry method and exit method. An entry method, through the use of margins, assures there will be no gain or loss at issue. Such margins can be locked-in over the life of the contracts. However, two companies with exactly the same expected future net liability cash outflows would likely not have the same FVL because of differing initial margins. The exit method is strictly a prospective approach and does not artificially force a zero gain at issue. So, two similar companies with exactly the same expected future net liability cash flows and identical credit standing should theoretically show the same FVL. [Note: Because the credit standing of a company influences its risk discount rate, it is possible that exit value FVL in two companies with exactly the same expected net liability cash flows might not be the same.] Although the IASB has recently endorsed the exit method for insurance accounting, the vote was far from unanimous (seven for, six against and one abstaining). Consequently, some believe it is possible for the issue to resurface at a later date with a different proposed method. [Note: While the IASB has not taken a position on whether exit value equates to fair value, they have said they currently see no significant differences between the two.]

For most situations, IGAAP seems to favor valuing each side of the balance sheet in isolation. While CGAAP and AAM value liabilities consistent with supporting assets, IGAAP appears to be going in the direction of valuing liabilities via a replicating portfolio of risk-free assets (i.e., a portfolio a market participant would be expected to assume). A spread or margin might be added to the risk-free rates for discounting, but would not be influenced by the quality or duration of the actual supporting assets (which would be separately valued at market). [Note: AAM is flexible enough to be used with assets at market or with a replicating portfolio, as opposed to actual supporting assets at book.] Finally, questions arise as to how to properly reflect frictional costs (such as cost of having to hold RC) and whether some assumptions should be entity-specific (based on a company's own expected experience) or market-based (based on expected experience in the market), the latter having been addressed by SFAS 157.

In short, there is much uncertainty regarding the exact method of computing FVL. With so many proposed methods in the past and periodic changes in approach, it is difficult to predict the mechanics of the ultimately adopted IGAAP method(s) for FVL. Consequently, there is a risk that electing the fair value option and adopting any proposed IGAAP method to compute FVL for U.S. GAAP financial reporting might result in future revision of method along with restatement of reported values.

## 5. Summation

While it may be tempting to elect the fair value option and simply set U.S. GAAP reserves equal to CGAAP reserves, there is the risk that the methodology would be rejected in the future. A similar, though perhaps smaller, risk exists for computation of FVL via AAM or EV methodology. Likewise, although IGAAP appears to be consistent with SFAS 157, because neither prescribes an exact method, companies must rely on concepts, principles and interpretations to derive an FVL method consistent with IGAAP and/or SFAS 157.

Finally, although companies reporting EV may have models in place to derive FVL, a company may wish to deliver a more complete financial reporting basis by modifying such models to include those liabilities that have been excluded for EV. Modifying existing EV models and/or simply performing valuations in a timely manner to accommodate the more rigorous financial reporting timelines might be a monumen-

tal task. To move from the theory to practice might take a significant investment in systems.

In summation, election of the fair value option under SFAS 159 is heavily dependent upon the correct interpretation and successful implementation of SFAS 157. Despite the introduction of SFAS 157, which is certainly helpful, SFAS 159 still appears to be ahead of evolving FVL methodology. Consequently, until FVL methodology is solidified in practice, and until reliable valuation systems are in place, some companies might defer electing the fair value option for U.S. GAAP actuarial liabilities. Although the risks of future revaluation and restatement would be avoided, such risks should be weighed against the loss of opportunity to elect the fair value option for in-force business at the effective date of SFAS 159. In short, election of the fair value option should be made with due awareness of inherent risks. **S**



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# Thoughts from the Chair

by Henry W. Siegel

It's been a long week for me. On Tuesday I chaired a meeting of the Academy Task Force on the International Accounting Standards Board (IASB) Discussion Paper on Insurance Contracts. Thursday and Friday I was in London at a meeting of the International Association of Insurance Supervisors (IAIS) Subcommittee on Insurance Contracts discussing the same paper. At the same time, the council is finishing up several research projects including a very important one concerning that same paper (more below). And we're still awaiting the Financial Accounting Standards Board's (FASB) release of the same paper to its constituents asking if it should form a joint project with the IASB on the same subject.

Actuaries from as recently as 10 years ago would hardly believe their eyes. The entire accounting structure for insurance companies, both statutory and GAAP, is being completely rewritten at the same time, and the rewriting is coming from Europe and the international industry as much or more than from the domestic industry. There's a major upheaval coming within most people's working lifetime and companies that aren't ready for it will find themselves struggling hard to catch up.

There are many interesting questions that arise as a result of all this work. I'm going to discuss a few of them; many others remain.

First, and possibly most importantly, how will the principles-based work currently going on at the NAIC and Academy converge with the solvency work going on in Europe and at the IAIS? While both are principles-based, it doesn't appear that the principles are very similar. For instance, the international standard is likely to be very similar to International GAAP, which means much emphasis on explicit reserve margins, market-consistent assumptions and concern about too much prudence in the reserves. It's not clear that those principles match up well with the recent publication by LHATF of their guiding principles.

On the GAAP side, it looks like FASB and the IASB will indeed form a joint project on insurance accounting. The recent pronouncements by

the SEC make this all but certain since companies will be able to use international GAAP to file with the SEC after 2008. The form of the international GAAP standard, however, is not at all settled.

For instance, the IASB Discussion Paper talks about an exit value, what you would have to pay someone to take the liability off your balance sheet. But the IASB doesn't consistently apply that principle. For instance, the only renewal premiums that can be recognized in calculating liabilities are those that policyholders must pay to retain their insurability. This works fine for traditional products that lapse if a premium isn't paid. It doesn't work at all well for UL where if the policyholder only pays the minimum premium necessary to keep the policy in force the insurer will be likely to recognize a loss in the first year.

Another item that caused concern during our discussion on Tuesday was the requirement for explicit, unbiased, market-consistent, probability-weighted and current estimates of the contractual cash flows. Think about this for a minute; what does it mean? Unbiased? Market-consistent? Probability-weighted? Doesn't that sound a lot like a requirement for a stochastic calculation? "Current?" Doesn't that sound like you need to do the stochastic analysis every quarter since interest rates will have changed? Is your company ready to do a stochastic measurement every quarter? And don't forget, this is not just for annuities, or even life and annuities; this is for everything. And the stochastic requirement is not limited necessarily to interest rates but may include mortality, surrenders and expense rates.

Finally, the discussion paper talks about whether to allow a gain at issue. Many people argue that gains (and losses) should be allowed on issue so long as a "sufficient" risk margin is applied to the best estimate reserve (defined as above). What is a sufficient risk margin? If gains at issue are allowed, what is to prevent a "race to the bottom" where insurers compete to see who can justify the lowest risk margin? How can we prevent the inevitable destructive competition for market share since the only way to show increasing earnings is to increase sales each year?



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Think I'm being a bit dramatic or overstating the issue? Well, maybe a bit. But this accounting revolution, both statutory and GAAP, will have implications far beyond the financial statements. It will affect product design. It will affect company management. It will affect our customers who may or may not have more security as a result of these changes.

So, you want to know more? How do you find out? Well, funny you should ask!

The Financial Reporting Section's sessions at the upcoming annual meeting in Washington will deal with many of these issues.

There will be sessions on:

- The new PBR proposals.
- International GAAP—including the results of the section-sponsored research project on the effects of these proposals on financial results of U.S. products.

- The new U.S. GAAP pronouncements on fair value and fair value options that sound a lot like the international proposals.

- Research projects the section has sponsored, many of which deal with issues similar to those I've mentioned above.

If you're a financial reporting actuary, you need to attend these sessions! And while you're at it, don't forget to sign up for our reception and free breakfast. We're expecting to have a very exciting guest speaker for the breakfast.

Finally, I have a request on another subject. As you probably noticed, the SOA has spent a lot of money and time revising its Web site. Take a look at the section's Web pages and let us know if you want something you don't find. We want to meet your needs, but we need you to let us know what those needs are.

I hope I'll see every member at the annual meeting.

**Remember: Insurance accounting is too important to be left to the accountants! 💰**

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November 5-6, 2007, Atlanta, GA

## Capital Efficiency Seminar

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Register today at [www.soa.org](http://www.soa.org)



# Highlights of the June 2007 NAIC Life and Health Actuarial Task Force Meeting and Other NAIC Topics

by Ted Schlude



I attended the NAIC Summer Meeting held June 1–4, 2007 in San Francisco, including meetings of the Life and Health Actuarial Task Force (LHATF) and selected meetings of the NAIC. Summarized below are the activities that took place at these meetings.

## Life And Health Actuarial Task Force

The LHATF met on Friday and Saturday and discussed a variety of topics, primarily related to the principles-based reserving (PBR) initiative. LHATF is now chaired by Larry Bruning (Kansas) with Leslie Jones (South Carolina) as the vice chair.

The following topics were discussed related to principles-based initiatives:

### 1. Revised Process for Model Law Development:

Larry Bruning began the meeting by discussing the NAIC's new process for model law development and the commitment that was expected from commissioners voting for models to make

reasonable attempts to get new models adopted in their states. Features of the new process include initial authorization to work on a model based on a majority vote from the parent committee and the Executive Committee, support of the final model by a two-thirds vote and commitment on the part of commissioners to adopt. Models are determined by the parent committee and EX committee to be a necessary uniform standard across the states; otherwise they would become guidance rather than a model law or regulation. A one-year time frame is allowed to develop a final model once authorized by the Executive Committee.

### 2. Overview from Academy PBR Steering Committee:

Donna Claire, chair, Life Risk Management and Financial Soundness Committee of the Academy, provided an overview of the progress made on the PBR project by various Academy groups since the last LHATF meeting. The Academy is working on technical issues; LHATF's SVL2 subgroup is working on changes to the Standard Valuation Law; and the NAIC's PBR (EX) Working Group is working on policy issues such as tax implications, international issues and any other issues requiring policy type decisions.

A brief status report followed with technical work on life insurance being nearly done, annuity work expected to be completed in 2007, and health insurance work gearing up with a current focus on LTC, together with information sharing with property & casualty to the extent possible. The expected time frame for some aspects of the project includes:

- Completion of technical work in 2007.
- Life RBC adoption for 2008 year-end use.

- SVL completed in 2007/2008. State adoption in 2008/2009, with a 1/1/2010 anticipated effective date.

Next, the work of various Academy work groups was highlighted. Formal presentations by certain work groups were provided separately as described later in this summary. Finally, the Academy indicated that many projects were at or near completion, the major current effort relates to the valuation manual, and that a life capital proposal (C-3 Phase III) has been exposed by the Life RBC Working Group and can still be passed this year for a 2008 year-end effective date. It was noted that the PBA reviewer regulation which had been exposed for comment by LHATF has now been incorporated directly into the valuation manual.

**3. Report from AAA on Principles-Based Capital Requirements:** Donna Claire gave an update with respect to several committees and work groups.

- *Life Capital Adequacy Subcommittee (Nancy Bennett, chair):* Provides input related to LCWG questions as well as works with the NAIC's Life RBC Working Group.
- *Life Capital Work Group (Peter Boyko, chair):* The goal is to have preliminary models and outstanding issues addressed by September 2007, with anticipated adoption of C-3 Phase III for life products by December 2007 for a December 31, 2008 effective date. The capital requirements apply to all life business in force in order to properly view risk at the corporate level, compared to the life reserves PBR project which would only apply to new issues initially. Stochastic scenarios could be based on: (i) a supplied generator, (ii) supplied scenarios with a scenario picking tool or (iii) on a company proprietary model, subject to calibration criteria. Hedge treatment would be similar to C-3 Phase II and consistent with LRWG. Assets would be equal to reserves with spreads on reinvestment prescribed by the NAIC, similar to LRWG. The documentation and certification requirements would be consistent with C-3 Phase II with a certification of the amount, supported by a report or memorandum prepared by the certifying actuary.

- *Annuity Capital Work Group (ACWG) (Bill Wilton, chair):* This work group is using work done by the Annuity Reserve Work Group (ARWG) as a base. One framework is contemplated that would handle C-3 Phase I, Phase II as well as incorporate EIAs and be consistent across life and annuities to the extent possible. Several additional items are being addressed that include review of: (i) C-3 factors, (ii) cap of 200 percent on base factors as a result of the testing results, and (iii) should weighting about the 95th percentile continue or should C-3 Phase I move to a CTE-type approach? The C-3 component of RBC would be equal to the difference between CTE 90 TAR and CTE 65 TAR (reserves). Alternative methods are being considered for certain lower risk type annuity products. The ACWG working construct would split C-3a interest rate risk from C-3c market risk as follows:

$$RBC = C0 + C4_a + \sqrt{(C1_o + C3_a)^2 + (C1_{cs} + C3_c)^2 + C2^2 + C3b^2 + C4b^2} - (Reserves - CTE_{65} TAR)$$

- *Academy Economic Scenario Work Group (Max Rudolph, chair):* Donna Claire highlighted certain aspects of the work of this group primarily in the area of updating the AAA interest rate model. It was noted that the target long rate (mean reversion) has been revised from 6.55 percent in the existing C-3 Phase I generator to 5.5 percent. The work group is in the process of reviewing calibration criteria which currently appear to be too tight based on comparisons to several proprietary company generators. The plan is to have a new economic scenario generator ready for the September 2007 NAIC meeting.

**4. Academy Reinsurance Work Group (Sheldon Summers, chair):** Sheldon Summers provided an update on various reinsurance provisions that have been incorporated into the current LRWG draft on life PBR. Highlights include:

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- *Gross Notional Reserve Concept:* A gross reserve which will need to be computed as if the reinsurance were not in effect. The reserve credit would be equal to the difference between the gross notional reserve and a reserve computed using PBR, taking into account all aspects of reinsurance.
- *Management of Treaty Provisions:* Assumption that each party will manage the reinsurance treaty to their advantage. Example: recapture provisions.
- *Credit Risk:* Consideration of credit standing will be included in RBC but not in reserving, although a current financial impairment would be modeled via margins in the valuation by either the ceding company or assuming company.
- *Items Pending Include:* Guidance to be provided in allocating net reinsurance aggregate cash flows when multiple treaties are involved, IMR issues and review, issues unique to annuities because life insurance has been the focus thus far, treatment with respect to disproportionate risks and the general requirements with respect to risk transfer.
- *Risk Transfer:* Under PBR, reinsurance credits should be accorded for any risk transfer that can be modeled (no longer all or nothing credit) although there still may be some prohibitions such as rating agency bailouts (treated as non-complying or triggered immediately). The real question for regulators, according to Sheldon Summers, is: Are they comfortable with the framework in which reinsurance can be used as a risk management tool if they relax the risk transfer rules? One example noted might be ways for ceding companies to get around some of the floors set by regulators in the PBR framework, such as CV floors (For example: if reinsurance cedes off the CV obligations does it eliminate the CV floor for the ceding company?).

**5. AAA Preferred Mortality Project Oversight Group and Basic Table Development:** It was

noted that valuation tables are expected to be released in September 2007. Use of the tables will be based on an Underwriting Criteria Score which will assist the actuary in selecting a table to be used from a group of tables based on the actuary's judgment.

Detail with respect to the development of the preferred valuation basic tables was provided by Mary Bahna-Nolan as highlighted here:

- Based on ILEC 2002–2004 Data from 35 contributing companies. The tables will not be supplemented with the SOA's current data call.
- 200,000 deaths in select period, 495,000 deaths in the ultimate period, but many were small policies so face amounts less than \$10,000 were excluded from the experience summaries.
- Population data is being used to extend the table to age 95 (where SSA data based on Medicare death records is still credible). The ultimate mortality rate is 45 percent at attained age 110 and later based on several research papers. It is possible that the valuation table will have a 100 percent death rate at omega.
- A 5 percent adjustment to experience in years 11–15 grading to zero at end of select period (25 years) was made to adjust for 10-year term beyond the initial term period and to account for differences in underwriting which have occurred over time.
- Tables vary by band size:
  - \$10,000 – \$49,999
  - \$50,000 – \$99,999
  - \$100,000 – \$2,499,999 (claims capped at \$2.5 million)

Ultimate mortality is not expected to vary by face amount. Regulators were somewhat concerned that valuation tables that vary by band size might be viewed as unfairly discriminatory. This issue was referred to the NAIC Life (A) Committee.

- *Select Period (25 years):* The select period will grade down to some limiting attained age such as age 90 but not less than a two-year select period (age and time period still under consideration).
- Experience multiples as a percentage of 2001 VBT ANB are shown below.

Amount Band	Aggregate	MNS	MSM	FNS	FSM
< \$50,000	90.4%	89.7%	100.4%	79.3%	94.6%
\$50,000 – \$99,999	78.6	77.7	88.6	71.9	84.3
\$100,000+	67.3	65.4	78.6	65.2	85.2

- Mortality will grade to the population table beginning in the attained age 80 range.
- Mortality Improvement: Final tables will be improved to 2008.
- Preferred tables will be developed for the middle band only: 10 nonsmoker tables; four smoker tables separate for males and females.
- *Summary of Open Issues:* Several items are still under consideration including: (i) wear off of selection at older ages (ii) finalize the aggregate tables, (iii) graduate for smoothness or fit (this issue involves the duration 3 spike in mortality and whether or not it should be smoothed) and (iv) determining the appropriate improvement factors to 2008.

It is expected that final experience tables will be provided to the valuation team by July and table documentation will be completed in August. The group requested LHATF's feedback in the area of variation by band size and with respect to how to deal with the duration 3 spike in mortality (smoothness versus fit issue). The Academy would like to move toward a table with better fit rather than smoothness.

**6. Academy Report of the Life Reserves Work Group (LRWG):** Dave Neve, chair of LRWG, reviewed various aspects of the draft Requirements for Principles-Based Reserves for Life Products. He noted that the certification and

documentation requirements had been moved to the valuation manual and that "guidance-type" text was removed and referred to the ASB for consideration in the ASOP. He then reviewed the more substantive items:

- *Assumption Margins:* Guidance requires an individual assumption margin focus unless a company can demonstrate the covariance effect between two or more assumptions.
- *Provision for Model Understatement:* This terminology has been removed from the draft but the concept has been retained.
- *Margin Ratio:* A margin ratio is no longer required given LHATF's desired focus on individual margins rather than aggregate margins.
- *Reinsurance Requirements:* These requirements have been refined as described by Sheldon Summers previously.
- *Reported Reserve:* Set equal to the deterministic reserve plus a stochastic add-on for tax deductibility reasons.
- *Simplifications to Stochastic for Certain Products:* The draft provides several options including:
  - (i) Material Tail Risk Approach: This approach would involve testing under a small number of prescribed scenarios such as the NY Seven or Canadian Nine using a Gross Premium Valuation (GPV) approach. Then the degree of variability would be evaluated by comparing the difference between the largest and smallest GPV with the present value of benefits.

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(ii) Simplification for Non-guaranteed Elements: This approach would involve products without significant tail risk where larger margins with explicit conservatism would be used (such as participating products, or COI charges and interest credits on UL type products).

(iii) Company Rationale: The company would still have the ability to develop its own analysis and rationale for why a product or product groups should be exempt.

Priorities of LRWG for 2007 include:

- (i) Resolution of technical issues.
- (ii) Determining prescribed elements such as CTE level, interest rate and equity assumptions, net spreads on reinvestment.
- (iii) Perform modeling and other analysis.
- (iv) Respond to tax issues.
- (v) Further development of simplified approaches.

The LRWG recommended exposure by LHATF of the current version of the LRWG's Proposed Requirements for PBA for Life Insurance Reserves. LHATF decided to keep the various proposals from LRWG, ARWG, AG VACARVM and the valuation manual separate in the hope to keep obtaining substantive comments which they believe might not be as frequent if all the various drafts were wrapped together into a single voluminous document. Some regulators expressed concern that some of the language to be moved to the ASOP relates to policyholder behavior and constraints related to assumption setting including the portions of text related to lack of credible experience and how the actuary was to err on the conservative side of plausible when experience data was lacking. LHATF exposed the LRWG report and also adopted a

motion to move the PBR Review Model Regulation to the valuation manual.

**7. Valuation Manual (VM):** Next, LHATF received a report from Mike Boener (Texas) related to the valuation manual. There are at least four subgroups working on key items of the manual, and status reports were provided:

- (i) PBR Reporting and Review Requirements Subgroup.
- (ii) Drafting Subgroup.
- (iii) Experience Reporting Subgroup.
- (iv) Small Company Subgroup.

They also discussed a proposal related to how the valuation manual might work in the statutory framework. One possibility is similar to the AVR/IMR guidance where AVR/IMR is simply defined in SSAP #7 while specific guidance related to AVR/IMR is provided in the annual statement instructions (referred to as single SSAP and PBR Valuation Manual approach). This would ensure uniformity among the various states. Also, they discussed an approach to accomplish application of the life reserves approach to new business while keeping old business on current reserve requirements as is contemplated.

The Small Company Subgroup is considering three possible phases in the reserve standard.

- Phase I: Would apply the new standard to long tail products such as separate accounts, long term guarantees, term business longer than 20 years and equity indexed type products.
- Phase II: PBR would be introduced for other products with material tail risk.
- Phase III: Exemptions would be developed for lines of business such as credit, final expense and traditional whole life.

Current format of the valuation manual includes the following sections:

- 1) PB overview.
- 2) Authority and applicability.
- 3) Reserve requirements (would include



LRWG PBR plus non-PBR requirements, AG VACARVM, ARWG requirements when complete, deposit type contracts, health—would follow current requirements and credit—would follow current requirements).

- 4) Reporting requirements.
- 5) Annual PB review requirements.
- 6) Experience reporting requirements.
- 7) Appendices:
  - A. Health reserves
  - B. Experience reporting templates
    - SA. Statistical agents.

The timing anticipated for the project includes:

- Valuation manual substantially complete by 9/07.
- 3/08 to 6/08: NAIC adoption of VM.
- 2008-2009: State adoption of SVL changes.
- 1/1/2010: Effective date for VM.

Based on a survey of regulators on PBR, it appears regulators are in favor of PBR for variable, secondary guarantee, long-term guarantee and equity indexed products and are comfortable using simplified approaches for simpler products such as credit, pre-need, final expense and group term type products.

The ACLI expressed concerns related to uniformity in requirements, emphasized uniform adoption in the states and suggested a methodology similar to mortality tables where the company has an option to use a table for a period of time before it is required to use it (can-do/must-do type standard) to address some of these transitional concerns.

LHATF voted to expose the preliminary draft valuation manual for comment with a first draft caveat related to potential changes to structure and direction that may occur in the future. A more complete draft will be released in September 2007.

**8. SVL 2 Subgroup:** Katie Campbell reviewed progress that has been made relative to revisions to the Standard Valuation Law to accommodate PBR. This discussion and refinements will continue to be made in conference calls.

**9. SOA Progress Report on Experience Studies:** LHATF received two reports from the SOA as described below.

- *Preneed Mortality Study:* Mike Villa of Homesteaders Life provided the Preneed Mortality Study update. Due to the unique nature of the mortality slope and the absolute level of mortality, a preneed valuation table is being developed to address concerns that the 2001 CSO will not be adequate when it is required for statutory (1/1/09) and tax (1/1/08) valuation purposes. Ten companies provided pre-need experience data to the study. The presentation highlighted the mortality characteristics (U-shaped mortality curve, five-year select) and the reserve inadequacies of the 2001 CSO Table. LHATF is hoping that valuation table work will be considered part of normal valuation standards maintenance under the SVL rather than having to submit a request to the Life (A) Committee and the Executive Committee to be able to work on a new valuation table model regulation. Next steps by the Society include: (i) recommending a valuation table for the Academy to review (a 7 percent mortality margin is contemplated), (ii) draft a model regulation requiring the use of 2005 Table for preneed valuation and (iii) to consider a stop gap measure to clarify that 1980 CSO is still a more appropriate table for preneed than 2001 CSO in order to address the 1/1/08 tax issue.
- *SOA Pandemic Research Project:* Tom Edwalds of Munich American provided a report from the Society on the results of the Pandemic Research Project. A mortality surge model was created which considered excess deaths measured per 1,000, taxes at 35 percent, before and after reinsurance credits and reserves released are treated as an offset. Characteristics include a quinquennial age model, various excess mortality shapes includ-

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ing flat by age, U-shaped by age, **I** shaped by age and W shaped by age, with moderate and severe excess morality scenarios.

Results of the analysis are provided below.

SOA Pandemic Model Results Net of Reserve Release and Taxes			
Business		Moderate (Similar to 1957, .7 deaths per 1,000, U Shape)	Severe (Similar to 1918 6.5 deaths per 1,000, <b>I</b> Shape)
Individual Life:	Gross	\$4.5 billion	\$79 billion
	Net	1.3	34
Group Life:	Gross	\$2.3	\$47
	Net	1.5	30
Total	Net	\$2.8 billion	\$64 billion

Conclusions reached were that a moderate event would have a minimal impact on the industry while a severe event would be unpleasant but survivable by the life industry. Results can be found on the SOA Web site.

**10. Report from AAA on AG VACARVM:** Tom Campbell reported that the AAA is planning on incorporating many of the comments received on AG VACARVM into the March 2007 version of AG VACARVM for consideration by LHATF in conference call or at the September, 2007 NAIC meeting. A re-exposure of the AG VACARVM draft had been deferred previously in March to avoid creating confusion related to the survey sent to companies on implementation issues. Survey responses were requested by June 1, and it has been sent to 26 companies writing VA business.

LHATF met on Saturday, June 2, 2007 and discussed a variety of more general topics as outlined below.

**1. A&H Working Group:** The A&H Working Group continues to work on various projects including the Medicare Supplement Refund Formula, LTC Experience Forms, the Health Blank Actuarial Opinion framework and LTC Model Regulation (issues related to rate increases under rate stabilization). The working group heard a report from Steve Ostlund (Alabama) related to the Group Term Waiver of Premium Table where there have been several changes to the model regulation and it was noted that the Academy is presently reviewing margins in the table (to be considered later by LHATF, see below). Finally, a white paper was adopted relat-

ed to issues surrounding individual medical rate reform (rate/claims spirals) which a state may want to consider when dealing with these issues.

**2. Report to Risk Assessment Subgroup:** A report will be provided in September 2007 related to a request from the Risk Assessment Working Group for LHATF to assist it in developing some guidance with respect to actuarial aspects of risk focused reviews for financial examiners related to the new risk focused examination process.

**3. Statistical Agent:** LHATF decided to form a subgroup to address experience reporting issues related to Model Regulation 815-2001 CSO Preferred Tables as well as to consider the more general experience reporting required under a PBR framework. LHATF received reports on the standardized forms used for recent SOA mortality submissions. The ACLI commented related to the process which they believe should emphasize the preferred table focus rather than require comprehensive mortality submissions for purposes of Model Reg 815. The mortality data format was exposed for comment.

**4. Actuarial Guideline TAB (2001 CSO Preferred Table Guidance):** No comments were received on the May mailing which is the current draft AG TAB that was exposed during interim conference calls. LHATF adopted the actuarial guideline and it will be forwarded to the Life (A) Committee and EX/Plenary for adoption in September 2007.

**5. 2005 Group Term Life Premium Waiver Model Rule:** Shawn Loftus provided a presentation related to the Academy's work involved in reviewing the SOA table, which includes a recommendation for the following margins:

25 percent margin for mortality or 125 percent of base SOA Experience Mortality (Krieger was 30 percent).

35 percent margin for recovery or 65 percent of base SOA Experience Recovery (Krieger was 40 percent).

The resulting table would adequately cover all but one or two companies of the 17 companies that



contributed to the Group Term Life Premium Waiver Study. He noted the differences between individual waiver (reserving for future waived premiums) and group waiver (reserving for future death claims). The Krieger Table, which has been used by the industry for years, is not a prescribed table. The interest rate recommendation is to use the SPIA valuation rate less 1 percent to recognize the fact that group life waiver does not have much C-3 interest rate risk because there is no cash settlement option provided (supported generally by LHATF).

Feedback from companies expressed a desire to be able to reflect their own company experience in early years similar to the group LTD framework for claim reserves. This will be considered by LHATF.

A final report will be issued by the Academy in September 2007 with an interim conference call to discuss issues related to the appropriateness of the margins, reflection of own experience, etc. Finally, LHATF exposed for comment a draft Group Term Life Waiver Model Rule from the NAIC's Randall Stevenson which incorporates a new section related to credibility weighting.

**6. ABCD/ASB Presentations:** LHATF received presentations from Julia Phillips (representing ABCD) and Cecil Bykerk (representing the ASB) on professional topics. Bykerk noted that the ASB does not prescribe, but rather provides, guidance. He also noted the CRUSAP Report to the ASB/ABCD which recommended that they should also get non-actuaries involved in the standards and review processes similar to the United Kingdom. The ASB has provided sample ASB documents related to PBR, which he emphasized should not be interpreted as exposures by the ASB, but were issued to facilitate discussion.

It was also noted that the Academy's Qualification Standards have been revised to include CE requirements that now require 30 hours of CE per year, compared to 24 hours over a two-year period, which were the previous requirements. Six of the 30 hours must be from organized activities.

**7. Non-forfeiture Law Improvement:** LHATF is reviewing results from an Academy survey of regulators related to non-forfeiture. The ACLI asked that his project be deferred for the time being given all the work that was being expended on PBR and because no consensus has been achieved by regulators on many of the key non-forfeiture issues. LHATF noted that the Life (A) Committee had approved the go ahead for LHATF to work on SVL and SNFL in the context of PBR (also approved by Executive) and will continue to discuss non-forfeiture issues at future meetings.

**8. 2008 GRET Table:** LHATF will consider an SOA document on the 2008 GRET factors in conference call (exposed for comment). The SOA proposal is to create eight expense categories compared to the old four categories because of some of the year-to-year discontinuities which resulted from the old classification system. A comparison is provided below.

2007 GRET Expense		2008 Proposal	
Categories	Company Count	Categories	Company Count
Branch Office	33	Branch Office	33
Direct Marketing	16	Direct Marketing	16
Home Service	25	Home Service	25
Other	322	Career GA	33
		Brokerage	27
		PPGA	35
		Multiline	17
		Other	208

**Principles-Based Reserving (Ex) Working Group**

The PBRWG discussed several documents prepared by NAIC staff, including:

- Draft principles: Includes sections on framework, reserves, capital, corporate governance, disclosure (reporting and financial analysis) and financial examinations.
- Draft principles with action items: Same as above but with action items related to the project having been added.

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- Letter to NAIC task forces and working groups: Requesting a review of the principles and action items with comment as appropriate.

PBRWG voted to expose the principles and action items for public comment and will send the letter, principles and a timeline to the various NAIC task forces and working groups for their comment. The intent is to discuss an overall plan for the project at the September 2007 NAIC meeting.

Next the PBRWG received a report from LHATF on developments which took place at its meetings on Friday and Saturday. PBRWG accepted the LHATF report and will be discussing some of the philosophical issues at the September 2007 Commissioners Roundtable (uniformity in adoption, implementation date of law and manual, small company issues, health/P&C issues, etc.).

Finally, PBRWG expanded LHATF's charge related to experience reporting and the statistical agent to consider issues beyond Model Rule 815 related to the use of 2001 CSO Preferred Tables.

Note that the Statutory Accounting Principles Working Group (SAPWG) received a proposal from Genworth on a possible framework for PBR in the AP&P Manual. The concept would create a single SSAP related to PBR and reference the PBR Valuation Manual which would be maintained outside of the AP&P Manual. Joe Fritsch (New York) the chair of SAPWG said that SAPWG would still take a high level look at everything related to PBR, including the valuation manual in such a framework.

### Capital Adequacy Task Force (CADTF)

I attended two meetings of the Capital Adequacy Task Force as described below.

**1. CADTF Meeting:** The following projects were discussed.

- Life RBC Working Group: Life RBC WG reviewed several items discussed during interim conference calls. Actions included: adoption of an ACLI simplification related to treatment of premium based

surrender charges in C-3 Phase II, referred a New York memo on proposed changes to C-3 Phase II (reserves and RBC) to the Academy for consideration in C-3 Phase II and C-3 Phase III, lowered priorities on the state low income housing and mortgage experience adjustment factor projects to a priority of three, discussed the New York Modco proposal (and will consider it for 2008) and reviewed comment letters on the AAA C-3 Phase III LCWG interim report. More discussion will follow and they await an updated Academy report on C-3 Phase III. They are still trying for a 2008 year-end effective date for C-3 Phase III capital requirements for life insurance products.

The C-3 Phase II subgroup is going to review the results of the 2006 year-end C-3 Phase II testing and then will make recommendations with respect to any changes to the RBC instructions that might be necessary to address any issues raised. Finally, NAIC staff reviewed the 2006 RBC statistics for those companies currently in the NAIC database. A comparison for life companies is provided below which appears to exhibit some slippage from trend test and CAL triggers to more serious action levels even though the number of action level companies has remained relatively stable.

Life RBC Results		
	2006 Life RBC	2005 Life RBC
Total Companies	926	959
Action Level	12 (1.30%)	11 (1.14%)
Trend Test Trigger	1	5
Company Action Level	4	4
Regulatory Action Level	3	2
Unauthorized Control Level	2	0
Mandatory Control Level	2	0

Property/casualty and health RBC companies have correspondingly higher levels of companies in some kind of action level, 76 (2.93 percent) and 30 (3.80 percent) respectively, at Dec. 31, 2006.

- P&C RBC WG: An update was received from Ann Kelly (New York) related to the Academy's annual update of the risk factors for P&C RBC, the results of adding the trend test which appears to be working well and discussions relative to PBA for P&C.

- Health RBC Working Group: This group will be looking at the Medicare Part D formula and some instruction changes to clarify the intent of the Medicare Part D RBC instructions related to the premium stabilization reserve and an unintended double count of the benefits in the 2006 RBC by certain companies.

- Securities Lending Programs: A subgroup headed by New York continues to review C-1 capital levels for securities lending programs.

- Unauthorized Reinsurance: This involves a question on collateral requirements for RBC credits related to unauthorized reinsurance similar to collateral requirements for reserve credits. No formal work was performed.

**2. Hybrid Security RBC Working Group:** This group received a report from Nancy Bennett representing the Academy on the results/conclusions related to the Academy's study of hybrids. A more formal report of the Academy is planned for the September 2007 meeting. The Academy noted that NRSRO ratings capture credit risk generally but not extension risk, market or event risks. C-3 Phase I captures extension risk but it only applies to life companies and SPWL/annuity business not health or P&C companies. The Academy generally does not agree with the notching approach being used as a short-term measure for RBC because it can lead to inconsistent results. She noted that there are many risks in hybrids that are also present in other securities.

The Academy is in the process of reviewing new features being introduced in hybrids, some of which are considered in the NRSRO ratings and others that are not considered. The Academy is continuing its review of experience (Fitch, May 11, 2007 report), recent SVO reports and is considering development of a practice note related to modeling.

## Executive Committee Meeting and Ex/Plenary Meeting

**1. Executive Committee Meeting:** Much time was spent discussing the new procedures relative to model law development. The new procedures require that the parent committee and Executive Committee approve by majority vote that a

model merits being developed as a national standard, once approved there is a one year time limit to complete the model for adoption by the EX/Plenary Committee where it must be adopted by two-thirds of the states. By voting in the affirmative, commissioners would be indicating a strong willingness to get the model adopted in their state. Of the last 35 new models only two have been widely adopted and the NAIC is attempting to address this issue. Any projects not meeting these criteria would simply be considered NAIC guidance under this new framework.

The Executive Committee proceeded to authorize work on various models including military sales, viatical settlements, SNFL and SVL among others. It also discussed clarifying some of LHATF's activities in the area of mortality tables, which are linked to the SVL and are more of a maintenance type function.

**2. EX/Plenary Committee:** The EX/Plenary Committee adopted an oral report of the Executive Committee related to its authorization of several projects noted above. They also received a report from the Life (A) Committee related to several projects including adoption of Actuarial Guideline TAB (2001 CSO Preferred Tables), and revisions to buyers guides for annuities and life insurance. The Life (A) Committee also continues to work on the Foreign Travel Issue.

Next, the EX/Plenary Committee adopted revisions to the Viatical Settlements Model Act related to the Stranger Owned Life Insurance provisions (five-year ban on settlements other than hardship related) with abstentions from several states that were uncomfortable with the new model act approval/commitment process.

EX/Plenary also adopted the Military Sales Practices Model Act as well as heard a report from Commissioner Hampton (D.C.) on activities of the PBRWG.

## Financial Condition (E) Committee

Some highlights of task forces and working groups reporting to the Financial Condition Committee are provided on the next page.

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**1. NAIC/AICPA Working Group:** The working group discussed a survey of the states related to revisions to the Model Audit Rule (15 states currently have a statute while 30 states have a regulation and 13 states are expecting to adopt the revisions in 2007, 13 in 2008 and 6 in 2009.) It was noted that the Model Audit Rule has been exposed as an accreditation standard for one year (1/1/08 to 1/1/09) and that one trade association is lobbying with NCOIL against it. Also, there is recent SEC Guidance with respect to Section 404 SOX Compliance which relaxes some of the definitions of material weakness with respect to smaller companies in an effort by the SEC to make SOX less burdensome.

**2. International Solvency and Accounting Working Group:** Various NAIC representatives gave an overview of activities that had taken place since the March NAIC meeting related to the IAIS and IASB. The IAIS Solvency Subcommittee has decided to create a single standards paper outlining the principles of valuation (assets and technical provisions), and issue guidance papers rather than standards for ERM, capital and internal models. They

also discussed the IASB Insurance Contracts Paper and likely areas of disagreement between the IAIS and IASB with respect to own credit standing, participation features and unbundling as well as areas of disagreement between the industry and IASB with respect to non-life discounting, the discount rate itself and entry values (industry prefers to calibrate risk margins such that a zero entry value results).

**3. International Insurance Relations Committee:** This committee heard reports on EU developments in the area of Solvency II, reinsurance and the memorandum of understanding with respect to information sharing among regulators as well as a presentation from the Group of North American Insurance Enterprises (GNAIE) related to Solvency II and third country issues. GNAIE has concerns with respect to equivalency under European standards for Solvency II and its impact on U.S. companies. GNAIE asked the NAIC to be more involved in Solvency II.

The next NAIC meeting will be held in Houston, Texas in September 2007. 

## Insurance Seminar on Economic Capital\*



December 6-7, 2007  
Chicago Marriott O'Hare Hotel  
Chicago, IL



Co-sponsored by the Society of Actuaries and the Tillinghast business of Towers Perrin, this seminar is focused on providing in-depth expertise to companies on building, implementing and applying EC in their day-to-day business decisions, as well as the opportunity to network with your peers on this topic.

Mark your calendar and plan to attend. More information will be available soon at [www.soa.org](http://www.soa.org).

\*This seminar will also be offered in spring of 2008 in Hong Kong.

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# Financial Reporting for Multinationals: A North American Perspective

by *Craig W. Reynolds*

Global growth in the insurance industry has been steadily gaining momentum since the early 1990s, when local barriers to entry in some markets began to fall—first in Latin America, Eastern and Central Europe and more recently in China and India.

Fifteen years later, the expansion of U.S. insurers into foreign markets is showing no sign of letting up, with much of the activity driven by acquisitions. Leading U.S. companies are taking ownership of local insurers in all parts of the world, but particularly in emerging markets, where opportunities for growth are encouraging. Life premiums grew an average of 10.2 percent per year from 1998 to 2003 in emerging markets, compared with 2.5 percent for industrialized economies.<sup>1</sup>

Clearly, the rewards of global expansion for North American insurance companies are potentially great—but so are the challenges. U.S. companies that compete internationally face a number of complex issues, one of the most daunting being financial accounting and reporting.

Insurance companies in formerly protected markets have evolved very differently from their North American counterparts. Their business processes and products have grown organically out of their local culture, in response to the particular needs of their customers and the regulatory requirements of their governments, past and present. Often their products and operations do not fit easily into North American GAAP or statutory financial reporting categories.

Making the challenge even more difficult, there has been a growing trend worldwide towards stricter and more transparent financial reporting. In the United States, Sarbanes-Oxley has raised the bar and the stakes to new levels. Good-faith estimates that once would have been deemed sufficient when translating foreign results into North American reporting documents no longer get a free pass—or even the benefit of the doubt—from either government or the financial community.

As a life consultant who has spent much of the last dozen years working in foreign markets—much of it in model building and financial reporting for foreign subsidiaries of U.S. and European companies—I have spent a great deal of time grappling with these



issues on behalf of my clients. What I have learned foremost is that there is no “one-size-fits-all” solution to these potential problems. Every company, every market and every situation will be different and will present its own complex mix of challenges. In addition, the global business environment continues to evolve, as do reporting requirements in North America and around the world.

Nevertheless, it is possible to provide North American actuaries both (a) a snapshot of potential issues they may face with international financial reporting and (b) some basic strategies to consider early in the process to help avert some of the most common international financial reporting problems.

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<sup>1</sup> Source: Swiss Re Economic Research and Consulting, 2004.

## Challenges and Strategies

### 1. Getting Everyone Up to Speed

The most pressing issue right at the start of any new relationship between a North American parent and a foreign acquisition is lack of knowledge—and it goes both ways.

U.S. GAAP was written in the United States, for U.S. companies and with U.S. markets in mind. Local foreign staff with no previous contacts outside of their own markets may be totally unfamiliar with U.S. GAAP standards and U.S. reporting requirements. At the same time, the home office may have little or no understanding of the products, the people, the market or the culture of the foreign entity they now own.

A good first step is to schedule a “boot camp” on U.S. GAAP for local staff, along the lines of the three-day Hong Kong GAAP seminar reported in these pages last April (“U.S. GAAP Seminar in Hong Kong,” R. Thomas Herget, April 2007). Just as the faculty did in Hong Kong, a truly effective GAAP boot camp should start with the core principles and concepts behind GAAP, along with a discussion of its origins and subsequent evolution. Training should then move on to basic procedures—how to do it, how to control it, how to audit it—before arriving finally at the nuts and bolts of mastering the mechanical and mathematical system details.

Arranging secondments for key local personnel at one of the parent company’s North American locations is also a good early step. The best way to get a true understanding of what someone else’s world is like is to live in it for a while.

That, too, goes both ways. Secondments for parent company staff at a new acquisition can play an important role in helping home office personnel more fully understand the culture and requirements of the new market. Regardless of whether secondments are feasible, everyone at the parent company with reporting responsibility for the new acquisition should take steps to get up to speed quickly on what makes their new market different.

Product documentation manuals become essential in this environment to help home office staff get a handle on product features, pricing assumptions, pricing results and the risks and mitigation thereof. In an acquisition situation, much of this information may become available as part of the due diligence conducted before the purchase.

Avoid the trap of thinking that it is the foreign company’s obligation to conform their products, processes and liabilities to fit North American reporting requirements. It is vital that parent company actuaries make the effort to learn quickly all they can about the products, market and environment of their new foreign entity. Otherwise, they will never fully grasp what they are dealing with, nor ever learn how to analyze and report with any accuracy the unfamiliar products and liabilities they are likely to find there.

### 2. Unusual Products and Liabilities

Assets are generally similar everywhere, with minor exceptions. For example, inflation indexing of assets and liabilities is rare in the United States but common in many Latin American countries. On the other hand, liabilities in some countries may look like nothing a North American actuary has ever seen before. Figuring out how to classify these alien products so that they will fit GAAP parameters can be a real challenge.

If I drop my SOA GAAP textbook on its spine, it will open without fail to the chart on Product Classification—an indication of how often I consult this page while trying to find a commonsense match between a foreign product and the GAAP classification that will suit its character and intent best.

Short-term endowments, inflation indexed and hybrid policies are just a few examples of what might be found at a new foreign acquisition. The choice between FAS 97-UL, FAS 97 Investment Contract, FAS 60, or even FAS 120 may be less than clear.

Inflation has not been a big problem in North America for more than 20 years, so very few U.S. or Canadian actuaries have experience with inflation-indexed products, which are very common in some parts of the world. In countries with a history or tendency towards hyperinflation it can be advantageous—and might even be imperative—to use an inflation-indexed currency model as the basis of calculations.

One product commonly found in Latin America, but largely unheard of in North America, is a “multi-life annuity.” Benefits are paid out on a complicated scheme depending on who is still alive, who has passed on, and the order in which those who are deceased expired. Spouses, parents, children and others with more distant connections may all continue to receive benefits from a single policy in different proportions. Few U.S. valuation systems would be

prepared to handle a product like this without extensive customization.

The positive side is that insurance policy performance, especially in developing countries, is not as dependent upon economic activity or on the fluctuation of interest rates as it is in the United States. Liabilities can be projected in isolation from assets and products can therefore be easier to model and report. For U.S. GAAP, FAS 60 calculations with locked-in factors may be more common in developing markets than they are in the United States.

### 3. Riders

Many of the different products, liabilities and features discussed above are contained in policy riders, which are much more common and far more important in many developing countries than they are in North America.

For the most part, U.S. companies may have few riders beyond accidental death benefit, waiver of premium, or perhaps return of premium. In other countries though, riders are an important part of the product portfolio. The riders are more complex and represent a significant portion of the plan's premium and earnings.

Another valuation challenge relates to riders that have their own separately determined dividend scale. As it is the aggregate dividend that is floored at zero, not the dividends of each rider, it is important to model the base plans together with the riders, which can be challenging for some valuation systems and processes.

### 4. Different Economies and Processes

In the United States, GAAP is often model-based, as are economic capital, embedded value and other stochastic applications. Non-U.S. staff may not have comfort or familiarity with modeling techniques common in North America, since they may be familiar only with local regulatory reporting which is almost always seriatim. Local (non-U.S.) staff may need to be educated in techniques for actuarial modeling and model validation.

Back-office administration processes can also vary widely from one region or country to the next. This is one area where there really is no simple solution. Every situation needs to be evaluated and addressed on a case-by-case basis.

In the United States, for example, the warehousing and administration of policies sold in the field by agents is usually conducted at one centralized facility. I had the experience of dealing with a company in China that located their administration out in the field with their agents. There were many different regional centers around the country, each with its own issues and unique methods of recording data.

The solution? There was not one. Each regional office had to be individually reviewed.

### 5. Hardware and Software Issues

At many companies today the actuarial processes are PC-based. In theory, this would make it easier to standardize software and hardware internationally, since, with few exceptions, PCs are generally compatible around the world.

However, many companies are migrating toward grid solutions as we move to stochastic valuation techniques. Actuarial modeling needs become increasingly more complex, especially with the emerging need for nested stochastic processes for many companies. Inevitably, this leads to the need to choose between maintaining a central grid or grids in each locale. The former approach can allow for more economies of scale, but requires greater coordination between the various locations to ensure conflicts can be managed. In addition, bandwidth capacity can be a challenge.

A local grid in each location, on the other hand, can lead to hardware that is often underutilized.

Most companies I am familiar with that have central grids keep them in the home office. Since staffing costs are often lower in developing markets, I predict that we may soon see the day when more central grids are no longer in the home office.

When it comes to software there are two choices: (1) migrate the local company to the parent company's software; or (2) continue to let the local office use the software with which they are familiar. There are advantages and disadvantages to both options.

Using the same software across regions means you can standardize cross-training and support. You also

For the most part, U.S. companies may have few riders beyond accidental death benefit, waiver of premium, or perhaps return of premium.

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have greater faith in the results, as North American software already meets most North American reporting needs without extensive customization.

The advantage of sticking with the local option is that it is based on local knowledge and might be more suitable to the products being valued.

It is a judgment call that has to be made on the basis of which option is going to be least disruptive in either the near-term or long-term. An investment in the best solution at the beginning of the relationship may ease things in the long run, whichever decision is made.

### 6. Language and Time Zone Issues

Language and time zone are among the larger issues faced when doing business overseas; I have left them for last because they are actually among the most easily remedied.

Native speakers of English enjoy a tremendous advantage, as many businesspeople around the world have made the effort to learn English. It is tempting to gravitate towards the person or people in the local office who speak English best. But these may not be the people with whom you most need to speak. You must be able to either speak the language or have access to people you trust who do in order to make certain you are getting the right information from the right people.

Time zone differences are more an annoyance than a real problem, but they can stifle communication if you allow them to. Again, the solutions are simple, the first and most obvious being e-mail, which makes staying in constant touch with people in different time zones relatively painless. Of course, e-mail is no substitute for live, preferably in-person, communication. Even in the vein of the relatively structured financial reporting world, the nuances of personal or live communication can be lost when communicating through e-mail.

For those issues that must have discussion, have a dial-in conference number and know how to use it. Realize that if you are on a three-continent conference call, someone somewhere is not getting the sleep they need to function optimally. Allow for some flex time to accommodate those who lose sleep to accommodate you, and preferably rotate the pain. If someone is going to have to be up at 2 a.m., make sure it is not always the same person!

### Controls

Ultimately, it is all about having faith in the numbers. You have to have faith that your underlying data are good, that the numbers you have received are good numbers, and that the analysis of those calculations is also good. You have to know that the people on the ground did their job in a way that allows you to have that faith.

And for that you need good controls. The process by which you manage change from one system to the next must be clear and fully documented at every step.

How will you handle rollforwards to allow analysis of embedded value or GAAP and regulatory reserve changes? Do you have well established sources of earnings analysis? How will you reconcile different accounting basis results?

One area where this often comes up is unlocking for FAS 97 valuation. Many, but not all, companies have a formalized process for determining when and how to unlock FAS 97 DAC. Such documentation is critical for ensuring that processes are followed consistently in different markets.

### Conclusion

I once heard an actuary at a conference talk about how when he was young and cocky, he always had a gut instinct about what the results of any particular analysis should be. So when the results were different he would dig deeper into the data, find mistakes and correct them. When he finally reached a result that confirmed his original instinct, he would stop and think "I am so smart. I was right all along." Now, as an older and more experienced actuary, he realized that if he was right it was just dumb luck. If he had kept digging he might have arrived at a different result—perhaps even the result he had originally rejected. We all have a tendency to stop looking when we get the result that we expect.

We all have assumptions hard-wired into us, too, based on our experiences, where we come from and how we have been trained. When it comes to reconciling results from foreign companies to fit North American reporting requirements, we cannot rely on our assumptions.

We have to keep digging. **S**



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# A Principled Application of SOP 05-1: Making Sense of the Beast

by *Steve Malerich*

It's been two years since the Accounting Standards Executive Committee (AcSEC) of the American Institute of Certified Public Accountants (AICPA) approved its Statement of Position 05-1, Accounting by Insurance Enterprises for Deferred Acquisition Costs in Connection With Modifications or Exchanges of Insurance Contracts (the SOP).

Since then, we've had to become familiar with the statement, prepare for its implementation and incorporate late guidance that came in the form of Technical Practice Aids (TPAs). (Each of these has been addressed in earlier issues of *The Financial Reporter*—March 2006, September 2006 and June 2007, respectively.)

With much of that work behind us, it is time for continued living under the SOP.

Although the SOP and the TPAs are loaded with examples, we will face situations that don't fit neatly into any of those examples. For many, attempts to evaluate different situations have led to the sentiment, "It doesn't make sense."

After hearing that a few times, I began to think that something was wrong with the way we were approaching the beast. Logically, if we were interpreting it correctly and if it truly doesn't make sense, then AcSEC must have intended for it not to make sense and the Financial Accounting Standards Board (FASB) must have agreed that nonsense guidance is appropriate. I don't believe either of those was intended.

In this article, we look at: (1) reasons for developing a principled framework; (2) a process for developing such a framework; (3) a draft framework; and (4) how to use the framework.

The draft framework is presented in five parts: (a) key principles before the SOP; (b) general principles within the SOP; (c) integrated and nonintegrated features; (d) substantial change; and (e) measuring significance.

To keep to an appropriate length for a newsletter article, the draft framework includes footnotes referencing the sources for each principle, but does not



include the depth of explanation that would be included in a formal documentation of the framework.

Use of the framework is mostly illustrated through examples.

## Why a Principled Framework

After much discussion over specific points of the SOP, its examples and the associated TPAs, I came to the conclusion that a piecemeal approach is inadequate. When viewed as a set of loosely related but largely independent rules, it can lead to some nonsense conclusions.

If we reject the notion that AcSEC and FASB intended for this guidance not to make sense, and if our interpretation of the SOP is that it doesn't make sense, then one of two things must be true—either we're interpreting it wrong or we haven't fully recognized the reasoning behind it.

Through the development of this framework, we can make sense of the SOP and, in practice, come to sensible conclusions.

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There are other reasons to develop and use this sort of framework. Among them:

- Principles underlying the examples can be divorced from the specific facts and circumstances of the example, making it easier to apply them in other situations;
- Decision-making should be faster and easier than a piecemeal analysis involving comparison to multiple examples and previous decisions;
- A diversity of ideas can be tested quickly during the design of new programs;
- It might be the only way to extract useful information from some of the examples in situations that don't exactly match their facts and circumstances;
- It might be the only way to reach agreement on a particular application of the SOP;
- If used to guide the design of new programs, it should help to ensure consistency between intended and actual effects on financial statements; and
- It should reduce the likelihood of setting a bad precedent.

### Making Sense of SOP 05-1

Before looking for an easier route to sensible conclusions under the SOP, let's look at a few examples of things that seem nonsensical:

- Changes that seem to have a trivial effect on existing rights under a contract result in a substantially changed contract, requiring extinguishment of existing balances and accounting as if it's a new contract.
- Changes that scream replacement require accounting as a continuation of the existing contract.
- Changes that intuitively seem to be substantial appear to have little measurable effect after analysis, meaning that either they must be judged substantially unchanged or the threshold for distinguishing a substantial change must be set very low.
- Expenses that would be deferrable under any reasonable interpretation of Statement of Financial Accounting Standards (FAS) 60 must now be expensed.

If we are to make sense of the SOP, then we need to look at it as a coherent document that is supplemental to previously issued guidance. Its pieces must be fit together—with each other and with the existing standards.

Toward that end, I've taken three steps to make sense of this guidance:

1. List the key principles that exist independently of the SOP, but are particularly relevant to its interpretation;
2. Scour the SOP, including its appendices and the related TPAs, to build a list of principles and concepts; and
3. Organize those principles and concepts into a framework that can be applied in making future decisions.

Once that framework has been developed, it should help in deciding whether a change is clearly a new contract; clearly a substantially unchanged contract; or whether further analysis of significance is needed. A fourth step is then added, for the times further analysis is needed.

4. Set a threshold for significance based on the difference between no change and a clearly substantial change for the particular type of concern.

Before proceeding, take a quick look back at the examples of seemingly nonsense conclusions listed above. After going through this effort, I have determined that one of them really does make sense and that the other three are simply bad conclusions—that a different, sensible conclusion is appropriate.

The next five sections present a draft framework for applying the SOP. Rather than listing principles in the order they're found and then reorganizing them, I present them here in an organized fashion. Endnotes are included, to identify where in the SOP and the TPAs I found each idea.

### Before the SOP, Key Principles

A look back to FAS 60 and 97 finds four key principles that previously existed, specific to the business of insurance:

- The cost of entering into a new contract is deferred and amortized over the life of the contract.
- Unamortized costs are expensed when a contract terminates.
- A new contract with an existing customer is treated as any other new contract.

- Renegotiation of a contract is a termination of the old contract, unless sufficiently unchanged to warrant treatment as a continuation.
- An implicit replacement is still a replacement. (Attempts to disguise the replacement do not alter the substance of the completed change.)

The latter point was first established long before FAS 60, in Accounting Principles Board (APB) Opinion No. 26, which saw several changes before it was referenced for life insurance in FAS 97. FAS 97 brought it to our attention as "... similar transactions ... for which continued deferral of costs is not permitted ..."<sup>1</sup> AcSEC picked up on this FASB conclusion and restated it in making a distinction between the life of a contract and the life of a relationship.

### General Principles within the SOP

In this section, I list general principles that will normally take precedent over the more specific principles, shown later, relating to integrated and nonintegrated features under paragraphs 11 and 12 of the SOP and the determination of substantial change under paragraph 15. These are also organized in an order of priority, with the earlier principles normally having more weight than the later when they conflict with each other.

- Accounting is based on the substance<sup>2</sup> of the relationship between the contract holder and the entity.<sup>3</sup>
- Exercise of a substantial contract option<sup>4</sup> is not a renegotiation.
- Similar transactions should be treated similarly<sup>5</sup>—within an organization and among organizations.
- A transaction should be evaluated in its entirety.<sup>6</sup>

The next two principles could be deduced from the earlier principles, but I include them here to ensure they are recognized. In drafting the SOP, AcSEC was concerned enough about possible violation of principle in these ways that they included statements specifically addressing these ideas.

- Company and contract holder actions need not coincide to trigger an SOP event. (In the examples, the substance of the company action is nothing more than an offer to change the contract; a replacement event does not happen until the contract holder accepts the offer.)

### Integrated and Nonintegrated Features

Among the remaining principles, I include some things that might more appropriately be called concepts. Generally, concepts relate to specific application of principles. In organizing the framework, concepts are below the principles. Since this presentation is already organized by priority, I sometimes use the term "principles" in a way that includes both principles and concepts.

When features are added to or removed from a contract, the determination of their integrated or nonintegrated status takes priority over other principles relating to the determination of substantial change under paragraph 15 of the SOP. As before, these are presented in the order of priority, for instances where they conflict.

- A nonintegrated feature is, in substance, a separate contract.<sup>9</sup>
- There is no cross-subsidy between a nonintegrated feature and other features of the contract.<sup>10</sup>
- Addition of a nonintegrated feature is not an opportunity to reunderwrite the base contract.<sup>11</sup>
- A nonintegrated feature can be measured without reference to the base contract account value or other contract balance<sup>12</sup> and is distinguishable from the base contract.<sup>13</sup>

### Substantial Change

After passing through the earlier filters, many changes will require some evaluation of significance. Paragraph 15 presents six conditions that must exist if a contract is to be judged substantially unchanged. Failure of any one is a substantial change. Stated briefly, the conditions are:

- a. No change in the insured event, risk or period of coverage;
- b. No change in the nature of investment return rights;

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<sup>1</sup> FAS 97 paragraph 72.

<sup>2</sup> There are 14 references to "substance" in the SOP; six more in the TPAs. Perhaps the most explicit general statement about substance is in SOP paragraph A.4.

<sup>3</sup> SOP paragraph A.26.

<sup>4</sup> SOP paragraphs A.6, B.9, B.21, B.39, B.40 and B.42.

<sup>5</sup> SOP paragraph A.20 and TPA section 6300.26.

<sup>6</sup> SOP paragraphs 23 and A.32.

<sup>7</sup> SOP paragraphs A.8 and B.38.

<sup>8</sup> SOP paragraphs 15.c and A.31.

<sup>9</sup> SOP paragraphs 13, A.10 and A.15.

<sup>10</sup> SOP paragraphs 11, 12 and A.13.

<sup>11</sup> SOP paragraphs 11, 12 and A.13.

<sup>12</sup> SOP paragraph 11.

<sup>13</sup> TPA section 6300.25. Still not sure? Consider—can you calculate an appropriate benefit reserve for the feature without reference to actual or estimated values of something else in the contract?

- c. No additional deposit, premium or charge for the original benefit or coverage;
- d. No reduction in contract holder's value, except for any distributions to the contract holder;
- e. No change in participation features;
- f. No change to the amortization method or revenue classification.

Some principles apply in general to paragraph 15 and its conditions. Others apply to specific conditions under paragraph 15.

### In General

- Substantial change is presumed; substantially unchanged must be demonstrated.<sup>14</sup>
- Any significant change (even just one) is substantial.<sup>15</sup>
- Linking of different risks is itself significant.<sup>16</sup>
- A change in the underlying economics of the existing contract is substantial.<sup>17</sup>
- A quantitative evaluation, by itself, is inadequate.<sup>18</sup>
- An evaluation of interlinked risks must look at the effect on all, even if only one is changed.<sup>19</sup>

I again include some principles that can be deduced from earlier principles to ensure their effects on this section are recognized.

- Offsetting effects are considered together.<sup>20</sup> (A transaction should be evaluated in its entirety.)
- Analysis of similar modifications requires consistent treatment. (Similar transactions should be treated similarly.)

### Insurance Risk

- A change in the insured person or persons is a change in the insured event.
- Reunderwriting indicates a change in the kind or degree of risk.
- A change in the amount of an indemnity benefit is not a change in the degree of risk, if there is no significant change in the relationship between the amount of the benefit and charges for the benefit.

- The period of coverage is not necessarily the same as the maximum renewal period.

### Investment Return Rights

- A change in nature is always significant. Examples of a change in nature: discretionary versus formulaic or pass-through; addition of a floor or cap on pass-through contracts, such that actual returns are not passed through; a change in the referenced pool of assets.
- A change in parameters might be substantial, suggesting a need to measure its significance. Examples of a change in parameter: minimum guarantees; investment management fees; contract holder liquidity rights; strike price of a guarantee.
- The expected life of the contract might be relevant when assessing the significance of a change in parameter.

### Deposits, Premiums or Charges

- An increase in premium more than appropriate for an increase in benefits is an additional premium on the existing contract.
- A new or different surrender charge schedule is not a change in charges.

### Participation Features

- An experience refund provision is such a feature.

### Measuring Significance

Several changes require some measure of significance. The SOP gives no specific guidance on what is significant. Given the diversity of risks faced within our business, and the diversity of methods we have for measuring those risks, this is perhaps the most sensible approach AcSEC could have taken.

Most discussions that I've seen or heard have viewed the quantitative test of significance as independent of the qualitative framework described in the SOP (once the determination is made that a quantitative analysis is needed). It is expected that a single thresh-

<sup>14</sup> SOP paragraph 15.

<sup>15</sup> SOP paragraph 15.

<sup>16</sup> SOP paragraph B.9.

<sup>17</sup> SOP paragraph A.31.

<sup>18</sup> SOP paragraph A.23.

<sup>19</sup> TPA section 6300.26.

<sup>20</sup> SOP paragraph 23.

<sup>21</sup> TPA section 6300.26.

<sup>22</sup> SOP paragraph B.9.

<sup>23</sup> SOP paragraph A.27.

<sup>24</sup> SOP paragraph B.8a.

<sup>25</sup> SOP paragraph B.9.

<sup>26</sup> SOP paragraph A.30.

<sup>27</sup> SOP paragraph A.30 and TPA section 6300.34.

<sup>28</sup> TPA section 6300.34.

<sup>29</sup> SOP paragraph A.30.

<sup>30</sup> TPA section 6300.27.

<sup>31</sup> TPA section 6300.34.

<sup>32</sup> TPA section 6300.34.

<sup>33</sup> SOP paragraph B.25.

<sup>34</sup> SOP paragraph A.31.

<sup>35</sup> SOP paragraph B.25.

<sup>36</sup> SOP paragraph A.33.

old will be established for judging the significance of all such changes. Let's call this the "decision threshold." This approach, however, encounters some significant problems, besides our perception that the SOP doesn't make sense:

- Different risks have considerably different variability, such that even a small change in one risk appears to be much larger than even a large change in another risk.
- For any given change, the amount of change can appear significantly different depending on the measurement technique.
- Any threshold will either make some types of changes appear to be always significant, or make some types of changes appear to be always insignificant, even though the SOP clearly expects something else.
- Company thresholds may vary widely, depending on the types of changes and measurement techniques that are most significant to them now.
- Auditors' perceptions of appropriate thresholds may be anchored by the types of changes first reviewed with their clients.
- Anyone who wants to avoid a precedent that is either too restrictive or too broad must anticipate several types of changes and measurement techniques now, even those that might seem remote in relationship to their current business. Even then, it is likely that their threshold will seem too restrictive for some types of change and too broad for other types.
- It is not possible to eliminate sharp discontinuities between the qualitative and quantitative changes.

By viewing the quantitative analysis instead as an extension of the qualitative framework, it becomes easier to make sense of the SOP and to establish a quantitative standard that can be consistently applied to diverse risks and measurement techniques.

To overcome these problems, we tie our quantitative measures to those qualitative decisions that are judged substantial regardless of any quantitative measure. Instead of setting a fixed threshold for a change in present values, similar to the 10 percent found in Emerging Issues Task Force (EITF) Issue No. 96-19, we set a threshold relative to another measure that has already been deemed substantial.

Then, for any given type of change, we begin by answering the question—what is the least amount of change that would be judged substantial without having to perform a quantitative analysis? Once that change is identified, we select an appropriate quantitative technique and use it to measure the selected change.

Let's define some additional terms for these two concepts:

**General threshold**—this is independent of the type of change and the method of measuring change. It is applied generally to all changes requiring a quantitative analysis. It cannot be greater than 100 percent.

**Specific threshold**—for a given type of change and measurement technique, this is the measured percentage change for the least amount of change that is judged substantial without needing a quantitative analysis. Depending on the type of change, it could be a change in expected value or a change in some measure of risk.

The general threshold is fixed, regardless of specific facts and circumstances. It might actually be a range, to allow for the difficulty of selecting an effective technique for measuring a specific type of change or to allow for some variability at the contract level in a program designed for a group of contracts. Such a range would allow for some professional judgment, but professional integrity would call for written justification of any decision made within that gray area.

As defined, the specific threshold can vary substantially, depending on the type of change, the measurement technique and other factors. It should always, however, be consistent with other criteria established in the SOP.

Given these two definitions, our decision threshold ceases to be a fixed number, and instead becomes the product of the specific and general thresholds.

An alternative (but equivalent) method would be to divide the subject change by the specific threshold, and then compare the result to the general threshold. In this way, the decision threshold would be fixed, but the subject change would be normalized in relationship to the specific threshold.

To meet the substantially unchanged criteria, the magnitude of each change requiring quantitative analysis must still be less than the decision threshold.

There is still one hole in this approach—some types of change have no clear qualitative criteria from which we can calculate a specific threshold. For example, the SOP anticipates that a change in the interest rate guarantee on a fixed annuity might be



When there are no clear qualitative criteria for the calculation of a specific threshold, we will have to use professional judgment in determining a proxy for that threshold.

significant. Here, there is clearly some level of guarantee that would change an interest crediting approach from discretionary to formulaic. (At some level, the guarantee would overrule discretion under all but extreme conditions.) Not so clear is the level at which such a transition occurs.

When there are no clear qualitative criteria for the calculation of a specific threshold, we will have to use professional judgment in determining a proxy for that threshold. This may be more difficult and time consuming, and it will likely see greater variability among companies. Unless we're willing to accept nonsense decisions, however, this should be no more difficult and see no more diversity than the use of a fixed decision threshold.

Advantages of this approach may include:

- Decisions will be consistent with similar qualitative decisions that have been or would be made under the SOP.
- It is not necessary to anticipate a broad range of changes and measurement techniques when setting a general threshold.
- Given the same general threshold, we should see greater consistency for a given type of change, regardless of the methods used to measure the change.
- Although this will not eliminate the need for quantitative analysis, it should allow us to develop a better intuitive sense of when a change will be significant; gradually reducing the amount of time we have to spend performing such analyses.
- It should be possible to develop techniques that can be applied quickly and easily to many tests of significance. Occasional validation of the technique against more sophisticated techniques is needed only to ensure consistent decisions; consistent values are not needed.
- We should see greater consistency sooner, among companies and auditors, on what is considered a suitable general threshold.
- Requiring justification of any decision within a range of uncertainty allows for professional judgment while minimizing significant inconsistencies.
- Over time, we might also expect to see narrowing in the range of uncertainty, as decisions near, one or both edges tend to move heavily one way.

## Applying the Framework

Once developed, our principled framework can be applied to new situations. Each such effort would begin with a qualitative evaluation under the listed principles. A quantitative evaluation, if necessary, is then based on a specific threshold selected for the characteristics of the specific situation.

A well-constructed framework should lead to consistent decisions that comply with the letter of the SOP. Still, we should not presume that our effort will invariably lead to such a result. Documentation of a decision should include reference to the letter of the SOP. It should not be necessary to tie all decisions to the details of the appendices and the TPAs, but doing so might lend support to some decisions.

The following examples illustrate the use of this framework. For each, I select a situation known to require quantitative analysis under paragraph 15 of the SOP. I use the principles listed earlier to identify the minimum amount of a comparable change that would be judged substantial without the need of quantitative analysis. I then select a technique for measuring significance and apply it to both the qualitative change and to the target example.

For these examples, I use a general threshold of 40- to 70-percent. Absent any experience to suggest otherwise, I put this out only as a seemingly reasonable range, not too narrow to unreasonably restrict our decisions and not too broad to give us a *carte blanche*.

In the interest of space, I do not have any examples of applying the principles first, before measuring quantitative effects. I do, however, explain my qualitative changes with reference to the principles, as if I were evaluating them under this framework.

### Example 1: Change in Limited Payment Period

I begin by lifting an example from TPA Section 6300.26, which considered a change from a 20-pay life insurance contract to a 10-pay life insurance contract. It went on to list some different approaches that can be taken to assess whether this is a substantial change, and stated that different approaches might lead to different conclusions.

By applying this framework, we realize that the principles expressed in the SOP reduce the range of appropriate tests, and help us to a more definitive conclusion.

The first thing we run into is the realization that ordinary life is inherently a combination of mortality and investment events. Different premium payment periods alter the relationship between these two events, so evaluation of just one event would be inappropriate.

Next, we want to identify a change that would be judged substantial under a solely qualitative analysis. Here, I run into that hole mentioned earlier—I see no qualitative criterion that is sufficiently clear to handle this one.

To overcome that, I must use some judgment in selecting a proxy for evaluation of this type of change. Viewing the 10-pay and 20-pay patterns as points along a continuum, I find a reasonable proxy in a change from straight whole life insurance to single premium whole life insurance. With straight whole life, the contract holder must pay premiums for the entire lifetime to ensure continued coverage at the full face amount. With single premium whole life, the contract holder has fully insured both the mortality and the investment risk.

Next, we have to find a technique for measuring the significance of the change.

Recognizing that the change involves a combination of mortality and investment events, we can see that a comparison of the present values of estimated cost or of actuarially equivalent premiums is inappropriate because both tests would remove the investment events from consideration. A comparison of net amount at risk might be appropriate—though indirectly, it does recognize the relationship between the two events. (A lower net amount at risk is concurrent with higher investment.)

Applying a simple, undiscounted test of net amount at risk to a range of premium paying periods, I find a specific threshold that varies by age. At the extremes of my testing (20 to 70), the threshold is 16 percent and 67 percent. With this approach, such a large range is not necessarily a problem. A specific threshold can be specific to cells as well as to a class of changes. Looking at the change from 20-pay to 10-pay, we find a range from 2- to 25-percent. Using the specific threshold to normalize the measured changes, we come to a range of 13- to 37-percent—all below the general threshold. We conclude, therefore, that a contract would be substantially unchanged if changed from 20-pay life to 10-pay life.

A more sophisticated approach, reflecting the investment component directly, might be something analogous to a benefit ratio under SOP 03-1. A shorter premium payment period would increase the interest

element and reduce the mortality element, decreasing the benefit ratio.

To perform this test, we need assumptions for mortality experience and investment return. After performing such a test, assuming an industry standard select and ultimate mortality table, I find radically different change measurements than under undiscounted net amount at risk. Here, my specific threshold ranges from just 35- to 39-percent. The range for a change from 20-pay to 10-pay, I again see significant difference by age, from 7- to 20-percent. After normalizing, the range becomes 19- to 57-percent. Somewhere between ages 60 and 70, this measure moves into the gray area of the general threshold (40- to 70-percent). For most ages, however, the change is clearly below the substantial threshold. Under the circumstances, it is reasonable to conclude that a contract would be substantially unchanged if changed from 20-pay life to 10-pay life.

Thus, we get to the same conclusion under two quite different tests, both of which appropriately reflect the link between mortality and interest risks.

#### Example 2: New SPDA to Replace an Existing SPDA

Here, we look at an example similar to the one used in Appendix D of the SOP. Like that example, we're replacing one general account single premium deferred annuity with another. The example used in the SOP was judged to be substantially unchanged. The SOP, however, did not give detail on how that decision was reached. And, other paragraphs in the SOP and the TPAs suggest that some such exchanges might be substantial changes. Here, we take a closer look at the decision.

New annuities available from the company include a bonus interest rate for the first year. The company has found that most of its annuity contract holders terminate within a few years after the surrender charge period expires. Many exchange their annuities for similar contracts with other insurers offering early bonus interest or some other sales inducement. The company hopes to divert some of those replacements into its own new contracts.

The company is considering a program to target existing annuities in the last year or two before the current surrender charge expires.

To establish a specific threshold for this program, we choose replacement of an existing contract with no remaining surrender charge—essentially what is expected to happen without this program.

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Looking to the principles listed earlier, we see that the first three general principles all tell us that such an exchange should be treated as two separate transactions—termination of one contract and issuance of another. Only the fourth general principle suggests otherwise, but even that can be reconciled with the first conclusion.

In substance, this is the same as any other termination, where the contract is exchanged for another contract currently available on the open market. The resulting new contract is also recognized to be, in substance, the same as any other new contract currently sold by the company.

Also, we recognize that the contract holder has a substantial option within the existing contract—to surrender it for its full account value. The selected threshold is based on that option.

Looking at other transactions that could be judged similar, the most similar we can find is where the existing contract is exchanged for a new annuity, regardless of the issuing company. Any other negotiated exchange with the same company would be less similar than an open-market exchange.

Looking at the transaction in its entirety hints at a contrary conclusion—before and after the exchange, there is an annuity contract between the same customer and company. If we look past the parties to the exchange, however, we see that after the exchange an existing contract is gone, a new contract is in place that is indistinguishable from any other new contract, and that nothing special occurred between the two parties to make this happen.

Looking to specific provisions in the SOP, we see that the existing contract was terminated under precisely defined conditions in the existing contract at its inception. As the exercise of a contract option, the termination is excluded from SOP guidance under paragraph 9.

Since these are determined, in substance, to be two separate contracts, the terminating contract is accounted for as terminated and the replacement contract is accounted for as new.

Having selected a qualitative change, we need to translate it into an appropriate specific threshold. At issue is contract liquidity, a component of investment return rights. In exchange for the initial bonus interest, the contract holder is giving up some measure of liquidity, accepting greater risk of lost opportunity. To measure this, I calculated what I call

regret—how much the contract holder would regret having made this exchange—measured under a variety of interest scenarios. Regret is also a function of the bonus interest credited on the new contract.

For the qualitative change, I calculated an average regret of 1.81 percent. Compared to specific thresholds of other examples, this is a very small number. But, this is consistent with it being a measure of risk rather than expected values. Under most scenarios, the contract holder will have no regret. In scenarios where interest rates rise, the level of regret varies with the magnitude of the rise and the amount of the remaining surrender charge.

Moving on to the proposed exchange program, we recognize that regret will be reduced to the extent there would have been a remaining surrender charge had the exchange not happened. If the amount waived is 1 percent, regret decreases to 1.62 percent. If the amount waived is 2 percent, regret decreases to 1.25 percent. Normalized, these become 90 percent and 69 percent, respectively. The first is above the 70 percent general threshold; the second is barely below it, but still at the high end of the 40- to 70-percent range. Waiving a year earlier, with a 3 percent remaining surrender charge, results in 0.81 percent regret—normalized to 45 percent, this borders on our threshold of substantially unchanged. If limited to contracts with just 1 percent remaining surrender charge, the significant surrender charges in the new contract would be considered a substantial change in the contract holder liquidity rights. At 2 percent remaining, we're in the range of uncertainty, but very close to the edge of substantial change. At 3 percent remaining, we're still in the range of uncertainty, but now close to the edge of substantially unchanged. This information can now be used to further define the proposed exchange program, to ensure that it will have the intended effects on the company balance sheet.

### Example 3: Term Insurance Reentry Offer

In this example, we have a collection of term life insurance policies approaching the end of the level premium period. Original pricing assumed that a small portion of severely impaired risks would continue their coverage by paying much higher annual-renewable term rates. It was expected that most policies would terminate at this time.

Rather than passively watching as a large number of policies terminate, the company decided to explore ways to keep these people with the company. Under consideration is an offer to replace the existing con-



tract with a new term product, at current rates, but with limited underwriting. It is expected that higher mortality would be offset by lower costs of placing business with existing long-term customers.

At issue is whether the level of underwriting leads to a change in the degree of risk. In this instance, we do have a clear case on which to base a specific threshold. If the new contract were subject to normal underwriting standards, it would constitute a change in the degree of risk, as noted in paragraph A.27 of the SOP.

To test this situation, I compare the present value of expected mortality costs over the new term period. I again see results that vary by the current age of the insured. The present values of the fully underwritten case range from 47- to 61-percent lower than if there were no underwriting.

Then, using expected mortality rates for the limited-underwriting program, I find present values of mortality costs 35- to 53-percent lower than if there were no underwriting. Using the specific threshold to normalize these rates, we find the change to range from 76- to 88-percent of the specific threshold.

This entire range is above the 70 percent maximum of the general threshold. If the program is introduced, policies replaced under it will be substantially changed from the previous contract. Accounting will treat the previous contracts as extinguished and the replacement contracts as new contracts.

#### Example 4: SPDA Changed from Discretionary to Indexed Interest Crediting

We'll end with an easy one. This is a change from discretionary to formulaic crediting. Such a change has already been deemed substantial under qualitative analysis. The example, however, is convenient for illustration of the consistency we can find by applying the approach described in this article.

For this one, let's use the projected 10-year accumulated value of the annuity as our test. The minimum amount of change required for a change from discretionary to formulaic to be judged substantial is zero. Even if the 10-year expected accumulated value is identical under both crediting approaches, the change is judged substantial. So, the specific threshold in this example is—zero.

We could continue, and test our current discretionary crediting strategy against and an indexed crediting

strategy with our current best estimate assumptions. Even without doing that, however, we know that the absolute difference in the 10-year expected accumulated values will not be less than zero.

We can easily see that a quantitative analysis, when tied to qualitative criteria, brings us to the same conclusion.

### Summary

In this article, we've seen a method for organizing the guidance of the SOP and related TPAs. This allows us to extract useful information from the limited context of the examples. Once organized, it permits faster and easier decision making.

We've looked at a draft of such a framework. This included an organized list of principles found in the SOP and the TPAs. That list was followed by a way to reconcile quantitative decision-making with comparable qualitative decisions.

Finally, by way of example, we've seen how this leads to sensible decisions in diverse situations, despite great variation in measured changes. §



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## *What's Outside*

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### Management & Personal Development Section newsletter

The Stepping Stone, April 2007

<http://www.soa.org/library/newsletters/stepping-stone/2007/april/SSN0704.pdf>

“Managing Actuarial Projects,” Page 6


Some helpful hints to avoid these pitfalls such as projects that run over on costs or are delivered late.

### Technology Section newsletter

CompAct, July 2007

<http://www.soa.org/library/newsletters/compact/2007/july/CSN0707.pdf>

“Program Well and Live,” Page 8

Excellent advice for those who write programs or manage those who write. 



### Product Development Section newsletter

Product Matters! June 2007

<http://www.soa.org/library/newsletters/product-development-news/2007/june/PDN0706.pdf>

“Two UL Products Separated by Common Chassis—Interesting Topics in Survivorship UL Pricing,” Page 19

The article looks at projected cash flows and U.S. statutory reserves for survivor plans in comparison to otherwise similar single life plans.

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