1992 VALUATION ACTUARY
SYMPOSIUM PROCEEDINGS

SESSION 1

The Valuation Actuary -- 1992 Developments

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THE VALUATION ACTUARY – 1992 DEVELOPMENTS

MR. MARC F. PITONIAK: I am president of VALact, Inc., a firm that was formed specifically to provide both software and consulting to the valuation or appointed actuary. I am a member of the Committee on Valuation and Related Areas. The last five years I have been involved in Regulation 126 submissions and more recently, in preparing asset adequacy analyses as outlined in the NAIC model actuarial opinion and memorandum regulation. I will be providing you an update on the model regulation.

Rick Bergstrom is a consulting actuary with Milliman & Robertson in Seattle. Rick works closely with clients designing products, valuing blocks of business for both sales and purchase, evaluating reinsurance proposals, and assisting companies in identifying issues and establishing strategies for business projections. In addition, Rick has published papers such as "Projecting AIDS Mortality" and "The Cost Effectiveness of Laboratory Testing in the Underwriting Process of Life and Health Insurance Policies." He is a frequent speaker at Society of Actuaries seminars, underwriting meetings, and insurance agency conventions. Rick is an FSA and will cover developments with the standard valuation law and standard nonforfeiture law.

John Bath is an actuarial officer at Nationwide Life Insurance Company. He has responsibility for all group pension actuarial functions including pricing, product development, financial analysis, defined benefit plan administration and valuation. John is an FSA, an Enrolled Actuary and a Member of the American Society of Pension Actuaries, and he will be covering developments for group annuities and GICs.

Finally, last but certainly not least, is Peter Duran. Peter is senior consulting actuary in the New York Office of Ernst & Young. He provides consulting services in the areas of financial analysis and performance measurement, valuation, reinsurance, mergers and acquisitions and related matters. He is chairperson of the Society of Actuaries Committee on Valuation and Related Areas and is a member of the Professional Actuarial Specialty Guides Committee.

Formerly he was Vice President and Actuary with Massachusetts Mutual Life. Peter is an FSA and will be discussing both surplus relief and current research efforts of the Committee on Valuation and Related Areas.

The NAIC Model Regulation was approved by the NAIC at its June 1991 meeting, and so most of you have had an opportunity to become familiar with this regulation. I will concentrate primarily on what has changed since 1991.

We will look at the key ratios of interest to different size companies, the format in which the liabilities have to be listed, rules governing the use of assets supporting the asset adequacy analysis, a change in the floor for interest rates and current state status with respect to the valuation law, and the model regulation.

In Table 1 we see the eligibility tests for different company categories. As you know, a Category A company has less than $20 million in admitted assets, Category B is between $20 and $100 million, Category C is between $100 and $500 million in admitted assets and Category D is any company with admitted assets exceeding $500 million.

TABLE 1

Exemption Eligibility Tests

Category	Surp/(C&IA)	Ann/Assets	Junk/Surp
A	> = 0.10	< 0.30	< 0.50
B	> = 0.07	< 0.40	< 0.50
C	> = 0.05	< 0.50	< 0.50
D	Required	Required	Required

The second column is the required ratio for capital and surplus to the sum of cash and invested assets, the third column is the sum of reserves and liabilities for annuities and deposits to the total admitted assets, and the fourth column is the ratio of the book value of the noninvestment-grade bonds to the sum of capital and surplus. Noninvestment-grade bonds are those designated as classes 3, 4, 5 or 6 by the NAIC Securities Valuation Office.

If a company in category A or B meets these ratios, it may not have to submit an asset adequacy analysis. If a company in category C meets these ratios, then it needs to submit an asset adequacy test every three years, starting in the first year the regulation is in effect.

I should mention that category A through C companies may be required to conduct an asset adequacy analysis even if they satisfy the applicable ratio requirements, if they have been designated as a first or second priority company by the examiner team for the NAIC. Also, an amendment was adopted by the NAIC in December of 1991 that states that in the event the company has resolved the first or second priority status to the satisfaction of the Commissioner, the exemptions will be allowed if the Commissioner has so notified the chair of the NAIC Life and Health Actuarial Task Force and the NAIC staff and support office. The Commissioner has overriding authority to require an asset adequacy analysis regardless of the results of the ratios.

A category D company must submit an asset adequacy analysis every year.

There are several column headings for the table of reserves and liabilities that must be included in the opinion (Table 2).

The second column is formula reserves. The third indicates the amount of additional reserves the appointed actuary deems necessary to fulfill the reserve adequacy requirement. The fourth column indicates the analysis method used. Examples of different methods as outlined in the ASB exposure draft titled "Statutory Statements of Opinion by Appointed Actuaries for Life or Health Insurers" are:

1. cash-flow testing,
2. demonstration that a product being tested is highly risk-controlled (e.g., accidental death),
3. sensitivity testing of nonasset-related variables (e.g., lapse risk),
4. loss-ratio methods as described in Actuarial Standard of Practice No. 5 -- Incurred Health Claim Liabilities, and

5. market-value analyses. A market-value analysis would only be appropriate for business that is actively managed to achieve a match between asset and liability characteristics. For your information, the inclusion and definition of market-value analysis is still under debate.

The other amounts column would include any other reserve or liability that is not covered in the first two columns. It is contemplated that this will be a category of relatively small magnitude.

The earlier version of the regulation did not have the additional reserve column or any reference to the asset valuation reserve (AVR) and interest maintenance reserve (IMR).

The regulation has some requirements about the use or allocation of assets in the asset adequacy analysis. In particular:

1. A particular asset or portion of asset cannot be used to support other reserves;
2. If the method of allocation is not consistent from year to year, the inconsistency must be described in the supporting memorandum; and
3. The method used for selecting assets or allocated portions of assets must be disclosed in the memorandum.

With respect to the IMR "An appropriate allocation of assets, whether positive or negative, must be used in any asset adequacy analysis."

Next, the AVR may be used only for the analysis of risks regarding asset defaults. In addition, the amount of the assets used for the AVR must be disclosed in the table of reserves and liabilities of the opinion and in the memorandum.

Finally, analysis of risks may include assets supporting other mandatory or voluntary reserves available to the extent not used for risk analysis and reserve support.

TABLE 2
Table of Reserves and Liabilities

	Asset Adequacy Tested Amounts		Reserves and Liabilities		
Statement Item	Formula Reserves (1)	Additional Actuarial Reserves (a) (2)	Analysis Method (b)	Other Amount (3)	Total Amount (1)+(2)+(3) (4)
Exhibit 8					
A Life Insurance					
B Annuities					
C Supplementary Contracts Involving Life Contingencies					
D Accidental Death Benefit					
E Disability - Active					
F Disability - Disabled					
G Miscellaneous					
Total (Exhibit 8 Item 1, Page 3)					
Exhibit 9					
A Active Life Reserve					
B Claim Reserve					
Total (Exhibit 9 Item 2, Page 3)					
Exhibit 10					
1 Premiums and Other Deposit Funds					
1.1 Policyholder Premiums (Page 3, Line 10.1)					
1.2 Guaranteed Interest Contracts (Page 3, Line 10.2)					
1.3 Other Contract Deposit Funds (Page 3, Line 10.3)					
2 Supplementary Contracts Not Involving Life Contingencies (Page 3, Line 3)					
3 Dividend and Coupon Accumulations (Page 3, Line 5)					
Total Exhibit 10					
Exhibit 11 Part 1					
1 Life (Page 3, Line 4.1)					
2 Health (Page 3, Line 4.2)					
Total Exhibit 11, Part 1					

Revised Chart

TABLE 2 (continued)

Separate Accounts (Page 3, Line 27)	______	________	_____	________
TOTAL RESERVES	______	________	_____	________
IMR (Page __ Line __)	______			
AVR (Page __ Line __)	______ (c)			

Notes:

a) The additional actuarial reserves are the reserves established under Paragraphs (2) or (3) of Section 5E.

b) The appointed actuary should indicate the method of analysis, determined in accordance with the standards for asset adequacy analysis referred to in Section 5D of this regulation, by means of symbols which should be defined in footnotes to the table.

c) Allocated amount.

Chart 1 shows the difference of treating net realized gains from the call premium received from a callable bond when the IMR requirements are in effect (Note: the AVR bars should be IMR). Under the IMR scenario, the call premium is amortized over the remaining life of the callable bond. I just want to mention that, if you experience market-value gains or losses due to excessive surrender rates, the net capital gain or loss does not have to be recognized in the IMR.

I'll just briefly make two points about the required interest scenarios:

1. The language describing a maximum of 25% and a minimum of 4% has been removed from the regulation, and
2. A new sentence has been inserted that states that projected interest rates for a five-year Treasury note need not be reduced beyond the point where the yield of the five-year Treasury note would be at 50% of its initial level.

Table 3 shows you the states that have requirements in effect for the 1992 annual statement. The law amendment column indicates that the state in question has amended the standard valuation law to require an opinion from the qualified actuary as to whether the reserves held in support of the policies and contracts (when considered in light of the assets held by the company with respect to the reserves) make adequate provision for the company's obligations under the policies and contracts. This opinion applies to all lines of business.

The second column indicates the status of the adoption of the regulation in each of these 10 states. It is anticipated that at least some of the other states will make the regulation a requirement with the 1992 annual statement.

Table 4 has the same categories as Table 3, and it indicates the states that currently have a requirement with the 1993 annual statement.

I just want to finish up by pointing out that the regulation is still evolving, and so you can expect future changes. Some points currently under discussion by the NAIC are:

CHART 1

Deferred Annuity Surplus
(Spike Down -- Callable Bond)

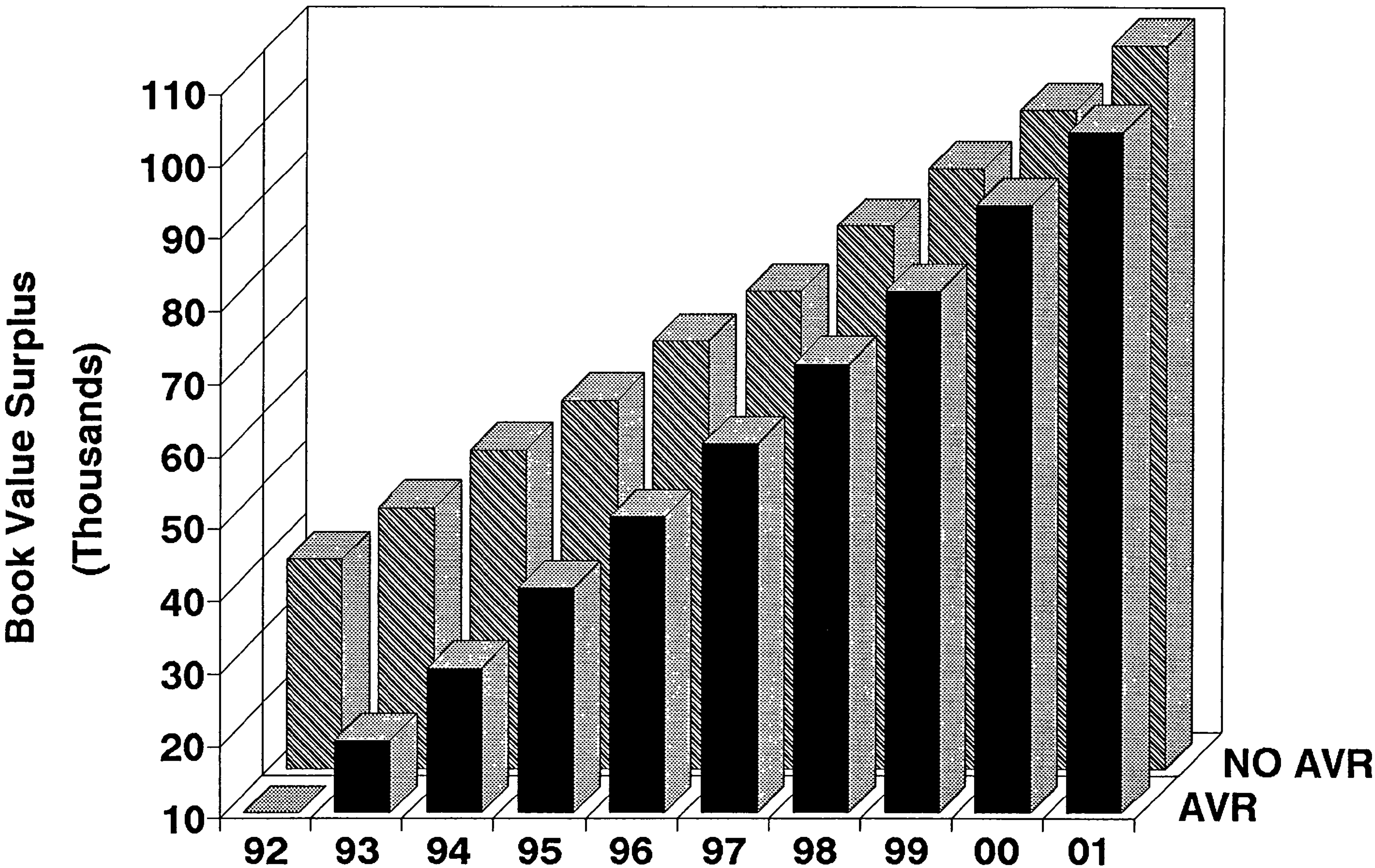

TABLE 3

September Update – 1992 Statements

State	Law Amendment	Regulation
California	Yes	No
Colorado	Yes	Proposed
Connecticut	Yes	Proposed
Florida	Yes	No
Illinois	Yes	Proposed
Minnesota	Yes	No
Missouri	Yes	No
Oregon	Yes	Adopted
Texas	Yes	Proposed
Virginia	Yes	No

TABLE 4

September Update – 1993 Statements

State	Law Amendment	Regulation
Alaska	Yes	No
Louisiana	Yes	No
Maryland	Yes	No
S. Carolina	Yes	No
Vermont	Yes	No

1. There is a possible amendment to Section 7 (the nonasset-adequacy opinion). A question is whether this section will be considered a certification of reserves or an opinion. If you would like more information on the different viewpoints, please refer to the August 1992 issue of the Actuarial Update.

2. A great deal of attention is being given to the modeling of collateralized mortgage obligations (CMOs) and commercial loan cash flows. There may be requirements in this area.

3. In Section 8, references to the MSVR will be replaced by both the AVR and the IMR.

4. In the chart showing the table of reserves and liabilities, there may be another category covering structured claim settlements. Also there will be another footnote labeled (c) that will cover treatment of allocated amounts.

5. Finally, after speaking to actuaries who work for various insurance departments, it can be anticipated that there will be extraterritorial requirements with respect to an asset adequacy analysis, regardless of whether or not the state of domicile has passed their version of the regulation.

THE VALUATION ACTUARY – 1992 DEVELOPMENTS

MR. RICHARD L. BERGSTROM: The amended SVL and accompanying actuarial opinion and memorandum regulation (model regulation), which implement the appointed actuary concept, are the result of over 10 years of effort, largely by members of the actuarial profession. This is basically where we are today.

The model law was amended in 1990 to require an opinion and *provide* for cash flow testing and asset/liability matching (actually called "asset adequacy analysis"). Also in 1990, the model law was amended (Section 3) to require an accompanying memorandum only for companies for which an opinion is required under Section 3B, which is the section discussing the actuarial analysis of reserves and assets supporting such reserves. Finally, in 1991, a companion NAIC model regulation was developed and adopted ("Actuarial Opinion and Memorandum Regulation").

But how we got here is worth reviewing. And so, we will go back in time about 12 years and review the process and key issues that have helped steer us to our current state of affairs.

In 1980 the NAIC adopted amendments to the SVL that provided for dynamic maximum valuation interest rates to be used with the traditional formula reserves. This provided some relief to the industry from what had become very conservative reserve standards at that time, due to rising interest rates. Some members of the profession, including some regulators, felt that these amendments were not the best solution, however, and believed that an entirely new SVL was needed in order to more properly reflect the risks affecting life insurance companies, and to place more responsibility on the actuary signing the opinion in the annual statutory statement.

In 1983 the Society of Actuaries and the American Academy of Actuaries established the Joint Committee on the Role of the Valuation Actuary in the United States (JCRVA). This committee, which was composed of six prominent actuaries, thus became the primary driving force behind the valuation actuary concept during the 1980s. Let me point out that the terms *valuation actuary* and *appointed actuary* are generally the same idea; the description was actually changed to *appointed* by regulators who preferred this name as they were finalizing the amendments to the SVL in 1990.

The JCRVA published two major reports, one in 1985 and a follow-up report in 1987. The 1985 report made two major recommendations:

1. All life insurance companies in the U.S. should be required by law to appoint, by resolution of the board of directors, a valuation actuary who is a member in good standing of the AAA and therefore subject to its qualification standards.
2. The valuation actuary should be required to opine that reserves make sufficient provision for obligations to cover reasonable deviations from expected assumptions, and that reserves and designated surplus make sufficient provision to cover plausible deviations from expected assumptions.

The report also described four major areas of support necessary to implement these recommendations:

1. Develop changes in laws and regulations.
2. Continue research on valuation principles and risks.
3. Educate actuaries in the principles of the new valuation system.
4. Develop and codify principles and standards of actuarial practice.

The 1987 report of the JCRVA described the response of various organizations to the 1985 report, including both the objections and concerns raised by the industry as represented by the ACLI. The report also included an updated current position of the JCRVA with respect to its prior recommendations. A major modification had been made such that the JCRVA no longer recommended that the valuation actuary publicly opine on the sufficiency of designated surplus, only on reserves. It was still recommended, however, that the adequacy of surplus be described in a confidential report to management. Beyond 1987, the JCRVA remained active by encouraging coordination and compromise among the regulators, industry and professional groups working on the valuation actuary concept. The JCRVA was dissolved in 1991.

In January 1987 the first Special Advisory Committee on the Valuation Law (SAC/VL) was appointed by the LHATF. This committee, which was reconstituted to a smaller group in December 1987, became the driving force until it published its report in June 1989. After this, the final discussions and decisions on the law took place at the LHATF, with adoption of the SVL amendments mentioned earlier in December 1990 and the model regulation in June 1991.

Was there a notable consensus on the final form of the law?

There was a general consensus among the regulators, the insurance industry and the actuarial profession when the final SVL amendments were adopted in 1990 and when the model regulation was adopted in 1991. However, this did not occur until six years after the JCRVA 1985 report. During these six years there was a considerable amount of disagreement, discussion and compromise among the various interested parties. These discussions generally took place over three phases in the evolution of the appointed actuary concept.

The first phase was between publication of the JCRVA 1985 report and the formation of SAC/VL in 1987. A number of issues arose during this period of reaction to the JCRVA recommendations. The only major compromise was the elimination of the recommended surplus adequacy opinion by the JCRVA in its 1987 report. The SOA and AAA, with their leadership generally supporting the JCRVA recommendations, began and/or continued the necessary work on research and standards during this time.

The second phase took place during the deliberations of the SAC/VL from 1987 to 1989. The original SAC/VL was composed of over 40 persons and was charged with the development of a conceptual framework for an entirely new SVL, including the concepts of the valuation actuary and variation in required reserves to reflect risks. After less than a year, it was recognized that the charge to this original group was too large to be completed by the June 1988 deadline. The LHATF thus reconstituted the SAC/VL in December 1987 to a group of eight actuaries and three observers representing the NAIC, ACLI and National Association of Life Companies (NALC). This group was given the more narrow charge of developing modifications to the existing SVL that would require each company to submit an acceptable opinion by a qualified actuary as to the adequacy of reserves and the assets supporting such reserves. The new SAC/VL did reach a consensus and submitted its report to the LHATF in June 1989.

The third phase of discussions for consensus building took place from 1989 to 1991 during the deliberations of the LHATF on the final form of the SVL amendments and the model regulation. This phase mainly involved the resolution of some open issues, such as the conditions under which small companies would be exempt from the regulation. Members of the profession and the industry remained active in the process, primarily to prevent the regulators on the LHATF from changing the SAC/VL recommendations.

To the extent that disputes arose, what were the key issues discussed?

There are six key issues:

1. Surplus Management -- The 1985 report of the JCRVA included the recommendation that the valuation actuary give an opinion on reserves and designated surplus. The industry response, primarily through the ACLI, was direct opposition to this point. The position of industry leaders was that the valuation actuary concept should not infringe upon management prerogatives in areas such as investment activities and management of capital and surplus. They were also concerned that regulators might use the valuation actuary requirement as a means to increase regulation and oversight of company surplus levels. The resolution of this dispute was a clear elimination of the surplus opinion concept from the charge of the SAC/VL when it was reconstituted in December 1987.
2. Subjectivity -- Concerns were expressed by some actuaries that the proposed basis of valuation was too subjective. The terms *reasonable* and *plausible* were not defined, and regulators in particular did not want to give the valuation actuary complete authority

to specify minimum reserves. The regulators also felt that too much ability to reduce reserves from the present regulatory minimums could actually increase the risk of insolvencies. Further, there was concern with the potential effect on federal income tax, which was based on traditional statutory formula reserve methodology. The resolution of this issue was the simple agreement that the minimum formula reserves under the SVL would not be altered and that the valuation actuary would only be given the option to increase reserves. This consensus was again reached at the time the SAC/VL was reconstituted in December 1987.

3. Cost -- The cost of implementation and annual testing was a significant concern to the industry, particularly the small company segment. The regulators and professionals were sympathetic to this issue, which was raised early by the ACLI and the NALC. The SAC/VL 1989 report recommended a solution in the form of provisions for small company exemptions and for alternative methods of asset adequacy analysis (other than cash-flow testing). The specific small company exemptions were formally adopted in the model regulation in June 1991. The current proposed actuarial standard of practice "Statutory Statements of Opinion by Appointed Actuaries for Life or Health Insurers" describes acceptable alternative methods of asset adequacy analysis.

4. Standards of Practice -- The development and enforcement of standards of practice for the valuation actuary was a key issue because everyone agreed standards would be necessary to allow the concept to work. The formation of the Interim Actuarial Standards Board (IASB) in 1985, and the permanent Actuarial Standards Board (ASB) in 1988 by the AAA provided the solution. The SOA also contributed in this area with ongoing research on insurance risk and valuation principles. The only point of contention on this issue was whether regulators would be directly involved, in addition to the ASB, in setting and/or enforcing standards. In 1990 the LHATF finally agreed to rely entirely on the ASB for standards, and the AAA for discipline procedures. This was also the preference of the industry as expressed by the ACLI.

5. Liability -- Through the entire history of the valuation actuary concept a key concern of many actuaries has been their potential liability when they sign an opinion and the company later encounters problems. Some regulators believed that the profession should assume a significant liability in order to emphasize the importance of the actuary's responsibility. The industry concern was that the liability might influence the valuation actuary to be overly conservative with reserves. The SAC/VL developed the solution whereby the liability of the actuary would be expressly limited to only the company and the state commissioner. This language was accepted by the LHATF and incorporated in the SVL amendments.

6. Confidentiality -- Related to the liability issue, some actuaries were concerned about the confidentiality of the actuarial memorandum supporting the opinion. Some company officials were also concerned about giving competitors access to such detailed information. Regulators were more in favor of easy access to the information or even some form of organized surveillance of the actuaries' work. The compromise solution proposed by the SAC/VL was eventually accepted by the LHATF. The final SVL amendments specify that the actuarial memorandum is available to any commissioner upon request, but that the commissioner is required to preserve its confidentiality from the public (Section 3.A(11)).

How about any key issues that have arisen as the law has been put before state legislatures for adoption? What impact will this have on the viability of the appointed actuary concept?

The only significant issue directly related to the adoption of the SVL amendments by the individual states seems to be the liability issue. Out of 10 or so states that have enacted the law, two have altered the provisions in Section 3.A(7), which except in cases of fraud or willful misconduct, provide protection to the appointed actuary from third-party liability. Florida simply omitted this subsection from its bill, and California actually changed the language to state that the actuary *shall* be liable for damages to any person caused by negligence or other tortious conduct. Various members of the profession have been upset by these actions and have undertaken efforts to prevent similar modifications in other states. In California, representatives of the AAA and ACLI are making an attempt to change the language or simply remove it, like Florida. It is probable that this will happen.

The AAA Committee on Life Insurance has developed a new draft document entitled "Practical Application of Reserving for Contemporary Annuity Products." This document covers a broad range of questions concerning reserves for various types of annuities, including variable annuities. As the issues discussed in this document are of great interest to the actuarial task force members, the task force recommended that this project be added to its agenda as a Number Two Priority Project in December 1991. The actuarial task force received authority to add this project to its agenda, with the intention of making an in-depth review of this document and the issues that it describes.

In April 1992, the actuarial task force decided to appoint a subgroup of its own members as the Annuity Working Group. John Montgomery is chair of this subgroup. That working group plans to study two projects relating to annuities: this project and Project 3h, "Nonforfeiture -- To Study the Need for Revision of Annuity Nonforfeiture Law." It's possible that other projects relating to annuities may also be assigned to this working group at a future date.

A special advisory committee, the Actuarial Advisory Committee on Revision of Standard Valuation Law with Respect to Annuities, is also being established to work specifically on this project. Dennis L. Stanley, of Milliman & Robertson, was named chair of this advisory committee. The committee has, among other things, been charged:

- to consider the relationship of valuation interest rates in light of the date of investment of the supporting assets;
- to consider the appropriateness of possible application of any modified formulas to existing business versus new business only; and
- to consider group versus individual, allocated versus nonallocated, and pension versus nonpension perspectives.

A draft proposal is due out by January 1993.

What's new with the standard nonforfeiture law?

The actuarial task force has established a Nonforfeiture Law Working Group consisting of four actuarial task force members, plus a number of industry representatives, to resolve certain basic questions raised by the actuarial task force on life insurance. The working group is currently studying three different concepts regarding how the proposed "Second Standard Nonforfeiture Law for Life Insurance" should operate:

1. A concept similar to that contained in the draft law that was exposed in the December 1991 report of the actuarial task force. Under this concept, traditional nonuniversal life insurance policies would continue to have minimum cash values defined prospectively; i.e., this is a dual approach leaving traditional life as is and adopting standard nonforfeiture law (SNFL) to universal life. This is the C-series (C11).

2. A concept under which both traditional nonuniversal life insurance policies and universal life insurance policies would have minimum cash values defined retrospectively. All elements would be regulated in defining these minimum cash values. This is version R2 of the R-series; i.e., this is a regulated version of a unified approach for both traditional and universal life policies.

3. A concept that would otherwise be similar to that described under (2) above, but under which there would be one unregulated element used in defining minimum cash values. This is the so-called U-series and is an unregulated version of a unified approach with full disclosure of the unregulated element in the policy illustration. There has been much discussion of this version, as one of the major concerns of the regulators is that this version develops a floor for cash values and does not put any limits on the implicit surrender charge equal to the difference between the fund and minimum nonforfeiture value. The Standing Technical Advisory Committee (STAC) recognizes that there also

may be a need to directly address the regulatory concerns of smoothness, disclosure, and compliance.

The LHATF has asked the Standing Technical Advisory Committee to develop various illustrations for different types of products under the C11, R2, and U1 versions in order to study how each proposal will work in practice. The proposed date of adoption is some time in 1993.

Revisions in current annuity nonforfeiture law?

Yes, consider Project 3h. The purpose of this project is to develop recommended amendments to the current NAIC model standard nonforfeiture law for individual annuities. Originally, the project was confined to questions relating to two-tiered deferred annuities, but the actuarial task force recognized that it would be appropriate to study and reconsider the wording of the entire statute. The actuarial task force did subsequently receive proper authority to expand this project to include such a review of the entire statute, rather than to confine the project to two-tiered annuities.

Initially, an advisory committee was appointed to work on this project, known as the Actuarial Advisory Committee on Revision of Annuity Nonforfeiture Law. This committee has since been reorganized, and is now known as the Actuarial Advisory Committee on Revisions to the Standard Nonforfeiture Law for Annuities.

The charge of the committee is to prepare a proposal for consideration by the LHATF, with a draft law to be exposed early in 1993. Two specific concerns the committee is to address relate to smoothness of values and consistency with the life insurance nonforfeiture law, although there are currently three versions of that being considered.

What other issues are in the mill?

The SOA has formed a new annuity valuation table committee that has begun investigating the need for a new group annuity valuation standard. The group will also address the question of whether or not projected mortality improvement should be incorporated into the table.

As for life insurance, the SOA did establish a task force to look into a new standard, but as yet no formal report has been made. One concern the group had was that not only had mortality probably not changed that much since the adoption of the basic 1980 CSO tables, but also the margins built into the subtables of the 1980 CSO might not be sufficiently conservative, e.g., smoker/nonsmoker margins.

Finally, there has been some concern by regulators that additional standards should be considered for certain specialty markets, such as guaranteed issue business. However, there is no formal charge outstanding to any committees to currently investigate this area.

THE VALUATION ACTUARY -- 1992 DEVELOPMENTS

MR. JOHN S. BATH: In recent years, increased reliance has been placed upon the valuation actuary in the statutory valuation process. However, minimum formula reserves continue to play an important role. I will address several recent efforts to clarify and improve the application of formula reserves in the group annuity area.

The first topic I will address is the recent actuarial guideline AAA exposed for adoption by the NAIC. This guideline is entitled the "Guideline for the Application of Plan Type to Guaranteed Interest Contracts (GICs) with Benefit Responsive Payment Provisions Used to Fund Employee Benefit Plans." Before getting into the provisions of this guideline, I thought it would be worthwhile to briefly discuss its history.

The original version of this draft was proposed in fall 1991. At that time, this proposal caused quite a stir among many companies active in the GIC marketplace because it would have required companies to establish reserves for most benefit responsive GIC contracts using Plan Type C. Because of the lower valuation rates this would produce, the impact of this proposal would have been a multibillion dollar increase in GIC reserves, and it could have substantially impacted the GIC market. Due to the increased reserves that would have been required, companies would have had to increase their profit margins, or accepted a lower return on equity, or both. The competitiveness of GICs relative to other investment products would have deteriorated.

The Academy's Committee on Life Insurance responded to this proposal by releasing to the NAIC Life and Health Actuarial Task Force (LHATF) its preliminary findings with respect to the underlying philosophy of statutory reserving for annuities and GICs. After further discussion and evolution, the guideline developed into the one that was recently exposed for adoption. This version is much less onerous to GIC writers than the original proposal, although some GIC contracts would still be affected.

Under the current proposal, employee directed withdrawals at book value are considered policyholder withdrawals unless the underlying plan or GIC contains written provisions that reduce C-3 risk to the insurance company.

The guideline states that a provision meeting this criteria must include both of the following types of protection:

1. No direct transfer to competing funds, with a minimum 90-day "equity wash." That is, if the plan provides for other low-risk fixed-income options, any transfers to these options must first reside in a noncompeting option for at least 90 days.
2. For class-year plans, that is, for plans where participants receive different interest rates on some of their fixed monies than on other monies, participants must not be allowed to redirect monies from a GIC funding a particular cell to a competing fund until the GIC's maturity date.

It would appear that for a class-year plan, a competing fund could be another investment cell of the GIC option, and a 90-day equity wash would be required in order to satisfy these requirements. For example, assume a participant earns 7% from a GIC funding 1991 deposits and 8% from a GIC funding 1992 deposits. A participant must be prevented from converting the 1991 deposits into higher yielding 1992 deposits by transferring to an equity option, and then transferring back to the GIC option at the 1992 interest rate prior to the expiration of the 90-day period. However, this guideline does accommodate the need to be able to rollover maturing GIC cells into the current investment cell.

If either of the above provisions are not met for a benefit responsive GIC, then participant withdrawals must be considered as policyholder withdrawals for the purpose of determining plan type under the standard valuation law (SVL). In most cases this would lead to a plan type C classification that would require higher contract reserves.

In addition, in order to obtain the relief outlined in this guideline, the valuation actuary must also be satisfied that the insurer properly administers the GIC provisions designed to reduce C-3 risk. This provision can be satisfied by obtaining a certificate of intent to administer these provisions from the appropriate company officer.

Finally, the valuation actuary must periodically review the actual experience under the contract to verify the appropriateness of the plan type assumption under this guideline. On the surface this requirement appears to be very onerous, as it seems to require looking at each contract separately.

If the NAIC Life Insurance Committee accepts the recommendation of the Actuarial Task Force on this guideline, it will be voted on for approval in December 1992. If adopted, it will become part of the *Financial Examiners Handbook.*

The second issue I will discuss is proposed actuarial guideline CCC dealing with the statutory valuation of group annuity contracts exempt from the Commissioner's Annuity Reserve Valuation Method (CARVM). This guideline has been proposed by Larry Gorski of the NAIC Life and Health Actuarial Task Force with the intention of clarifying the reserving procedures for these contracts. For a typical group annuity contract in the accumulation phase, this guideline would require that reserves would be held at a level at least equal to the fund balance.

In addition, if there are any future guaranteed rates in excess of the valuation rate, the minimum reserve would be the greatest present value of any future guaranteed fund account. Under this guideline, the statutory valuation rate would be determined by plan type and guarantee duration as defined by the SVL.

To give a very simple example, assume that the valuation rate is 7% for a contract which guarantees an 8% rate for two years, with no guarantees thereafter. For each dollar of fund balance, reserves on this basis would be \$(1.08/1.07)^2, or approximately \$1.02.

This guideline would also provide clarification on how to calculate formula reserves for deferred annuities purchased under a group contract, whether or not cash surrender values are available.

This proposal is in the early discussion stage, and it is possible some of the contents of this proposal could be incorporated at some point into a revision of the standard valuation law with respect to annuities, which is the next topic I will discuss.

An advisory committee has been established by the NAIC LHATF on this topic. This advisory committee is chaired by Dennis Stanley of Milliman & Robertson. This project has a very broad scope and has the potential to result in significant changes in the way formula reserves are calculated for all annuities. The committee's charge is to:

1. Develop a framework for a new SVL for deferred and immediate annuities, GICs, structured settlements, and other products.
2. Develop new statutory valuation principles for formula reserves applicable to both new and older products. For example, should CARVM be extended to certain group annuity contracts currently exempt?
3. Provide for consistency in application and interpretation of the valuation law for annuities.
4. Reconsider the definition of annuity types A, B, and C, and determine whether there should be more or fewer categories.
5. Reconsider the change in fund method. For example, for what contracts are the higher interest rates allowed under the change in fund method appropriate?
6. Consider the application of the valuation interest rate in light of the investment of the supporting assets. For example, does it make sense to hold reserves at a high valuation rate in effect when a contract is issued if the original investment backing the contract has been called or matured and reinvested at a lower rate?
7. Should new reserve formulas apply to new business only or to all in-force business?
8. Consider group versus individual, allocated versus nonallocated, and pension versus nonpension issues.
9. Prepare a conceptual framework for consideration by the NAIC Life and Health Actuarial Task Force by January 1, 1993.

Finally, I want to mention the work that is currently being done on developing a new group annuity mortality (GAM) valuation standard.

The Society's Annuity Valuation Table Committee has been charged by the Board of Governors with the development of a recommendation for a new standard for the valuation of life-contingent group annuities to replace the 1983 GAM table. The committee anticipates recommending a new standard during 1993.

One of the reasons that this is a timely project is that the committee has a large volume of accumulated retired life insured GAM experience, that has been compiled consistently since 1981, with 6-12 companies submitting experience data each year. This experience indicates that actual to expected ratios compared to 1983 GAM, based on annuity income, have declined for males from 1.17 in 1985 to 0.98 in 1989. Female ratios are higher, at 1.32 in 1985 and 1.17 in 1989.

Since ratios less than one generally indicate that mortality rates are inadequate, it is important to review the need for a new valuation standard at this time.

The committee is recommending a generational mortality approach. This approach applies a series of static mortality tables for each year of birth, with mortality improvements built into each table. For example, someone attaining age 65 in 1992 would have a higher age 65 mortality rate than someone attaining age 65 in 1993.

This approach would automatically reflect projected future mortality improvements and would require less frequent updates. It may be feasible to implement at this time due to advances in computer technology. Finally, because of the inclusion of projected mortality improvements, initial mortality margins could be lower than if a static table were used.

Two other approaches were considered by the committee. The first was a static approach with a load for conservatism, similar to the 1983 GAM approach. Another approach was called a static table with a tilt. This approach was a sort of compromise between the generational approach and the traditional approach.

The committee is recommending the generational approach, with the use of appropriate margins determined through stochastic modeling. For example, margins could be set so that reserves are adequate at the 95% confidence level. In addition, the committee plans to incorporate results of the uninsured pensioner experience compiled by the SOA committee that is pursuing a replacement for the uninsured pensioner 1984 table. This uninsured pensioner experience will be used at the younger ages where retired experience under insured contracts is not available. The intent at this time is to grade the active life experience into the retired life experience and to have one valuation table to be used for both active and retired lives. The intent of the committee is to also recognize the experience of the Social Security Administration at the older ages where insured experience may not be credible.

Finally, the committee anticipates that the new standard could be used for several purposes, including as a new reserve standard on a prospective only basis for new issues, as well as for cash-flow testing, for example in the valuation actuary certification.

The Committee's Position Paper was recently exposed for comment. Lindsay Malkiewich, the Chairperson of the Committee, has indicated that the responses so far have been generally positive, with only three responses to date that were strongly opposed to the generational approach. Given the general direction of these responses to date, the committee expects to continue with the development of a generational valuation approach. However, Mr. Malkiewich indicates that the reasons for these objections are being discussed and will not be ignored.

THE VALUATION ACTUARY – 1992 DEVELOPMENTS

MR. J. PETER DURAN: The first topic I'm going to speak about is sometimes known as surplus relief. I think that's a misnomer. What I want to talk about is risk transfer regulation with regard to reinsurance generally. Certainly, the drafters of these regulations had in mind what we might call surplus relief, but the regulations really don't talk about surplus relief per se. They talk about reinsurance, and the aim of the regulations is to insure that life insurers do not take reserve credits or establish assets on account of reinsurance agreements if those reinsurance agreements do not transfer "sufficient" risk. This type of regulation has been evolving for quite some time over the decade of the 1980s. The current NAIC model law on risk transfer regulation dates back to 1985. A number of states, for instance, New York and more recently and especially California, have also promulgated regulations. In California, you had bulletins 89-3 and 89-3A. Then in April 1991, California came out with California bulletin 91-10 which superseded 89-3 and 89-3A. There is also a new NAIC model regulation that is being proposed for adoption at the September 1992 meeting of the NAIC in Cincinnati, and the expectation is that the model will be adopted as is, i.e., as it had been shown to the NAIC working group at the June 1992 meeting of the NAIC.

I'm going to give you a brief overview of the provisions of the NAIC model. I'm not going into everything because that would take too long, and I believe there are other sessions that are going to be devoted to reinsurance. With respect to California bulletin 91-10, it codified the working version of the NAIC model as it existed about a year ago. The bulletin differs in a number of key respects from the NAIC model, and that's causing a certain amount of confusion at companies that are affected. The NAIC model applies, when adopted by a state, to all domestic insurers, as well as all licensed insurers in the state that are not subject to a "substantially similar" regulation. So, if a company is domiciled in a state that does not have a risk-transfer regulation, then the company would be subject to the regulation in the state in which it is licensed. The California bulletin applies to all insurers that are licensed in California, which, of course, is most insurers. At the present time, there is no "substantially similar" provision in that bulletin; therefore, the California requirements have to be satisfied as stated in the bulletin by all insurers licensed in California whether or not their state of domicile has adopted the NAIC model. To the extent that California bulletin 91-10 may be more restrictive in any particular regard than the NAIC model, companies licensed in California must comply with the stricter California requirement. A company clearly has the option to file a different statement in California than it does elsewhere, but with respect to the California statement, the way things stand now, companies are required to follow California regulation.

Neither the California bulletin nor the NAIC model regulation covers certain kinds of reinsurance agreements: stop-loss reinsurance, assumption reinsurance, and YRT reinsurance. These types of agreements just don't fit with the way the regulations are written.

The NAIC model, when adopted by a state, would cover new agreements immediately. Thus, any agreement that was entered into after the effective date of the regulation would be covered by the NAIC model. For agreements that exist as of the date of adoption of the model, the model would become effective by 12-31-94. What that means is that, if a treaty doesn't comply with the model, then the company must reduce any reserve credits or assets established in its statutory statement to zero by 12-31-94. So, you either bring the treaty into compliance, or you don't take the reserve credit.

California is a little different. Bulletin 91-10 applied to new agreements immediately. It also applied to so-called coinsurance/modified coinsurance (co/modco) agreements: agreements that contain a combination of coinsurance and modified coinsurance, immediately. So, that bulletin actually applied as of 12-31-91 to co/modco agreements. Agreements need to be brought into compliance by 12-31-92.

Both the California bulletin and the NAIC model regulation lay out a list of prohibited conditions that a treaty may not contain. I'll speak about the more important of these briefly. The first is a condition that renewal expense allowances are less than actual expenses unless a liability is established for the shortfall. So, basically what they're saying is that the renewal expense allowances must cover the actual allocable renewal expenses. Anybody who has ever done any kind of expense allocation work realizes renewal expenses are not uniquely defined, but presumably renewal expenses can be interpreted as the "direct" expenses that are needed to maintain the contracts. In the NAIC model, if that condition is not satisfied, the insurer may establish a liability in its statement for the present value of the shortfall. In the California version, that's not the case. It's an all or nothing thing in the California version. In other words, if the contract contains the prohibited condition, i.e., if the renewal expense allowances are in fact less than actual renewal expenses, then there is no reserve credit whatsoever allowed in California.

The second prohibited condition is a carryover from the prior version of the model regulation. The ceding company can be deprived of surplus or assets either at the reinsurer's option or automatically upon the occurrence of some event specified in the contract, such as insolvency.

The third prohibited condition is that the company is required to reimburse the reinsurer for negative experience except on voluntary termination of the agreement. In other words, it is fine for the agreement to require that the ceding company must reimburse the reinsurer for losses if the ceding company wants to terminate the agreement, but not if the reinsurer wants to terminate the agreement. The other exception is to reduce the cumulative experience refund to zero. In other words, the regulation looks at losses on an inception-to-date basis, not on a year-to-date basis. Again, that's a carryover of a provision in the existing model regulation.

The fourth prohibited condition is that the ceding company must recapture or terminate the agreement at specific points in time. This is another carryover from the existing model regulation.

The fifth prohibited condition is that payments to the reinsurer may involve amounts other than from income "realized from the reinsured policies." That's not new, but it's as ambiguous as it ever was. Obviously, it requires a computation of the income associated with the reinsured block of business.

The sixth condition is new, is key, and is found pretty much in both the California bulletin and the NAIC model. The prohibited condition is that the treaty does not transfer all the significant risks inherent in the business. In other words, the treaty must transfer all the significant risks inherent in the business. The regulation attempts to define that term fairly precisely. The regulation categorizes insurance business into 17 different categories. I've got an example here of five of those categories: long-term disability, single premium deferred annuities (SPDAs), single premium immediate annuities (SPIAs), traditional term, and universal life (UL). (See Table 1). Risk is classified into six categories. Mortality, morbidity, and lapse are the first three types of risk. None is defined in the regulation. There are also three kinds of asset or asset/liability risks, namely credit risk, reinvestment risk, and disintermediation risk. Depending on the type of contract, a risk may or may not be considered significant. For example, in long-term disability, the significant risks are defined to be the morbidity, lapse, credit and reinvestment risks. Disintermediation and mortality are not considered by the regulation to be significant risks. So an agreement that covers LTD, must transfer those four significant risks.

TABLE 1
Significant Risks Required to be Transferred

	Product Category				
Risk Category	LTD	SPDA	SPIA	Traditional Term	UL
Morbidity	X				
Mortality			X	X	X
Lapse	X	X		X	X
Credit	X	X	X		X
Reinvestment	X	X	X		X
Disintermediation		X			X

The next prohibited condition is that the asset risk (i.e., credit, reinvestment or disintermediation risk) is significant and the assets are not transferred to the reinsurer or legally separated (except for specified categories of business). If a reinsurance agreement covers a block of business where asset risk is significant, then either the assets must be transferred or they must be legally segregated except for five specified categories of business (health, traditional permanent, adjustable-premium permanent and fixed-premium UL without dump-in). One of the very significant differences between the California bulletin and the NAIC model is that the California bulletin requires that the assets either be transferred or be legally segregated in a trust. It's a fairly onerous requirement because of the complexities and the costs of establishing a trust. Also, any reserve interest adjustment must reflect the actual experience of the ceding company's assets that back the reinsured block. It must reflect actual investment earnings and actual realized and unrealized gains and losses.

I'm not going to go into the next four prohibited conditions. They're fairly self-explanatory. They're all new. Condition eight is that the agreement requires settlements less frequently than quarterly. Condition nine is that the ceding company is required to make representations or warranties not reasonably related to the business reinsured. Condition 10 is that the ceding company is required to make representations or warranties about the future performance of the business reinsured. Condition 11 is that the agreement is entered into for the principal purpose of producing relief and the "expected potential future liability remains unchanged." This is found in the NAIC model only.

None of these conditions, I don't believe, is particularly controversial or unreasonable, although I would point out that condition 11 is fairly ambiguous and certainly leaves a considerable amount of judgment to the regulator about who's enforcing the regulation.

There are other parts of the regulation that I haven't spoken about. The most important of these involves the statutory accounting treatment for reinsurance treaties. The thrust of this is that, with respect to a reinsurance agreement that covers existing business, the company that's getting the relief cannot take that relief through its statutory income statement. It has to be reflected directly in the change in surplus account. So, you don't affect statutory gain from operations. You do affect surplus.

I'll be brief with my next topic, which relates to the activities that the Society of Actuaries' Committee on Valuation and Related Areas is concerned with currently and expects to move forward over 1993. This committee was established by the Society in the early 1980s, and for those of you who are not familiar with it, the charge of the committee is to study the actuarial principles and practical ramifications of issues surrounding the valuation of assets and liabilities and the determination of adequate surplus levels. That's the charge of the committee in part. The committee also has responsibility for the *Valuation Actuary Handbook*. For those who might not remember the handbook, it dates back about six years and was developed in the context of Regulation 126 in New York. Essentially, it is a guide for the practicing actuary that laid out for him or her the literature on the subject and how to deal with the issues. A lot has happened since then. There's been talk about updating the handbook. My own view is that this probably needs to be done, but it also needs to be coordinated with a lot of the other committees that are working in one way or another in the area of valuation. The development of compliance guidelines obviously is relevant here, and so is a lot of other activity that's going on. The second activity that we've got scheduled and started is a research project on what we have deemed "economic solvency." Basically, we're trying to start with a clean piece of paper here and look at valuation principles from scratch, unencumbered by the current statutory or GAAP regulatory environment. We've got a working definition of economic solvency, and it is that the present value of the asset less liability cash flow should be nonnegative within some confidence level. So, it's a probabilistic type of approach, and in my mind anyway, it boils down to what I believe is commonly understood by adequate assets. Namely, with a given confidence level, the actuary can opine that the present value of the asset less liability is nonnegative. We're exploring the ramifications of that definition. We've got a pilot project on SPDAs that we're starting to get into. Obviously, the SPDA is probably the easiest product to examine. When we get to participating life insurance, I'm sure things will get more interesting. And we're hoping over the course of 1993 to do some original research or at least bring together some existing research and publish a report. We're looking at various valuation methods and trying to understand to what extent those methods reflect or don't reflect economic solvency. I hope we'll come out with a report on that subject.