1999 Valuation Actuary Symposium

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Session 2
Life and Annuity Valuation Issues

Moderator: R. Thomas Herget
Panelists: Thomas A. Campbell
Donna R. Claire
Shirley Hwei-Chung Shao
Harland A. Dyer

The session provides an overview of a range of current valuation issues pertaining to life and annuity products. Major life and annuity topics are introduced, which might also be covered in other sessions in more detail. Major topics include:

- *Unified Valuation Law Task Force (UVL) update*
- *Equity-Indexed Products Update (including NAIC Guideline ZZZ and ZZZZ)*
- *NAIC Guideline XXXIII*
- *NAIC Guideline XXXIV*
- *Variable Annuity Guarantee Living Benefits (VAGLB)*
- *NAIC Model Regulation for Group Annuity Separate Accounts*
- *Son of XXX*
- *Actuarial Opinion and Memorandum Regulation (AOMR) Revisions*
- *Other current topics*

MR. THOMAS HERGET: I'm the moderator for this session and an actuary with PolySystems in Chicago.

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We have a lot of issues to cover. First, I would like to introduce Donna Claire. Donna is a well-known consulting actuary. She works for Claire Thinking and has spent many, many hours, days, weeks, months and years on valuation issues on behalf of clients, the state regulators, and the industry.

MS. DONNA R. CLAIRE: I'll talk about the regulations that either were adopted recently or should be adopted shortly. Due to time constraints, I am not going to go into too much detail in areas where there are other sessions.

Actuarial Guideline ZZZ

Actuarial Guideline ZZZ on equity-indexed annuities (EIAs) was written by, and nicknamed by, Larry Gorski. It has been adopted and became Actuarial Guideline 35. It is effective December 31, 1998. I hope that all of you who are issuing equity-indexed annuities are following this guideline. New York Regulation 151 does not include this guideline. New York wanted more time to consider the issue.

In developing reserving standards for EIAs, one of the principals was that we (we being the American Academy of Actuaries Working Group on Equity-Indexed Annuities) had to remain consistent with the Commissioners Annuity Reserve Valuation Method (CARVM). One important thing to remember is that CARVM requires that one take the greatest present value of all possible values in an annuity as the reserve amount.

We developed three reserve methods: (1) CARVM with updated market values (CARVM-UMV), (2) a simplified version of this called the market-value reserve method, and (3) the enhanced discounted intrinsic method, which is a book-value method. These will be discussed in further detail in Session 17.

I do want to mention one area—the hedging policy. With new products coming on the scene, hedging strategies are becoming more important. The list of conditions for "hedged as required" is a good summary of what should be considered. One is that the hedger and the hedgee should be in sync in terms of maturities and designs. A second is that the amount of hedges should be

about the same as the amount of the liabilities. A third is that interim benefits should be considered. A fourth condition is that a monitoring plan should be put in place. Finally, this plan should come up with criteria for measuring differences and an action plan for when things go out of sync. The official hedging policy should describe who does what, what are the risks, and, consider the risks involved for the hedges. These risks include: the liquidity risk, if one needs to sell quickly; the credit risk of the counterparty; the market risk (if one needs to sell); the pricing risk (if one needs to buy); the legal risk that the instrument be allowed; and the operations risk (the investment and administrative areas know what they are doing).

Actuarial Guideline 35 does require quarterly filings of actuarial certifications for equity-indexed annuities. These certifications are different for those who meet the hedged-as-required criteria versus those who do not. The appointed actuary is responsible for these. A brief survey indicates that every company in the market might not be complying with these rules.

I'd like to briefly mention a survey on EIA modeling done in 1998 by the regulators. It found that many actuaries were not aware of the assets backing the products. It also found that all actuaries were not necessarily using current market information when testing these products. One appointed actuary commented that they were using a conservative method (consistent with Actuarial Guideline 35) only in the few states that required it; otherwise they were holding cash values as reserves. For an EIA product, cash value seems like a very low reserve. This survey generally got some of the regulators very concerned. A new survey is in the process of being completed. We hope the survey shows that conditions have improved.

For those needing additional information on EIAs, one source of information is the Academy working group report, which is available from the Academy. There is a practice note that has finally wound its way through the Academy hierarchy and is now available.

Practice Notes

I have a side note regarding Practice Notes. As mentioned by Steve Preston in Session 1, the practice notes that have just been approved on the life side are available here. These were generally released as drafts last year. They include one on EIAs, one on variable annuities, one on illustrations, and two on demutualization.

Equity-Indexed Universal Life

There is an Actuarial Guideline ZZZZ, on equity-indexed life reserving, which passed, and is now called Actuarial Guideline 36. At this point, that means it will be effective at year-end 1999. There was some consideration to delaying the implementation until 2000 because of Y2K concerns, but this does not appear to be likely at this time. I will know more after the fall NAIC meeting.

All equity-indexed life products on the market now have a universal life chassis. The design is to guarantee a minimum rate of interest, such as 2.5%, for life, plus a percentage of an equity-index increase; where this percentage guarantee is typically high in the first year, and low-to-nonexistent in future years.

Universal life (UL) reserving requires one to look at the guaranteed maturity premium and guaranteed maturity fund. With equity-indexed universal life (EIUL) products, the equity-index guarantee is made part of the calculation.

As with EIAs, EIULs have two general types of reserving depending on whether one meets the hedged-as-required criteria. If one meets the hedged-as-required criteria, one can use a book-value reserving method, which is called IGRM, or the implied guaranteed rate method, which is considered a Type I method. The calculation adds the cost of the option, which is for one year or less, in calculating the guaranteed maturity premiums and guaranteed maturity funds. An added concern with these products is that hedging must also consider death benefits.

A market value reserving method is an alternative. This is considered a Type II method, and is called CRVM with Updated Market Value. This requires that the future possible cost of the

option be included in the calculation of guaranteed minimum premium (GMPs) and guaranteed maturity fund (GMFs), and they can produce relatively large reserves (up to 50% more than the Type I methods). The Academy Working Group on EIULs has proposed a slimmed down version of the Type II method, called Type IIa, which generally produces reserves that are between Type I and Type II reserves. This recommendation will be presented to the NAIC at the next meeting, with a possible implementation date of year-end 2000.

Like with EIAs, the valuation actuary must consider all risks, such as that of disintermediation, hedging, any enhanced death or living benefits, guaranteed elements, counterparty credit risk, and reinsurance risks.

XXX (Regulation on Reserving Life Insurance)

As everyone is probably aware, the regulation commonly known as XXX (the rewrite) has passed the NAIC. According to Bill Schriener of the ACLI, two states, Wisconsin and Kansas, have actually passed this. In ten states, legislation is pending. A total of 32 states have committed to adopting this. Of the 32, 24 states will probably adopt effective January 1, 2000. The only states that are definite no's are Massachusetts, South Dakota, and Tennessee. New York plans on amending its Regulation 147 on term insurance. It also plans on letting companies request releasing the additional reserves held down to the new Guideline XXX level.

The rewrite of XXX has new select factors, but still uses the 1980 CSO table as a base. It will apply to UL products with secondary guarantees. (Note: the NAIC is considering a bulletin to be released by December of 1999 to explain that all UL products with long secondary guarantees, even those that base the benefit on a shadow account and not a required premium, are covered by this regulation.) The interesting twist to this regulation is, of course, that an X factor (a number not lower than 20%) could be used in multiplying the mortality factors, in order to establish the deficiency reserve mortality.

The big question is how to pick this X factor. The baseline appears to be pricing plus a margin. Larry Gorski wrote an article in *The Financial Reporter* on what the appointed actuary should consider. The factor must be based on the company's own mortality. Since many companies

might not have enough deaths to justify an X factor, other sources of information, such as your reinsurer's view of your X factor could also be considered. The actuary's reputation is on the line with the X factor, so it is important to try to get this right.

Some sources of information include the report of the industry group who assisted in the XXX rewrite, as well as the SOA report on this subject, which was written by a group chaired by Doug Doll. There is an Actuarial Standard of Practice being developed on this. A practice note is also being contemplated.

There are several sessions on Regulation XXX at this symposium, one being a panel discussion at Session 10 that will give more details on this.

Variable Life/Variable Universal Life

Variable products are excluded from the NAIC version of XXX. However, they are probably going to be included in New York's version of this, which is New York Regulation 147.

The recommendation is that death benefit reserves for variable life products be the greater of a term insurance reserve, assuming a one-third drop in the fund values, an attained age level reserve that considers the death benefits, and the premiums paid for these, over the life of the product.

There is an Academy group headed by Burt Jay that has developed a recommendation for the reserving for these products. This will be discussed at the NAIC meeting next week. My guess is that it will be adopted for implementation for year-end 2000.

GICs with Credit Rating Bailouts

Another interesting project is GICs, funding agreements, and corporate-owned life insurance/ business-owned life insurance (COLI/BOLI) products with liquidity provisions, such as credit rating bailouts. These types of provisions allow book-value surrenders under certain circumstances, such as when the company ratings fall below a certain level. This is also known as the General American problem, although this issue was being discussed before that company

got into trouble. As one can imagine, it is a very hot topic with the regulators at this time. An Academy working group, chaired by me, is looking into this subject.

One issue is what should be reflected in the reserving. A number of companies set the minimum reserve for the underlying products at fund value, but this is not universal. There is a question as to whether the probability of downgrade should be brought into the reserve standard. The problem is that it is an all-or-nothing risk. Typically, a company will either have no book-value surrenders for these products, or bad news will hit, and just about all the contractholders will want their money simultaneously.

The rules for reserving are not yet written. However, the NAIC's Life and Health Actuarial Task Force has set a goal to develop standards by the December 1999 NAIC meeting. This is one area that the appointed actuary should very carefully consider for the risks involved in the products before signing off on the reserves.

Conclusions

As you can see, it has been a pretty active year in terms of regulation. I try to keep people informed by posting updates on the SOA web site, www.soa.org, after every NAIC meeting.

MR. HERGET: As many of you know, Donna has just completed a term as Treasurer of the Society of Actuaries. I recall her wearing a red dress whenever things weren't so good and a black dress when things were fairly sound financially. Today she is wearing a blue dress and I've just been sitting here wondering what that signifies. I presume that just means you're no longer treasurer.

MS. CLAIRE: That's right.

MR. HERGET: Okay, so there's no particular significance in the blue. The next speaker I would like to introduce is Shirley Shao. Shirley is a vice president at Prudential Insurance Company of America where she is a corporate actuary. She is the current chair of the Academy State Variations Committee. She is the chairperson of the Society of Actuaries Financial

Reporting Section, and she has just recently been elected to serve on the Board of Governors for the next three years.

MS. SHIRLEY HWEI-CHUNG SHAO: I will be talking about three subjects today: codification, the Actuarial Opinion and Memorandum Regulation (AOMR), and the Unified Valuation System (UVS). All states have supported the codification except New York. It is likely that New York will also support codification with some modifications. In Session 1, Steve Preston talked about the effective date for codification, which is January 1, 2001. That means we have to be ready for the first quarter financial reporting in 2001. All the trade associations are working very closely with the states. In addition to the trade associations, companies in various states also work with their domestic state regulators very closely.

Depending on the states' interpretation, codification may need to be adopted via different legislative process. Some will approach legislative changes, others will need regulation changes, and yet others think they can get by with bulletins. Some states may decide to deviate from the model codification, in particular relating to the reserve requirements. In the financial statement, actuaries have to report material reserve deviations from the codification standards and its impact on the surplus.

As mentioned earlier, New York is likely to support with some exceptions. Several states already passed the legislation, and Pennsylvania has already issued a bulletin. Some states already completed work with their state regulators, while others are in the process.

The work on the NAIC side continues with several blanks proposals on how the blue book and the green book should be changed to accommodate the codification. One of the most important works is a series of financial notes to provide some guidance on how to actually do it. They will be similar to the footnotes in the GAAP financial statement. There are also several groups being set up. One, in particular, is headed by Jim Reiskytl on the risk-based capital to see how RBC may be impacted by the codification.

NAIC is also setting up a codification maintenance program via the codification work group. Therefore, the codification is not just a one-time effort but an ongoing process to which we need to pay attention. The maintenance process calls for three levels in the review/approval process. Level 1 is the pending list where issues can come from GAAP issues/pronouncements or industry comments. Level 2 will reject either issues from Level 1 (and get on the direct rejection report), or substantive changes (which means accounting policy changes, more than technical nature), or just editorial changes. The next level is to go through the approval and review process.

There is a good pending list put together by Julia Phillips related to the health issues. The pending list for health is long, partly because codification applies to health business retrospectively. While codification is supposed to be prospective only, for some of the health insurance reserves, it applies to in-force business as well. Some proposal on the pending lists suggested applying codification prospectively for all health business. The other important issue on the pending list is related to *FAS 133* on derivatives.

In addition to the codification work group, which is responsible for the high-level accounting policy changes, there is another group looking at emerging accounting issues. This group is to review existing accounting policies. It is headed by Norris Clark from California.

Codification is coming very soon, with only a year to implement. I think it's time for the companies to put together a project plan and to understand the implications for your company. It may also be a good idea to talk to your domiciliary regulators. If the regulations in your current state are very different from the codification standards, you will be forced to disclose the differences. So you may want to work with the domiciliary state for uniform adoption. Going forward, you need to pay attention to the maintenance program. You may want to get the issues onto the level one pending list if you would like to address a particular issue. At the least, you probably would want to monitor levels two and three.

The next topic is the unified valuation system. This project started about two-and-a-half years ago. The Academy task force meets every month to develop a new valuation framework from a blank piece of paper with three goals. One is to look at the resource needs of the company that

arises from the new business as well as existing business. The second goal is to provide some solvency warning, which is currently done through a combination of our reserve system and the

RBC system. The third is to measure a current period's performance, which has not been perceived to be credible in the statutory world. It would be nice to address all three goals in one consistent framework.

You probably have heard a lot about the S-curve discussion. Basically it's showing the outcome of your analysis at various confidence levels. The goal of coming up with one framework for all three objectives can be accomplished by creating a framework and picking a different confidence level.

The proposed framework is to project cash flows for assets and all liability obligations. The actuary will be asked to look into not just the insurance liabilities, but also noninsurance liabilities. How is this really different from the cash-flow testing method we currently have? I think it is similar in the sense that both are projecting cash flows and the appointed actuary is supposed to look into all the underlying risks. However, the biggest difference, in my mind, is that we don't really try to determine a value from the cash-flow testing exercise. We are more performing deterministic stress tests with pass or fail results. The UVS is supposed to determine the value of liabilities, and the value of the risks we're taking. So the assumptions used for UVS need to reflect not just the norm, but the distribution around the norm. We have to understand the variances of the assumptions used in determining the value either for performance, solvency, or resource needs valuation purposes. This value determination really sets it apart from the cash-flow testing process.

The application of the UVS is where theory meets the reality. There are various negotiations and discussions that are going on right now. While the goal is to try to cover the new business as well as the existing business, some think the focus should be only on the solvency requirements for the existing business. There's also discussion about replacing RBC with UVS to determine solvency requirements. The UVS can get and value the specific risks undertaken rather than the formula approach under RBC. The discussions are whether to replace it entirely or to keep both

(e.g., the greater of two). In the latter case, you have to first do the formula RBC and then do the UVS calculation to see how good the RBC formula answer is. Obviously, it's like what we do currently with the asset adequacy analysis in addition to the formula reserves. There is also discussion that this kind of S-curve analysis should only apply to nontraditional products.

While one goal is to reflect a current period's performance, some discussions are about keeping status quo due to tax considerations. In other words, these discussions are to stay with the current formula reserve approach, rather than the UVS, for determining statutory income statement purposes. Parallel to solvency discussions, there's also discussion that maybe the S-curve should only apply to nontraditional products for determining the current period's performance.

The other important aspect of UVS is a new career is being created: the reviewing actuaries. Basically, they would help regulators review appointed actuaries' work. The goal is not to duplicate the appointed actuary's work, but rather to determine if the appointed actuary's work is reasonable. The relationship that the regulators would like to build is one with ongoing dialogue between the appointed actuaries and the reviewing actuaries. This is similar to the relationship between banks and their regulators. Their dialogues are focusing on the risks and the business economics rather than checking off a list of things or looking at formulas.

There are discussions about who should be the arbitrator in the process if conflicts should arise. Should that be the Actuarial Board for Counseling and Discipline (ABCD) of the Academy or should that be the commissioners or should it be both? There's a draft report on the appointed actuaries' work, but there isn't a draft on the reviewing actuaries' report yet. The roles and responsibilities of these actuaries are still being flushed out.

There are also various models being built to better understand how the UVS works and how the results compare to those under the current statutory and GAAP financial reporting systems. Tom Herget has been involved with that process. The Academy is also asking the Society of Actuaries

to help provide research support, such as how to aggregate all the models from different product lines to the company level. I think it's very important for the SOA to do more experience analysis, which is essential if UVS is to work.

There is a draft Standard Valuation Law (SVL) and AOMR to respond to this new framework. There are also various parties talking about the possible applications of UVS.

This project is changing the valuation paradigm, and as such, has a lot of obvious hurdles to overcome. For the actuarial profession, I think this is about our future. The responses from the actuarial profession have ranged from great support to thinking the profession is not yet ready. While I can't predict how and when UVS will be formally adopted by the NAIC, I am sure that fair valuation of insurance liabilities will come with UVS or without. Therefore, I will urge you to support the efforts in the Academy and SOA on this as we, the actuarial profession, would very much like to be a part of framing how insurance liabilities should be valued.

The last topic is on the amendments to the Actuarial Opinion and Memorandum regulation, which started over five years ago. The NAIC had a one-day session in Kansas City in August to go over the five topics: state of filing, Section 7, executive summary, and two areas of more technical/editorial change. The last two changes are due to the general effort in the NAIC to increase confidentiality and to eliminate examination reference in the Section 7 eligibility test.

I will go through the first three topics quickly. On the state of filing issue, the current proposal is to keep the state of filing as the default action by the commissioners. However, the commissioners can choose other alternatives to allow state of domicile filing. There are three alternatives the commissioners can take. One is to write out the formal written standards to which the companies will have to comply before they can submit a state of domicile opinion. The Academy group highly recommends accreditation as one of the standards, possibly the only standard.

The second alternative is for the company to submit an application for the approval of state of domicile opinion. The company has to submit this request by the end of March for the next year-

end filing. The approval is deemed if the company does not hear from the commissioner by October.

The third alternative the commissioner might use is to request companies show the difference between the reserves on the books and the codification reserves. This may apply to only certain product groups. The commissioners must define the product groups needed for this comparison by July 1.

After the NAIC adopts this, the Academy, the industry and all of us will have to work very closely with the state adoption process to ensure uniformity. This is needed because of the three alternatives the commissioners may take, in addition to the state filing option.

On the Section 7 exemption, the current proposal made some changes in the eligibility test. Basically more liability ratios are put in place for certain product lines such as the index products. There are also more asset ratios for low investment grades, collateralized mortgage obligations (CMOs) and real estate. In addition, there is a substantive change for the Section 7 companies in that they will have to perform a gross premium valuation.

The third changes are related to requiring the appointed actuary to submit what tends to be a rather long summary of the actuarial memorandum to the regulators by March 15. Many comments have been received since the last draft on these changes about a year-and-half-ago. At the August Kansas City meeting, the regulators went through all the comments and decided on the content of this summary. The Academy is also reviewing ASOPs 7, 14 and 22. Those ASOPs might apply to both Section 7 and 8 companies.

The regulators would like to put together a new draft of AOMR related to all five issues I just talked about and expose it for comments in the October Atlanta meeting. They would like to push for adoption either at the end of this year or at the beginning of next year. As I talked about before, I'm really hoping that the industry and profession work very closely with your states to make this a uniform adoption.

I would like to talk about the next speaker, Harland Dyer. I went down to Mississippi in July along with Bob Wilcox and Lauren Bloom. That's when I met Harland. I gained a lot of respect from the regulators in Mississippi and particularly Harland. He really took his professional responsibility very seriously.

MR. HERGET: Next I would like to introduce Harland Dyer. Harland is a consulting actuary at Latta, Langston and Dyer. He served as an appointed actuary for many years for many companies. He is currently the actuary for the State Insurance Department of Mississippi.

MR. HARLAND A. DYER: I've been asked to speak on a rather unpopular subject, namely how do we file actuarial opinions. I will discuss what the responsibility is of the valuation actuary for the company and what the responsibility of the valuation actuary is for the state.

I would like to read a couple of things that come straight out of the law and the regulation. The actuarial opinion, which has to be filed with the state says, "In my opinion, the amount carried on the balance sheet on account of actuarial items identified above meet the requirements of the insurance law and regulations of the state of domicile and is at least as great as the minimum aggregate amounts required by the state in which the annual statement is filed." The revised valuation law reads as follows. It says, "Every life insurance company doing business in this state shall annually submit the opinion of a qualified actuary as to whether the reserves and related actuarial items held in support of the policies and the contracts specified by the commissioner by regulation or computed appropriately, are based on assumptions that satisfy contractual provisions and are consistent with prior reported amounts and comply with the applicable laws of this state."

The Standard Valuation Law and the Actuarial Opinion and Memorandum Regulation also require that actuaries be knowledgeable about and comply with the valuation laws and regulations of the state that have adopted the 1990 standard valuation law and model regulation with or without modification.

In addition, Actuarial Standard of Practice No. 22, "Statutory Statements of Opinion Based on Asset Adequacy Analysis by Appointed Actuaries for Life or Health Insurers," contains the following requirements:

> Section 5.1.1, The appointed actuary should be familiar with the standard valuation law, the model regulation, and any other NAIC model laws and regulations that bear on the valuation.
>
> Section 5.1.2, The appointed actuary should be aware of the valuation requirements of the regulatory authority to whom the opinion is to be expressed and should be satisfied that the requirements of duly adopted regulations have been met.
>
> Section 5.1.3, The appointed actuary should also be aware of the actuarial guidelines published in the NAIC examiner's handbook and make an effort to be aware of generally distributed interpretations of each regulatory authority.

What this all means is the valuation actuary is pretty much responsible for filing his annual statement on the basis of the most conservative state in which he does business. The statutory reserves that are required by the most conservative state that you do business in is basically what you're going to have to file your reserve opinion on. In the course of doing my work for the Mississippi Insurance Department, it has come to our attention that some companies are not filing their reserves on that basis. Furthermore, it has come to our attention that some consulting actuarial firms are recommending to their clients that they don't have to file their opinions on that basis.

Shirley came down with Lauren Bloom. Lauren Bloom was suggesting that it would perhaps be appropriate to make a reference to the Actuarial Board for Counseling and Discipline, but we have not decided to do that at this time. We may do it in the future. We will probably have our commissioner do it because we have what's called sovereign immunity in the state of Mississippi. That means that the actuary who is being referred to the ABCD board cannot sue the commissioner. It is better if the commissioner does this because I don't have sovereign immunity.

Now we come to the question of the responsibility of the valuation actuary for the state. Mississippi regards the actuary for the state as being the valuation or appointed actuary for the state. What responsibility does the valuation actuary of the state have to the other states when the financial examination is being done? Does the valuation actuary for the state have the same responsibilities to the domestic state and to the other states as the valuation actuary for the company has? The valuation actuary for the company has to know the laws of the other states so that he can file his actuarial opinion on that basis. Does the valuation actuary for the state also have that requirement, or is the valuation actuary held to a lesser standard than the valuation actuary for the company? I don’t think so.

How can the nondomestic state know that the company is reserving in accordance with its laws if its laws are more conservative than the domestic state’s laws? The valuation actuary for the state should actually know the laws of the other state. When you file an examination report or when a state files an examination report, that examination report is sent to the other states in their zone. They also send it to the other zones. In essence, the actuarial opinion is being filed with all the states in which the company is licensed. We were examining our companies on that basis. We were making every attempt to know the laws of the other states and examine our companies on that basis. We found that we were putting our companies in a terrific disadvantage with other companies because the companies of some of the other states were not being examined on that basis.

We decided to rewrite our Actuarial Opinion and Memorandum Regulation. That’s when the American Academy of Actuaries decided it wanted to pay us a visit and find out if it could get some relief from us. We had already passed the regulation, and we were discussing that at the same time.

I have a further question. In this meeting, we were discussing various reserving methodologies that we’re going to be coming up with for which we’re going to be holding companies responsible. How does the nondomestic state regulator know that the companies are calculating their reserves correctly unless the valuation actuary for the state actually does that checking for them? It just seems like it’s an exercise in futility if we’re going to be requiring all these

different reserve changes, but no one is going to be checking it. Right now, as a matter of fact, back when we were considering doing something, we wrote letters to the other 49 states' commissioners and asked them whether they agreed with our position, and second, if they agreed with our position, what were they doing about it?

We got back ten or twelve replies. While we didn't get back all that many replies, the majority of the replies agreed with our position, but were not going to enforce it because they don't have manpower, money, or resources.

The states requiring the companies to provide the manpower, the money, and the resources in order to calculate the reserves according to the law once again are the states being held to a lesser standard than the companies are being held to.

The Academy has done a fairly decent job of compiling the life standards. They have not done such a good job of compiling A&H standards. There is a lot of work that needs to be done there.

The company actuary needs to do his or her own research to determine what the laws and regulations of the states are because, when insolvencies occur, the U.S. Justice Department and the FBI seem to be getting involved in every insolvency where a company goes under. They are looking for mail fraud. That's generally what they charge you with first. Then they go after other things, but mail fraud is something easy. If all they have to do is pull up an actuarial memorandum, and it's not in compliance with the law, then the company committed mail fraud. Your actuarial opinion is attached to that annual statement. If it's not in accordance with the law, then you have committed mail fraud.

The FBI is taking a very active interest in this area, so I would pay a great deal of attention if I were you.

The state regulators are not left off the hook either. When an insolvency occurs, the FBI and the U.S. Justice Department look to make sure that the company was being regulated adequately. This needs to be a concern to the state regulators.

You may think that this doesn't apply very much for life insurance companies because the main area of concern is the A&H area. Things change rapidly. All you have to do is look at General American. One day it was a fabulous company; the next day it is a company for sale because of what happened. Things change. I encourage you all to make sure that you're filing your actuarial opinions in accordance with the law.

MR. HERGET: Our next speaker is Tom Campbell. Tom is vice president and actuary of the Hartford Life Insurance Company. He has been with the Hartford since 1983. He is responsible for actuarial review, financial reporting, reserve valuation, and actuarial compliance. Tom is also very active with the AICPA and with the Academy on various subcommittees.

MR. THOMAS A. CAMPBELL: I'm going to cover annuity valuation issues, including Actuarial Guidelines 33 and 34 efforts' to come up with reserve guidance for guaranteed living benefits written with variable annuities, and the recently adopted model regulation covering separate accounts funding group annuities with guaranteed benefits.

There are several items that are similar between Guidelines 33 and 34. The effective date for both is December 1998, so they're currently in effect, and both have a three-year phase-in period. As actuarial guidelines, both are interpretations of CARVM as written in the standard valuation law. Since they do not change what's in the standard valuation law, they do not explicitly require continuous CARVM. This is something that has come up in discussions about the application of these guidelines to annuity reserving. Whether CARVM is continuous or curtate is determined by the Standard Valuation Law. If it says curtate, then you apply these guidelines to curtate CARVM. If it's continuous, you apply them to continuous.

My first topic is Actuarial Guideline 33. The current version of Guideline 33 is actually a revision of an older version, which came into effect December 1995. Even before that version became effective, the NAIC and the American Academy of Actuaries raised many implementation issues. As a result, the NAIC Life/Health Actuarial Task Force asked the Academy to look at the guideline and to recommend changes, and that's where the revised guideline has come in.

The guideline now applies to all annuities that are subject to CARVM that have elective benefits as defined in the guideline. All the benefits available under these contracts have to be classified as either elective or nonelective. Elective benefits include surrenders, withdrawals and annuitizations. Nonelective benefits are those that are contingent on an event or are scheduled. They include things like death benefits, disability benefits, and immediate annuities. The guideline requires nonelective benefits to be discounted using incidence rates such as Standard Valuation Law tables. If those are not available, then you must use industry or company experience as long as it has appropriate conservatism. For elective benefits, you can't use tabular incidence rates. You have to use rates such that when you combine the elective benefits with the nonelective, it results in the greatest present value. That may sound complicated, but in most situations, that incidence rate will be zero or 100%. If the category (elective or nonelective) is uncertain, then the valuation actuary is supposed to use judgment.

The guideline clarifies that reserves for annuities are intended to be based on an integrated CARVM approach. That means you have to measure all integrated benefit streams that are defined as blends of guaranteed elective and nonelective benefits. The first thing you do is choose an elective benefit stream among all available guaranteed elective benefit streams. For each one of those elective benefit streams, you then determine the nonelective benefit streams that go with it and combine the two streams. The elective benefits are discounted using incidence rates and the nonelective benefits, which reflect the characteristics of the elective benefits, are discounted using the incidence rates that maximize the present value. So if the elective benefit is one where everyone surrenders at the end of year two, you don't use a nonelective stream that includes death benefits in year three. All those streams are discounted, and the guideline requires the resulting CARVM reserve to be the greatest present value of all those potential integrated benefit streams.

Finally, Guideline 33 covers the determination of valuation interest rates, which might get a little complicated and be open to interpretations. The standard valuation law has five different parameters that are used to determine the valuation interest rates. The guideline requires that the plan type and the guarantee duration is determined at the benefit level; other parameters are determined at the contract level. So for a single integrated benefit stream, it's very possible to

have different components of that benefit stream being discounted by different valuation interest rates. As I said, you get into both interpretative and implementation issues.

This brings me to some of the outstanding issues. One is the application of the guideline to GICs with bail-out, which Donna covered in her remarks. Another is the acceptance of the guideline by all states. Although all states are not required to accept the interpretations covered in the guideline, based on discussions that I've been in, I think most states are accepting Guideline 33 reserves. One exception is Connecticut which has stated that it is not accepting Guideline 33 reserves. New York, though, has accepted Guideline 33 and has incorporated it into their proposed regulation 151. There is going to be more information on this guideline in session 15. There might be a lot of these interpretative issues.

My second topic is Guideline 34, which applies to Minimum Guaranteed Death Benefits that are offered with variable annuities, where the Minimum Guaranteed Death Benefit has the potential to exceed the account value. This includes roll-up benefits, and ratchet (or maximum anniversary value) benefits. It also includes return-of-premium benefits, since they do have the potential to exceed the account value. The scope does require the valuation actuary to exercise judgment as far as whether this guideline is appropriate for the death benefit design. That was put in because the thought was, going forward, that there would be new and different innovative designs, and they wanted to make sure that this guideline fit those designs.

The general methodology is to use an integrated CARVM reserve approach like you do in Guideline 33, and you include the minimum guaranteed death benefits in the integrated benefit stream by incorporating an estimate of the option costs of the death benefits into those streams. In this respect it's similar to Guideline 35 for equity-indexed annuities; but it's different in that the option cost calculation is not as involved and not as complete as it is in Guideline 35. Getting into that level of detail with MGDBs would be very difficult to do because you're dealing with options on variable annuity funds. Instead, Guideline 34 requires a simplified approach that involves deterministic drops and returns in the contract account value.

The MGDB reserve is a "solved for" reserve; that is, the reserve is the difference between two reserve calculations. The first is the CARVM reserve reflecting all benefits, including the minimum guaranteed death benefit—referred to as the integrative reserve. The second is the CARVM reserve ignoring the minimum guaranteed death benefit, and that's called the separate account reserve. So the total reserve that's held for the entire variable annuity contract is the integrated reserve; the separate account reserve is held in a separate account, and the "solved-for" reserve, the difference between the two, is held in the general account. This conforms with laws and regulations that require reserves for guaranteed benefits to be held in the general account.

The immediate drops and assumed returns that are used to project the death benefits within the integrated benefit streams are based on historical data, and vary for different fund classes. The fund classes are defined in the guideline, which also specifies that the ultimate determination of whether the fund classifications are appropriate is the responsibility of the appointed actuary.

Other provisions in Guideline 34 include the variable annuity MGDB table, which is an annuitant mortality table. It's based on the 1983 Group Annuity Mortality (GAM) Table, and death benefits are required to be determined using this table. It also requires that you use annuity valuation interest rates that are consistent with the standard valuation law. This puts you back into Guideline 33, and back to the possibility of having multiple valuation rates to discount various components of an integrated benefit stream.

The guideline also covers reinsurance reserves, addressing a regulatory concern that companies might be reinsuring this benefit and reducing their reserves without an appropriate reduction in risk. For ceded reinsurance reserve, the guideline requires you to make two adjustments to the integrated reserve. One is to add the future projected reinsurance premiums as a benefit, and the other is to take out the projected reinsurance recoveries from the integrated benefit stream. The assuming company takes those same two benefit streams to calculate a reserve equal to the greatest present value, at every duration, of the difference between projected reinsurance death benefits less the present value of reinsurance premiums. Because of the combination of the two greatest present value methods, it is possible for the total reserve between the ceding and the assuming company, after reinsurance, to be greater than it is before reinsurance.

There are also outstanding issues involving Guideline 34. One is a situation where, if the reinsurance involves a fixed charge that doesn't vary by age, you may end up getting unusual results between the assuming and the ceding companies. In this situation, the reinsurance premium doesn't vary by age, but the death benefits do; therefore, you might get undesired results at the extreme ages. Another outstanding issue is the acceptance in all states. Both Texas and Connecticut have stated that they will not accept Guideline 34 reserves. Connecticut has issued a letter that says MGDB reserves should be a one-year term reserve assuming a one-third drop in the account value and using life mortality, similar to a variable life MGDB reserve. Finally, as with Guideline 33, New York has incorporated Guideline 34 into its proposed Regulation 151.

My third topic covers efforts to develop reserve guidance for guaranteed living benefits offered with variable annuities. These have recently become very popular as variable annuity writers try to differentiate their products. These are general account guarantees, like minimum guaranteed death benefits, that provide a minimum return on the investment of a variable annuity for an additional charge, where the guarantee is contingent on some sort of contractholder behavior such as annuitizing the contract. The benefits include a waiting period, which assures the contract stays in-force, and obviously assures that the additional charges are paid over the waiting period. Currently, there are three types of benefits being offered. One is a guaranteed minimum accumulation benefit (GMAB), which guarantees that if a contractholder keeps the contract in force over the waiting period, his/her account value will be guaranteed to be the amount specified. These are very similar to the guarantees offered with Canadian segregated funds. The second type is a guaranteed minimum income benefit (GMIB), which is similar to the GMAB, but requires that the contractholder annuitizes the contract at what is typically a conservative guaranteed annuitization rate. This allows the company to offer a little bit more of a greater guarantee on the account value side. Both GMABs and GMIBs typically guarantee a return of premium or a percentage of premium, or an accumulation of premium at a specified rate. These are called roll-up benefits. There are some maximum anniversary value guarantees, though not currently on the GMAB side. The waiting periods are generally five to twenty years.

The third type of guaranteed living benefit is offered with variable payout annuities and is called a guarantee payout annuity floor (GPAF). Such a guarantee may be that payments will never go below a percentage of the initial payment. These are not very popular benefits, so as we talk about the efforts to come up with reserve guidance, most of the work is concentrated on the GMABs and GMIBs.

As I mentioned, there is an Academy work group that is currently working to develop a reserve recommendation to the NAIC LHATF for these benefits, and the result is expected to be an actuarial guideline, which could be in place as early as year-end 2000. In addition, the NAIC recently adopted an interim risk-based capital requirement for these benefits.

The analysis of the Academy Work Group working on reserves reveals two things. The first is that the risks these benefits provide to the company is more of a longer term separate account fund underperformance risk, as opposed to the short-term volatility risk that is typically found with minimum guaranteed death benefits. Second, under most scenarios, the reserves are typically zero during the early durations. What happens in the more extreme scenarios, however, especially at the later durations, is that reserves can be quite high. So the risk is a tail risk, or a high-impact, low-frequency type of risk.

The reserve approach that's currently being considered is an integrated CARVM approach, similar to Guideline 34, bringing the option costs into the CARVM integrated benefit streams. Rather than using the Guideline 34 drops and returns, we're considering using returns that are based on a lognormal distribution. It's called the Keel Method, and I'll leave the details to some of the follow-up sessions. Because it's a simplified approach, the Keel Method may not necessarily work all the time. It may not work for the maximum anniversary value designs, and there's concern that it might not work for future designs, especially path-dependent designs.

Therefore, we may need to develop alternative approaches to supplement or replace the Keel Method.

On the risk-based capital side, there is an interim factor that is in place for this year-end. It's meant to be a place holder until a longer-term component can be put together. The interim factor is applied on a contract-by-contract basis to the total variable annuity reserve for contracts that have guaranteed living benefits. It's based on the C-3 structure using the high-risk factor that is 2% or 3%, but you might be able to apply a 1% factor to a particular contract if the guaranteed living benefit is out of the money on the valuation date, and the company provides an unqualified Section 8 actuarial opinion.

In summary, the next step for the Academy work group is to assist the NAIC in the development of a guideline, continue development of the Keel Method, and work on the alternative approaches. We also need to look at the integration of guaranteed living benefits with minimum guaranteed death benefits within the CARVM reserve framework, since many contracts have both types of benefits. We then need to look at the guaranteed payout annuity floor designs, work with the RBC task force to develop long-term factors, and finally work with the group looking at UVS. As you can see, much work remains.

My final topic is the Separate Accounts Funding Guaranteed Minimum Benefits under the Group Contracts Model Regulation. This regulation was adopted by the NAIC and is modeled after New York 128 and California 95-8. The regulation prescribes rules for establishing and maintaining these separate accounts, and also for the contracts that are supported by these separate accounts. It applies to group annuities and funding agreements with guaranteed benefits, but excludes modified guaranteed contracts, variable annuity and life contracts, and equity-indexed contracts. It does apply, however, to what's called index products, which are equity-indexed products without the guaranteed floor return, where all the benefits are based on the performance of an index. The regulation covers three types of separate accounts: market-value nonindex separate accounts, market-value indexed separate accounts, and book-value separate accounts. All of the provisions of the regulation vary by these types of separate accounts. There is also a grandfathering provision that allows companies to issue contracts in a policy form, that was already approved, for two years after the regulation's effective date. If the company makes a substantial change (as defined in the regulation) though, the grandfathering provision is void, and the company must refile the contract form.

The regulation goes into detail about what you need to include in plans of operations that are filed with these contracts. This includes things like the investment policies and how liquidity is being maintained in the separate account. It also gets into the insulation of the separate account; that is, the extent to which the assets of the separate account are not available to support the liabilities of the rest of the company. The regulation also requires companies to include, with the plan of operations, an actuarial opinion by a qualified actuary that the charges are adequate for the risks that are assumed. Finally, the regulation specifies that the plan of operations needs to be approved by the state of domicile only.

On the contract filing side, the regulation includes a 30-day deemer provision. This provides that if a company files a contract, and doesn't hear back in 30 days, then the contract is deemed to be approved. The regulation also clarifies what must be in the contract filing. This includes a statement as to whether and how the plan of operations was approved. If the plan of operations was not approved, then the company must submit the plan with the contract filing. If the state of domicile did approve the plan of operations, the state may request a copy and use it in the decision to approve the contract filing. This was a compromise during the development of the regulation, based on a concern that companies would have to file plans of operations with every state and make changes, which would end up being a logistical nightmare.

The regulation covers statutory reserves and requires a CARVM-based reserve equal to the greatest present value of all available benefits. For market-value nonindex contracts, benefits are discounted at 105% of the spot rate, where the spot rate is based on Treasuries. For example, a benefit at the end of the fifth year is discounted at 105% of the five-year spot rate. For index contracts, there is no specific reserve methodology. The regulation requires companies to use the method specified in the plan of operation. For book-value separate accounts, the contracts don't really vary much from general account contracts. Therefore, the regulation requires the use of general account reserve rules.

The regulation also contains a provision involving supplemental accounts, which is a New York 128 concept. The supplemental account is part of the separate account, but the assets within the supplemental account are not insulated. This concept comes from the concern that companies would be able to move assets from the general account and insulate them. So the only assets a company can insulate under these separate accounts are contractholder contributions plus the interest on those contributions.

The regulation also includes an asset maintenance requirement, which again is a New York Regulation 128 concept. The requirement is that assets, less a “hair-cut,” must exceed the contract liabilities. Assets here include the assets in the separate account, the supplemental account and any assets that are earmarked in the general account to support the contracts. For market value nonindex separate accounts, the “hair-cuts” are based on asset valuation reserve (AVR) factors, and are used in lieu of the AVR. The factors are also increased by 50% if the duration of the assets are mismatched from the duration of liabilities by more than one-half of a year. For index separate accounts, “hair-cut” factors are those filed in the plan of operation. There is no asset maintenance requirement, and therefore no “hair-cuts,” for book-value separate accounts. Instead, companies simply hold the AVR.

The regulation also includes a requirement for an actuarial opinion and memorandum. This must be submitted each year. It’s pretty much the same thing as the full company opinion—the qualification of the actuary is the same, and the confidentiality of the supporting memorandum is the same. The opinion must be signed by the appointed actuary or the actuary’s designee. It’s meant to be a stand-alone opinion; that is, it’s just for the guaranteed separate accounts under the scope of the regulation. It also requires a certification from a responsible officer. The actuarial opinion includes a statement that assets make adequate provisions for liabilities and a statement that the asset maintenance requirement has been satisfied. Both the opinion and the separate certification tie back to the plan of operations. Both include statements that the discount factors and reserve methods are consistent with the plan. In addition, the certification includes notification if there’s any transfer of assets between the general account and the supplemental account.

Although this is now an approved model regulation, we're finding that not many states are adopting it. Of the states I've spoken to, most have cited XXX and Y2K as reasons for the delay in adoption. Connecticut is moving forward with a version, but is making minor modifications to the model. California currently has a bulletin and does not see the necessity in adoption. New York does have it on its agenda to update Regulation 128, but it might end up retaining some of the provisions already in that regulation.

In conclusion, I just wanted to make a statement. We've spoken about different actuarial guidelines, such as 33, 34, and 35 and regulations such as XXX. I get involved in many of these issues and have spoken to many people about these issues. Many believe there must be a better way of determining reserves than plugging holes with these guidelines and regulations. Quite honestly, I agree, and I'm hopeful that the UVS project can be better. Obviously there's a long way to go and a lot of details to get through, but I think the concept of starting with a "blank piece of paper" is a good concept. When these guidelines were developed, there wasn't a blank piece of paper; there was, and still is, the constraints of having to comply with CARVM. So until there is a change to the SVL, we're stuck with plugging holes and coming up with methods that may not be optimal. I think that those of you that share this opinion need to get involved with UVS. Read up on it, go to the meetings, talk to people, and find out what's going on because there are many issues that need to be resolved. If everyone here attended a UVS meeting and brought up issues, it would help move things along. Think about getting involved in this, or at least reading up on it so you know what's going on, so we don't have to keep developing actuarial guidelines.

MR. HERGET: I would like to offer a special thanks to this group of four people. They've shared their opinions, their insights, their experience, and their research with us. They represent the interest of millions and millions of policyholders who have invested billions and billions of assets with their firms. I thank everybody sincerely.