1998 VALUATION ACTUARY SYMPOSIUM PROCEEDINGS

SESSION 2PD

LIFE AND ANNUITY VALUATION ISSUES

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LIFE AND ANNUITY VALUATION ISSUES

MR. R. THOMAS HERGET: We have a dynamic panel consisting of Donna Claire and Jim Greaton. I'm a vice president at PolySystems. I've been working on American Academy of Actuaries' (AMA) and Society of Actuaries' (SOA) committees for several years now and am the current chairperson of the Financial Reporting Section.

One of our speakers will be Donna Claire. Donna is president of her own consulting firm, Claire Thinking. She specializes in corporate modeling, asset adequacy testing, and regulatory issues. Donna is also a Vice-President and the Secretary/Treasurer of the Society of Actuaries. She is on the Life Practice Council of the American Academy of Actuaries and she chairs the Academy's Equity-Indexed Products Task Force and the Life Practice Notes.

Our other presenter is Jim Greaton. Jim is vice president and corporate actuary with Keyport Life. Jim is also active in Society and Academy issues. He's on the Life Insurance Financial Reporting Committee as well as the Equity-Indexed Products Task Force.

We're each going to take our turns with current issues.

UNIFIED VALUATION SYSTEM

I'm going to present an overview of the Unified Valuation System (UVS). Session 34 will cover this in even more detail.

Why do we have a UVS project underway? The Life and Health Actuarial Task Force (LHATF) is the regulatory body responsible for evaluating and prescribing new statutory valuation methods. A recent equity-indexed annuity reserve project was particularly challenging. It made participants and interested parties realize how hard it is to take a modern, new product and put it into a paradigm of a valuation law that was established in the early 1900s. I have the impression that the LHATF was truly exasperated and didn't particularly enjoy trying to make something fit like that. XXX is another example where we're trying to fit current products into older regulations

LHATF asked the AAA if it could articulate a new, correct way to do reserves. LHATF gave the Academy a clean sheet of paper and barred no holds in asking the UVS group to devise a new method. The Academy accepted this challenge.

Here is a little bit about the people involved in the process. The UVS task force is chaired by Bob Wilcox. We started on this project in the spring of 1997. The task force meets monthly. It comprises 60 people, primarily chief and appointed actuaries. There are also interested parties attending. Consequently, we get very many viewpoints and perspectives. The meetings are all open; anyone is welcome to attend.

The UVS task force has issued several interim reports on the following topics:

- Pluses and minuses of the existing system. What was interesting was that many pluses, in a way, could also be perceived as minuses.

- Existing standards. The UVS task force developed a list of all regulations that would have to be changed. This was about 20 pages long.

- Existing valuation methodologies were catalogued listing the methodologies that you could employ to produce these new reserves.

- International valuation systems. This was particularly enlightening. This was done by Dan Kunesh and Shirley Shao. They surveyed 15 major countries and did a taxonomy of their practices and procedures.

Two projects are currently underway. One is a group headed by Don Sanning that is working on a prototype regulation, report and opinion. Another group, Numerical Examples, is headed by Dave Sandberg. This group has selected several product lines and will show how these new style reserves might unfold.

The UVS itself is based on three major components: solvency, earnings and capital adequacy for the business plan.

We want the valuation system to be useful to different types of readers, not to just one particular group of people. The UVS will rely very heavily on the actuary's judgment. This is something totally different. At the moment, formula reserves are based on rules and prescriptions. You look something up and you follow it. The UVS departs from that. We're going to use the actuary's judgment.

The reserves that are calculated are "S curve" reserves. To illustrate, you would describe all likely outcomes, from worst case to best case. You might perform 100 scenarios, 1,000 scenarios, or whatever you think is appropriate. You then rank the financial results from worst case to most favorable case. Graphically, the results form the shape of the letter "S."

A liability that you would establish would be something at the 65th percentile level (this percentage is just an example). If I set up this reserve at 65%, I should be adequate 65% of the time. That would be my reserve. But hand-in-hand with that would be a similar calculation that quantifies what we call risk-based capital (RBC). We would go to the same scenarios and look at the 95th percentile level and select that number. This RBC amount would reflect assets needed to support say, a catastrophic event that could happen but lies outside the normal range of expectations. So that's how we would address reserves and RBC.

We want to produce an income statement. What we're deliberating now is that if you do this S-curve approach (using best estimates), it does tend to front-end earnings. We don't necessarily want to do that.

At this point there is no provision for a safe harbor (eg., cash-value floor) in the UVS.

We do anticipate preparing a dynamic financial condition analysis. We'll be calling that vitality analysis.

The UVS does apply to health business as well as life and annuity. However, the property and casualty companies, where health business also exists, have said they are not quite ready for this so please exclude us from the AAA recommendations. The UVS task force does think that this type of reserving will become appropriate for property and casualty (P&C) companies. It certainly should cover the health business in P&C companies.

The UVS task force has made substantial progress during the past year-and-a-half. The meetings are lengthy and deliberative. Everybody has a say. We can say that this will not be a nine-year project. We envision it as a three-year project, and we're halfway through it now.

One of the concerns is the use of the actuary's judgment. Right now we do prescribed methods for statutory accounting. GAAP allows judgment but does have established principles as a guide. There is an evolved practice of what to do, how to do it, and when to do it.

Under the UVS, you use your own judgment to establish reserves. There would be no default floor to compare to or to use as an anchor. This would be a new experience for most practitioners; they could create reserves entirely based on their own judgment. When you do cash-flow testing asset adequacy, you compare it to a benchmark—the statutory reserve that's already there. Under the UVS approach, that floor would be gone.

To help support this new frontier of practice, the model law is going to embrace the use of an outside independent actuary, designated by the commissioner. This person would be available to work with the appointed actuary during, and not only after the process. This consultant then renders his or her own independent opinion on your work. It would be issued to the company, who then forwards it to the commissioner. So, you will have some support from one outside person.

The task force's next deliverable is a report to LHATF. In December we will have completed numerical examples and will run through how things would work.

CODIFICATION

The next thing I want to talk about is codification. Codification is the only topic that is not addressed at another session, so I have no further session to promote on this topic. What is codification? It is an attempt to standardize the many prescribed and prevailing practices for statutory accounting. As you know, each state has its own set of rules. That makes it very awkward for a CPA firm to issue an opinion stating that the accounting basis conforms to a recognized standard when there are so many sets of rules, private letters, unenforced provisions and obscure requirements or interpretations that are hard to find. There was a bit of nervousness about issuing a clean opinion on an accounting basis that didn't quite exist. This had to be addressed. About five years ago, a group was formed under the auspices of the NAIC. Their charge was to codify statutory accounting and they have now completed their goal.

What does codification look like? It is a listing of about 90 statements of statutory accounting principles (SSAPs). If you want to look at them, you can find it on the NAIC website. The website is naic.org. Of these 90 SSAPs, there are about 10 that directly apply to actuaries. Most of them can be found in the SSAPs in the fifties (eg., SSAP 50, SSAP 51, and so on).

All these SSAPs talk about what should be done and then refer to an appendix. These appendices list exactly what to do. For the most part, the appendices are literal translations of existing regulations. They don't refer to the regulations, but they actually recite them nearly, but not always, verbatim. Included in the appendices are the Actuarial Opinion and Memorandum Regulation (AOMR), the Universal Life Commissioners Reserve Valuation Method (CRVM) model regulation and things like that.

The SSAP also says you must comply with all of the actuarial standards of practice and that you must comply with all actuarial guidelines. The life SSAPs require a cash-value floor as a minimum reserve. The cash-value floor is not in any regulation or law; it is just a line in the Annual Statement Exhibit 8 that is included in each of these SSAPs.

SSAP 51 tells you how to deal with life insurance. SSAP 52 is for deposit contracts. SSAP 54 addresses health insurance, and SSAP 55 covers claim reserves. SSAP 55 gets explicit about expenses that should be considered. It tells you to reserve for both internal and external expenses and covers both direct and indirect expenses.

SSAP 59 deals with credit insurance. As you may know, there are no specific regulations on credit reserves. Credit life insurance tells you to use either Rule 78 or a mortality reserve. For credit health insurance, it tells you to establish an unearned premium reserve that is appropriate for the risk being underwritten. That usually means something like the mean of the pro rata in Rule 78. You would also hold a refund amount if higher.

The appendices are listed below, so you know which ones you want to look at. You can see that 820 is the SVL and 822 is the AOMR.

Appendices

- A-010 Individual and Group Health Model Regulation
- A-585 Universal Life Model Regulation
- A-620 Accelerated Benefits Model Regulation
- A-641 Long-Term-Care Model Regulation
- A-820 Life & Annuity (SVL)
- A-822 Asset Adequacy Analysis (AOMR)
- A-825 Commissioners Annuity Reserve Valuation Method (CARVM)

Let's discuss other items of interest. There were two SSAPs that were creating problems for the industry. These were investments and reinsurance. They were deal killers as far as the industry was concerned. They have now basically been resolved.

The first controversial SSAP addressed investments. Codification had wanted to include the Model Investment Act, but only one state had adopted it. The compromise position was the creation of an interrogatory on risk.

The second controversial SSAP covered reinsurance. The Reinsurance SSAP contained the industry-opposed question and answer. That has basically been dropped.

Codification does provide for deferred taxes on the statutory statement. As you know, for the most part, we prepay our taxes, and there is no recovery or prepayment aspect allowed for it. You will have a deferred tax liability or a deferred tax asset with some cap on it in codification.

By the way, I'm calling this tax statement SSAP 10. If you had been following codification before, you'd know that this SSAP was number 83. They recently re-numbered them all. I hope I listed both the old and the new numbers here. If you find lists, all the lists seem to be labeled "Final," even though they may have been subsequently modified. Just because it says "Final" at the top, it doesn't mean it was the final one.

One further item of interest. Regulation XXX is excluded. The codification group really did not want to introduce controversy. Regulation XXX was (and remains) very contentious. To make sure that they had as much industry support as possible, they just didn't include XXX, so XXX is not part of a codification. If you look through all the SSAPs and the appendices, you will not find XXX there.

Now that raises a question. What happens if and when XXX or any other future regulation is enacted? How does it become part of codification? That question has not yet been answered.

SSAP 5 defines what a liability is. As actuaries, what we quantify for reserves is somewhat taken for granted. We inventory polices and calculate reserves. SSAP 5 gives you background and guidance on what a liability should actually represent.

SSAP 5 defines three categories of occurrence. It defines probable; it defines remote; and, then it defines everything else as reasonably possible. This wording happens to be taken from a GAAP pronouncement, *Statement of Financial Accounting Standard (SFAS)* 5. They both, curiously, happen to have the same number, 5.

Consequently, GAAP and codified statutory happen to employ the same definition of a liability. Basically, if something merely could happen, or is reasonably possible, you don't set up a reserve for it. To qualify as a liability, you need to think that it is probable and be able to reasonably quantify the amount.

So, after reading SSAP 5, I would ask, if you flunk one scenario, should you set up the additional reserves for that one scenario? My reading of that would be no. Just because it could happen doesn't mean you should set up a reserve. I think there's a little bit of a conflict in the SSAP 5 along with the inclusion of the asset adequacy analysis in the AOMR appendix.

The preamble for Codification attempts to articulate principles for this statutory accounting. I think there's some conflict between the preamble and the subsequent SSAPs. For example, the preamble says the reserves should be conservative but not unreasonably conservative. I then ask you to look at CARVM. I think this is unreasonably conservative because it anticipates the worst case situation everywhere. Also, deficiency reserves remain a part of codification. I think those can be unreasonably conservative.

The preamble also says you should prevent sharp fluctuations in surplus, but we all know new business does cause that.

If you read the preamble and look for guidance when you come across a situation that's not addressed, I'm not sure it will be there.

What does all this mean to you as a practicing actuary? It means that you will have to establish a new set of reserves, which is just what we need. You would calculate codification reserves only for future issues. Codification is not retroactive. For existing business, use the state of domicile standard, which may not necessarily be what you are holding.

I asked one of the committee members, "How do we get consistent results?" He just said, "It'll work its way in over time."

It will be a while before everybody is on codification. It's going to take a while before everybody has similar reserves under codification.

Enactment by states. Individual states do have to enact codification. Some states are vehemently opposed to it just on a principle that anything from the NAIC tends to usurp the state's authority to regulate insurance. I think some states will not pass codification just because the NAIC suggests they should. Other states will enact but nevertheless make some modifications just because they don't want to follow the herd. I've heard one state is ready to pass codification, but it is going to take out the deferred tax asset. I think that would be unfortunate because the codification authors were trying to ensure that post-codification surplus would be about where it is today. If you enact all 90 changes, we should get about the same type of surplus. I would have to think that the deferred tax asset would have been a big plus on the asset side.

This is an accreditation type regulation, so the states do need to pass it to keep accredited. One of the more clever ways that the NAIC approached this is by renaming the codification document, *Accounting Practices and Procedures Manual.* In about 25 states, the laws automatically refer to this document as the authority for preparing statements. It's kind of a back-door attempt to make it automatic.

So what kind of accounting opinion will you get? Say you are in Michigan, which is a state that doesn't pass codification. You present a financial statement for an audit. What's going to happen? As an actuary, you still need to quantify what codification reserves would be. The audit opinion will contain a reconciliation between what you have calculated and what codification would be. This applies to all nonactuarial items too. This is a reversal of an AICPA Insurance Companies'

Committee position. Originally the committee would not have given you any kind of clean opinion on Michigan accounting, but last spring they reversed themselves. They said that as long as there is what they call a "limited distribution" of this report (it doesn't go to shareholders; it doesn't go to policyholders; it just goes to state regulators who know what they're getting), and it contains a reconciliation of how your reserves are different from codification reserves, you can get a clean opinion.

That's my understanding of how this would work. If this sounds like a big circle, it just might be.

AOMR AND STATE VARIATIONS

One last thing that I would like to talk about is the status of the Actuarial Opinion and Memorandum Regulation and where it is headed. There will be a more detailed discussion of this in Session 26.

LHATF is concerned that some companies do asset adequacy testing while other companies don't have to. Companies that don't provide a solvency opinion use a dusty old formula that was developed in the 1940s, take a factor out of a creaky old warehouse of reserve libraries and apply it. That's it. There's no opinion rendered on the adequacy of these reserves. This has been a concern for LHATF for many years.

In June of 1997 LHATF did decide to require a gross premium valuation from Section 7 companies. There is still much discussion as to exactly how that will happen, and there are several other open issues as well.

It's an evolving issue. If you ever participate in LHATF conference calls or attend their quarterly meetings, you know that there are, say, 10 members of LHATF on any task force. They all have different opinions, and it takes a while to work everything through. Each actuary who's a member of LHATF has his or her own opinion, but they also have to respect the prevailing viewpoint and position of the state they represent. There are some conflicts where you can hear a regulator say, "I'd like to do this, but I know I've got to do that." It does take a while to wind these issues through.

The American Academy of Actuaries has its State Variations Committee that is looking at both state variations and the evolution of the AOMR. This committee represents you, the practitioners. Also involved in the AOMR are the American Council of Life Insurance (ACLI) and the National Association of Life Companies (NALC) that represent your companies.

What is the current thinking on the asset adequacy? Here is a July position which is still current. Larry Gorski made this proposal; I'll paraphrase it for you: Each company would be required to provide an actuarial opinion as to the adequacy of reported reserves under moderately adverse conditions and in compliance with statutory minimum formula reserves. The required opinion would be the same for all life insurers regardless of size and risk characteristics. However, the regulation setting out the requirement for the opinion would not establish any requirements (such as seven scenarios) as to the nature or depth of work that the actuary would need to do in order to render such an opinion. The actuarial work of the appointed actuary would only be subject to standards established by the appropriate professional actuarial bodies.

That is the current status. That's a current thinking of where we could head with the AOMR. One more thing on state variations. As you know, there's a lot of tension and a lot of worry about preparing an opinion that states you're complying with all the laws and regulations of each and every state where you file this opinion. It's a daunting task to be aware of all the laws and regulations that are on the books, off the books, in-force, and not in-force.

The Academy formed a task force about three years ago headed by Shirley Shao. It has been working with LHATF to steer the opinion toward something that's more workable for all practicing actuaries. It has been a long journey, but we have made some progress.

At this point there are four possible solutions in front of the LHATF group.

One is that we revert back to the way things were years ago. That's where the opinion was based on the state of domicile only. That's not necessarily very popular with everybody, even though I will say the majority of states (but not necessarily the big or influential states) would be satisfied with this.

Another option is state of domicile plus a benchmark. You calculate reserves on only the state of domicile and then do a second pass using a benchmark basis for reserves You submit a letter that says these are my universal life reserves, or my deferred annuity reserves, under this benchmark calculation where a benchmark would be based on something like codification. The idea there is that all the regulators understand exactly what are in benchmark regulations. There'd be no mystery as to what you do. So, you could submit a state of domicile opinion plus a benchmark.

Another alternative is the state of domicile plus disclosure of what you did or didn't do. This is a little murky to me and is not completely fleshed out yet. I am uncomfortable with disclosing what you did or didn't do in order to determine that your reserves met the state of filing requirements.

With no further ado, I would like to introduce Jim Greaton.

MR. JAMES P. GREATON: I'm going to talk a little bit about some annuity initiatives that are going on in the industry and regulations. I'll start out with Guidelines XXXIII and XXXIV.

GUIDELINE XXXIII

As Steve said, new wording was adopted in 1998. It's going to be effective this year-end, but there's a three-year phase-in. You can phase in the impact of the change over a number of years. If you thought the old Guideline XXXIII was complex, this one is even more complex than you can imagine. You look at this new regulation, and depending on your point of view, you might draw different conclusions. I guess if you were just starting out in the actuarial profession, you'd wonder, why do they want to go through all this trouble? If you're in it, you might think this might be a great way to keep other people out of the profession. If you're Tom, you see a wonderful opportunity to sell stuff.

Essentially, you're going to have to divide your benefits under your annuity contracts into elective and nonelective benefits, and then you're going to calculate different paths through the future. If it's an elective benefit, namely, something like a surrender benefit or withdrawal, where a person has an option to take the benefit or leave the benefit, you're going to have to assume all possible future combinations of those elections. Therefore, if someone can take a partial withdrawal this year and then fully withdraw next year, that's going to be one stream. If they fully withdrew this year, that's another stream. If they take a partial withdrawal for the next two years and then a full withdrawal, that's a third stream, on ad infinitum. If they take a partial withdrawal for the next year and then annuitize, that's another stream. Then they can have different annuitization benefits. Those are all different streams that you're going to have to value. Layered on that are going to be your nonelective benefits. We assume that people don't elect to die or become disabled or go into nursing homes, and those are going to be figured in on a probabilistic basis along all these various streams that you're going to have for your elective benefits.

Another change within Guideline XXXIII is that you can potentially have different valuation interest rates within the same contract. Assume someone's going to take an annuitization. You're on the path where someone's going to take an annuitization two years from now. Under certain annuitization benefits you might be able to use a Type A valuation rate, although in the main contract, it might be a Type C valuation rate. You have a Type C valuation rate out for a couple years, and then the policyholders annuitize, and those annuitization streams will get discounted back to the annuitization date using the Type A valuation rate. It's all a consistent framework. I agree with that. So, you then consider all these potential possible streams and discounting, and the biggest one is your reserve. This guideline is definitely a must-read if you haven't read it yet. This will be followed up in more detail in Session 22.

GUIDELINE XXXIV

This is the one that applies to minimum guaranteed death benefits (MGDBs). These are MGDBs on variable annuities. That's going to define what kind of reserve you're going to set up. Just like Guideline XXXIII, this was adopted this past year, and is effective December 31, 1998, but you do have a three-year phase-in. You can take the change in the reserve in your books over three years.

It defines a CARVM framework for valuing the benefit, and it's going to define an integrated benefit along with the separate account reserves. You're going to do an integrated calculation along the lines of Guideline XXXIII. We're going to calculate out the underlying base reserve with a death benefit associated with it. What you're going to do is define a different path for some of those death benefits, though, and you're going to vary an assumption on the separate account performance, and those assumptions will vary by the class of funds backing the separate account. For a particular class of funds, you might have a certain drop in performance followed by a recovery rate. Then you'll have to calculate out a CARVM-type reserve where you'll follow the performance of the fund, and by using a proscribed mortality table, calculate the death rate on each one of these potential future dates under the recovery scenario. Then you'd discount that back to the beginning date. You're also going to figure in the surrender benefit under the fund performance scenario. You're doing a full Guideline XXXIII type of a calculation for a variable annuity. You're then going to compare this integrated reserve to the reserve that you currently hold for your variable annuity, and if this integrated reserve is larger, you're going to take the difference to be your MGDB reserve, and you're going to hold that in the general account.

This is a backdoor way of getting Guideline XXXIII applied to variable annuities. Variable annuities aren't specifically covered under Guideline XXXIII, although it does say that, for most variable annuities, you're going to have to use CARVM to calculate the reserve. It just doesn't say how you calculate CARVM on a variable annuity. In Guideline XXXIV, it specifically says that you're going to calculate this type of reserve for your minimum guaranteed death benefit, and it includes a calculation of the variable annuity. The excess over what you do hold as a separate account reserve is going to be held as a general account reserve.

There are some reinsurance standards set in there to make sure that reinsurers, once you've laid off this risk, properly reserve for the MGDB. That'll be part of the calculation, but also the reinsurers will pick up an associated reserve. There's a follow-up session on this, but I didn't write the number down. You can probably look it up in the book.

MODEL REGULATION FOR SEPARATE ACCOUNT (GICs)

There's a new model regulation under consideration. Officially it's named Separate Accounts Funding Guaranteed Minimum Benefits Under Group Contracts Model Regulation. These are essentially GICs that are held in a separate account or any other type of funding agreements that you have on a group basis that aren't pure performance-based contracts. In other words, you're not passing through 100% of the performance, but you've given some minimum guarantee of performance to the group contractholder. This was exposed for comment in June. It's not adopted yet, and no effective date is set. It's possible that it'll be adopted in 1999.

You folks that have done business in New York or California are probably familiar with New York Regulation 128 or California Bulletin 95-8. This regulation is very similar to that. It lays out specific regulation about devising a plan of operation for these types of separate accounts. It lays out valuation actuary requirements for cash-flow testing them. It also defines a minimum reserve that's a discounted present value offset by asset haircuts. Those of you who are in New York or California probably won't find anything surprising in here. Those of you in other states might be surprised.

SYNTHETIC GIC MODEL REGULATION

A very similar regulation is a model regulation on synthetic GICs. Synthetic GICs are essentially contracts that wrap funds not invested by the company. In a typical synthetic GIC, there'll be a pool of assets that are held in a trust somewhere, not under the insurance company control that someone else is investing. There might be guidelines for that investment. The insurance company guarantees book value cashouts for plan participants within a 401(k). That's typically how these things work. They are regulated from the 401(k) perspective as if they are GICs but give the plan sponsor more leeway to invest in fixed securities and supposedly not expose himself to insurance company risk, although the insurance company is taking on the risk of book value performance for these contracts. It's that type of risk that this model regulation is designed to cover and make sure you properly reserve for. It was exposed for comment in May. It's officially the Synthetic Guaranteed Investment Contracts Model Regulation. It's not adopted yet but could be in 1999.

This regulation is very similar to the Separate Accounts Funding Guaranteed Minimum Benefits model regulation. It stipulates that you must have a plan of operation for how you're going to deal with these types of contracts and how you're going to reserve for them and oversee them. There are valuation actuary requirements that you require to test the assets and test the book value of guarantees that you've given. It comes with the same set of reserve requirements. You look at the asset wrapped in the trust for determining whether you take a haircut or not.

NEW ANNUITY MORTALITY TABLES

These stem from some new mortality studies that the Society of Actuaries did a couple of years ago, and they came up with a couple of proposals for what ought to be new valuation mortality tables. Several states have already adopted these. I know that because there's a stack of notifications on my desk of regulation being adopted. Many of them are adopted effective this year-end. You may already be subject to these new mortality standards. You need to check with the states that you operate in. These were recommended in the 1995 *Transactions*. There was also a write-up in a recent *North American Actuarial Journal (NAAJ)*. Donna's going to talk about the life tables I'm just talking about the annuity ones. There's a new individual and a new group annuity table. The individual one is called the Annuity 2000 Table. Don't be fooled. It's really 1983 Individual Annuitant Mortality (IAM) projected 17 years at Scale G. It's a static table. In other words, you just do the projection. You end up with new mortality factors. It's meant to be an interim solution until the SOA finishes a full-blown annuity mortality study of individual annuity mortality.

The group table is called the 1994 Group Annuity Reserving (GAR) Table. That's because it's based on group annuity experience up through 1994. It's based on the SOA study. It's meant to be dynamic. In other words, you don't just calculate a fixed table and be done; rather, you're supposed to be using Projection Scale AA in your valuation systems now, so that you need to project future mortality improvements when you do your reserve valuations.

Some states have already starting adopting this for 1998. It will be for 1998 issues and forward. One thing you need to check is that if you do offer group annuities, subject to the new group mortality table, can your systems handle the mortality projection? I doubt it's in everyone's system.

VARIABLE ANNUITIES WITH GUARANTEED LIVING BENEFITS (VAGLBs)

It's a new acronym you can use now. These are new benefits that are usually slapped onto an existing variable annuity. They usually guarantee some sort of minimum return. The guarantee can take several forms, such as if you annuitize 10 years from now, your account value at annuitization won't be any less than your initial premium or your premium grown at 3% for 10 years. In other words, it does the same sort of thing as a guaranteed living death benefit, only for those that stick around or stick around and take some option. Usually the minimum returns are pretty darn minimum, but that's not to say that someone couldn't design a contract with some substantial guaranteed benefits if they want. Those that are worth mentioning are the guaranteed minimum income benefit (GMIB), and the guaranteed minimum account balance (GMAB), but you can use your imagination to do just about anything.

This is another attempt to slide down that scale. There's a big spectrum between a true fixed annuity and a variable annuity. You had equity index starting to slide down towards variable, and the variable side starting to slide down towards the fixed annuity.

The NAIC groups have been looking at these. Originally, when these first appeared on the scene it was about the time that the NAIC was developing Guideline ZZZ, and just to make sure that these didn't fall through the cracks there was a reference in Guideline ZZZ to say that if you offer these contracts, you're going to have to value them according to Actuarial Guideline ZZZ. As of this month's NAIC meeting, that reference has been taken out of Guideline ZZZ.

There has been an Academy committee at work. The committee first compiled a catalogue with the types of products that have been issued. We spent a lot of time trying to understand the nature and magnitude of the risks of these products and now we're trying to develop a proposed reserve standard. We've given interim reports to the NAIC in March and June and September. And those should be available from the Academy office if you want them, if you're interested in seeing what's going on regulation-wise for these contracts.

Currently we are leaning toward the reserving approach, meaning we would go with something like a Guideline XXXIV approach where you're trying to calculate a reserve that's integrated with the base contract and with any other guaranteed benefit, such as a guaranteed minimum death benefit We hope not to have any duplication of reserve standards for these contracts. We're in the process now of finalizing our analysis of the risks and then trying to fit a reserve model that we think will adequately cover the risk for these products. I'll now turn it over to Donna.

MS. DONNA R. CLAIRE: I get to review some of the alphabet soup of actuarial guidelines that are on the horizon, along with a few miscellaneous topics.

ACTUARIAL GUIDELINE ZZZ

The equity-indexed annuity guideline, commonly known as Actuarial Guideline ZZZ was passed by the Life and Health Actuarial Task Force of the NAIC on September 12 on this year and was approved for adoption by their parent committee, the "A" committee. That means that it will be effective in a number of states this year. It also applies to all equity-indexed annuities, including those issued before 1998. Equity-indexed annuities are products that guarantee a minimum interest rate return and grant additional benefits that are related to an outside index. For example, it would state that one would earn interest for the next seven years based on 80% of the increase in the Standard and Poor's (S&P) 500 index, with a minimum interest rate guarantee of 3%. New York is debating this guideline in its Regulation 151.

I'd like to give a very brief review of the reserving for equity-indexed products. This is probably the first product where the liability reserves are specifically tied to the option cost. One must calculate the cost of options by determining the actual market cost of an asset option one would need to buy to exactly offset the liability options granted at every duration. This method, originally developed by Larry Gorski of the Illinois Insurance Department, is known as CARVM with Updated Market Value (CARVM-UMV). A slightly simplified version of this is known as the Market Value Reserve Method (MVRM), which can be used as long as intermediate guarantees are not large With MVRM, the cost of the options for intermediate years (eg., years one through six if the guarantee was for seven years) are estimated. A book value reserving method is allowed if the assets and liabilities are well-matched (known as "hedged-as-required"). An actuary would have to certify quarterly to the match.

There are some changes to Actuarial Guideline ZZZ from the prior year. One is to allow a Black-Scholes calculation methodology for annual ratchet products. Black-Scholes, for those of you who have not taken the SOA exams recently, is a method to value options, which won a Nobel Prize for Fisher Black. It looks like a complex formula. It is actually simpler than other methods, but it might not be quite as accurate. However, the numbers produced were in line with the basic "CARVM with UMV" method, so the regulators voted to allow it.

The regulators also voted to allow option replication strategies to fall under the hedged-as-required criteria. This methodology uses delta hedging in order to minimize the amount of asset hedges required to back the product. It is generally a cheaper way to manage the business, but it can produce more volatile results, as the prices of hedges can vary dramatically over time. There are limitations as to how far the asset/liability mismatch is. This test would be performed as often as weekly.

A third change made from last year's proposal is the elimination of variable annuities with guaranteed living benefits from the scope of this regulation. This was voted on two weeks ago. This was somewhat controversial, as certain regulators generally wanted to include the products. There was some guidance, but it was difficult to determine how these would get valued under the guideline. The compromise was that I, and a number of other speakers, will be telling all appointed actuaries who work with these products that they should consult with their commissioners before the date of valuation to discuss the reserving methodology to be used.

The regulators also did a survey of actuaries who were signing off on equity-indexed products. The results of this survey were disappointing. It showed that a number of actuaries were not aware of the assets backing these products. There were also a number of actuaries not using "current economic information" in valuing the options. Specifically, the volatility factors at year-end were not always used. Having an actuarial guideline passed by the end of the year will increase the importance that actuaries follow ZZZ rules. There is a practice note that covers the considerations on equity-indexed products, which was included in your package. There is also a report of the American Academy of Actuaries Task Force on Equity-Indexed Products, which is available from the Academy. The December report has many of the details; there are additional updates from the presentations made at the March NAIC meeting.

ACTUARIAL GUIDELINE ZZZZ

There is an equivalent guideline to Actuarial Guideline ZZZ out for equity-indexed life products. This is called Actuarial Guideline ZZZZ. It has been released as a draft. There are similar requirements to ZZZ, in that it requires a CRVM with the Updated Market Value approach. There is a book value method called the Implied Guarantee Rate Method that is allowed if the assets are a decent match for the liabilities. These methods appear to work reasonably well for products with one-year guarantees. There is an American Academy of Actuaries subgroup, headed by Martin Goldman and Noel Abkemeier, reviewing this draft. As with equity-indexed annuities, this would require actuaries to asset adequacy test these products.

XXX—THE REWRITE

A favorite topic of a lot of people is term reserving. An actuarial model regulation on reserving of life insurance policies, known as Actuarial Guideline XXX, was developed over a six-year period by an industry group. It passed in a number of states, but, at the request of the ACLI, it included a provision that it would not be effective until states representing 50% of the population passed it. This hasn't happened. Therefore, another industry advisory group formed under the leadership of Jim Van Elsen and Steve Smith. They have been working for the last six months, and developed a proposal that received broad industry support. They presented their proposal to the Life and Health Actuarial Task Force of the NAIC two weeks ago The proposed regulation is available on the SOA and NAIC websites.

I will give a short overview on the changes between this and the prior version of XXX. Both versions require one to value the policy by segments, where a segment is defined as a set of basically level term rates. A change from the prior draft is that the segments are now based on guaranteed premiums, not current premiums. The old draft had an exemption for policies with guarantees of five years or less. The current version eliminates this five-year exemption for term products. The select mortality factors have been changed. These new selection factors have new values for 15 years (less at older ages), with a grading into the 1980 CSO table after 20 years. The deficiency reserves are based on actuarial judgment and can result in factors as low as 20% of the new select factors (this means that, for some ages, the deficiency reserve mortality factors can go below 4% of the 1980 Commissioners Standard Ordinary (CSO) factors).

The American Academy of Actuaries was asked by the Life and Health Actuarial Task Force to respond to certain questions on XXX, such as whether the result is consistent with CRVM. The Academy's Committee on Life Insurance Financial Reporting is in the process of analyzing it, and will be meeting on this on September 28. The Society of Actuaries has been asked to respond to whether the mortality factors are reasonable. Analysis is being done. The Life and Health Actuarial Task Force is expecting to have a conference call on this, along with their parent committee on October 1. It is possible that this can be adopted by the NAIC in December. States could then adopt in 1999, with a January 1, 2000 effective date. If the NAIC adopts this new version, it is possible that Wisconsin will change their January 1, 1999 effective date of the current XXX.

NEW MORTALITY TABLES

Jay Jaffe has developed a new accidental death benefit (ADB) mortality table. This is available on the SOA website. This is not yet an official table. However, the Life and Health Actuarial Task Force voted at a meeting on September 12, 1998 to request that the SOA present an official new ADB table for possible future adoption by the NAIC, so it is possible that the 1959 ADB table will finally be replaced.

The NAIC also requested that the SOA update the disability tables. The SOA committee, under Tom Corcoran, is divided into two subgroups—individual and group disability. They have some company information already, and expect to have interim results available by December.

The SOA has released the 1985–90 basic mortality tables, and the 1990–1995 material is expected to be released next year. At the September Life and Health Actuarial Task Force meeting, they also voted to ask the SOA to develop a new "2000" CSO mortality table. This could have major impacts on reserving and product pricing.

REFRESHER ON PREVAILING ASOPs—DATA QUALITY

One miscellaneous topic Tom asked us to discuss was Actuarial Standards of Practice. Every actuary should review the ones relevant to his/her job periodically. One of my favorite ASOPs is Number 23 on data quality. This is one that some actuaries may not be paying as close attention to as they should. We are required to use good quality data. When it is "incomplete, inaccurate or not appropriate . . . the actuary should consider . . . material bias . . . or that the data cannot be used to satisfy the purpose of the study." This may become a very relevant standard if the rewrite XXX gets passed, and actuaries must base mortality factors on best judgment.

The standard also requires that one discloses reliance, and disclose if the actuary has not sufficiently reviewed the data and any resulting limitation of this. I highly recommend that the actuary keep a good paper trail, so assumptions and limitations thereof are noted and disclosed to the relevant people.

ILLUSTRATIONS/DISCLOSURE

This is another miscellaneous topic. There is a new practice note on illustration questions in the handout. These are mostly questions on how to handle in-force business.

There will probably be a new annuity disclosure regulation passed by the NAIC soon, which may be adopted by some states as early as next year. This concerns disclosure only. It does not require self-support or a non-lapse support test like the life illustration regulation. There is an American Academy of Actuaries task force, headed by Barbara Lautzenheiser and Steve Preston, that has been looking at possible supportability tests. At the September NAIC meeting, this was put on hold, as the regulators figure out if it is needed, and, if so, what is needed.

New York does have a law that requires products to be self-supporting. They were to have supporting regulations out by June. This was delayed, in part to see what the Academy group came up with regarding testing. They do expect to issue regulations soon. At this point, actuaries are required to satisfy themselves that products in New York meet the spirit of the laws.

CHARITABLE GIFT ANNUITIES

Another miscellaneous topic is what is happening with charitable gift annuities. A new regulation was proposed to the NAIC. This contains a reserving standard, similar, but generally a bit more conservative than current insurance company reserving for payout annuities. Some people viewed the reserving section as a bit too complex, so it was sent back to the charitable gift annuity task force of the NAIC to see if it could be simplified.

PRACTICE NOTES

My last topic is practice notes. There are three new drafts: one on equity-indexed annuities, one on variable products, and one on illustrations.

The old practice notes are still in effect. A number of people have asked me for copies of various notes, since they are either newly appointed actuaries or they managed to put their old copies in a "safe" place (also known as a black hole) and cannot currently locate them. Therefore, I requested that the entire set be handed out at this symposium. They are worth reexamining. Note: they are also available on the Academy's website (www.actuary.org).

If you have any questions or comments on any of these, please contact me or someone at the Academy.

MR. JONATHAN L. WOOLEY: A question for Jim. Can the Annuity 2000 table be used for tax reserves at the end of 1998?

MR. GREATON: I think, as Bud Friedstat alluded to at Session 1, in order for it to be used for tax reserves, it has to be accepted in 26 states.

MR. WOOLEY: And what do we have now?

MR. GREATON: I'm not sure at the moment. I know I've seen at least 10 or 15 come across my desk.

MR. WILLIAM CARROLL: We're far short of 26 states at the moment. This is a question for anyone on the panel who wants to try it. I think it's important. We, the folks on the panel, and many people in the room, as part of our jobs, are constantly in touch with what's going on in all of this work that you've described so well. There are other people who work upstate in an environment where they don't know what's going on as it's happening. How do they keep track of what's going on?

MR. HERGET: They keep track by coming to seminars like this, by buying the cassettes, and by reading the handouts. Any other techniques?

MS. CLAIRE: Actually, there are a couple of simple techniques. At the SOA's website, www.soa.org, I give a personal viewpoint on all the important LHATF meeting subjects in which I am interested. Of course this is not the only place. That website and the NAIC website are strongly recommended. The NAIC site, www.naic.org, will star its new listings. Therefore, you can see what the contents are of the brand new regulations that have made it through. You also can pick up the official minutes of all NAIC meetings on the NAIC website.

MR. HERGET: You can be on the LHATF mailing list. You can subscribe to SOA section newsletters as well. Speaking of newsletters, I see the editor for the Financial Reporting Section newsletter wants to speak.

MR. G. THOMAS MITCHELL: Jim, I'd like to comment on the discussion of the way that the Variable Annuity Guaranteed Living Benefit Regulation was working. I interpreted that as saying the model would be the minimum death benefit regulation. My point is the equity-indexed annuity reserving regulations have some very good scientific option pricing logic built into them, whereas the minimum death benefit is basically a hack around scientific option pricing.

MR. GREATON: I agree 100%. The thought process is that on VAGLBs that these are much more difficult options to price because they are generally backed by funds that are fund-specific as opposed to named options that you can buy in the marketplace. Therefore, it's tough to come up with market values for these options. They're also options that are unusual in nature in some cases. Therefore, we're going with what we hope is a simplistic approach that will get us a conservative reserve rather than something where we think we're being scientific but not calculating a real value.

MS. CLAIRE: A couple of notes on that. I'm also on the VAGLB Committee. We have an Excel spreadsheet that does close to 1,000 scenarios. It wound up that when we tested an S&P 500 index fund, the results showed that the reserve needed is somewhere close to zero. However, if you test things like the Pacific Rim index fund, such as the Dean Witter Merging Market Growth Fund, the results are disturbing to say the least. The answer goes from close to zero for an S&P 500 index to much higher if you have a lot of volatility. I'm talking say 20% plus of the underlying reserves of the actual assets for certain funds. If you have those type of products, a simple answer is fine if you're working with a major index. It doesn't work if you're into some really exotic funds. Also, New York is including a version of Actuarial Guideline 34. However, the current thinking is they are going to have different factors. It's not just 34. They will wind up having a different reserving requirement in New York.

MR. WAYNE E. STUENKEL: I have a question for Tom about the Unified Valuation System.

It sounds like the UVS would be a fairly major change to the way we do things. What do you think the likelihood is of adoption of that, and what kind of a course and a time frame could that take?

MR. HERGET: Those are good questions. What we have here is something new to everybody. Everybody will certainly feel uncomfortable about many aspects of it. In my opinion, relying more on our own judgment seems to be the right way to go. Donna was talking about XXX. I think the industry has probably spent $30–40 million getting XXX to where it is today, and I don't know how worthwhile the effort will prove. I am a policyholder; I wouldn't think that would be a great investment of my funds. We're trying to fit a square peg in a round hole there. It will be a big improvement if the actuary can use his or her own judgment. An objective of this UVS is to make the reserving standards keep up to date with the products that are introduced. What will happen? We have exposed these concepts to LHATF. The reaction in June 1998 was lukewarm. There will be brand new things there for a lot of people. It will probably be kind of frightening to regulators and to practicing actuaries alike. I do think it'll come. It'll be a tough push, but I do think the UVS will see the light of day. If we are to do it, we must sell it to the states. I also think that a lot of the UVS work we're doing now will surface in fair-value accounting, which we may see on the GAAP side. I think, one way or another, you're going to see this. Now is a good time to get on the bandwagon and participate.

MR. HERGET: I have a question for Donna. When the Society of Actuaries accumulates data for mortality and morbidity studies, the Society gets its data from participating companies. I've been hearing that many companies don't have time or resources to provide data, whether it be disability income or mortality. Donna, could you comment on how easy it is to get the data? How easy or hard is it to solicit participation and to extract data from participating companies?

MS. CLAIRE: This has been a major issue, especially on the annuity side, where a lot of people simply weren't keeping track. However, the data the SOA gets does wind up eventually being the source of the valuation tables for the NAIC. There is a staff within the SOA trying to work with the companies to figure out what is the easiest thing to do. To get the best data, we really do need the cooperation of everybody and every company because the underlying results are going to affect everybody.

MR. HERGET: I wonder what's happening on disability income. With consolidation of disability income carriers, there aren't that many companies that write this. Furthermore, there is a big concentration among the top five; a handful of them may not participate. I wonder whether we get experience based on the fourth company only?

MS. CLAIRE: Luckily, so far, the data are coming in. We do have to clean up the data. We really do need the data because, as I said here, the valuation actuaries, in effect, may be relying on something that will wind up getting you in trouble because it really isn't conservative enough. Again, Tom Corcoran is doing as good a job as he can, but I really do urge every company in the marketplace to get the data to the SOA.