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Ask The Experts

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MR STEPHEN N. STEINIG: It's impressive to realize just how many experts we do have within the profession. Let me introduce some of them, and then we're going to start with some of the questions that were submitted in advance. Frank Sabatini is a partner in Hartford at Ernst & Young, and he is the national director of the asset/liability management function at Ernst & Young.

Craig Raymond is vice president and chief actuary at ITT Hartford Life. He's responsible for all the corporate actuarial functions there, including oversight of actuarial policy, pricing and product design, and valuation actuary activities. Craig is also the Chairperson of the Academy's Committee on Life Insurance, and he's the incoming Chairperson of the Society's Financial Reporting Section.

Our third expert is Dave Becker from Lincoln National. Dave is vice president and chief actuarial officer and appointed actuary of Lincoln's life company, the Lincoln National Life Insurance Company. Dave, as I'm sure you all know, is an active researcher, writer and speaker on many aspects pertaining to reserves, valuation, interest rate curves, and the like. He is the outgoing Chairperson of the Investment Section of the Society, and he's a newly elected member of the Society of Actuaries Board of Governors.

We had a relatively small number of questions submitted in advance, so you can each be thinking about the questions you want to ask. Recognizing that there's room for differences of opinion on many of the items we're discussing, feel free to contribute your own expertise to the rest of the group.

The first question concerns short-term liabilities. What do regulators expect or want as far as asset adequacy analysis for shorter-term liabilities such as health incurred but not reported (IBNR) reserves? My company has group life and health, and we allocate the short-term assets to the short-term liabilities and long-term assets to long-term liabilities, but there is risk for the shorter-

term liabilities in an increasing interest rate environment. How should this be addressed in the actuarial opinion and/or memorandum where you must address asset adequacy even if you do not cash-flow test the short-term liabilities? We've addressed it by discussing the nature of the liabilities and the margins in other reserves.

MR. CRAIG R. RAYMOND: When I heard the question, my first reaction to it is I think the biggest issue is how significant are the liabilities to the company as a whole. I think a lot of companies that are faced with this issue have a block of short-term liabilities that are fairly small relative to the company aggregate. In that case, I think it would be totally acceptable to do what the person who wrote the question said -- use a bit of an analytical approach to the magnitude of the risk in the margins, if you can very comfortably be able to state that there is significant enough overadequacy in the rest of your reserves from your cash-flow testing results and you can justify that you don't need to do additional cash-flow testing for that block. I think that's very reasonable.

Directly, if that's the only business you have, and if you've identified the fact that there is risk because you're mismatched, I think you clearly should be doing some type of cash-flow testing or analysis to quantify that.

One of the issues that we have some discussion about that goes along with that is the question of how do you actually do testing on something like an IBNR where you probably are invested longer because you're anticipating the fact that you have future premium flows coming in on renewals of that business. That gets to be a bit of an interesting question and I don't think a lot of people are really focused on how to cash-flow test these things. I think you need to give some reasonable thought to the appropriateness in the certainty of those future premium payments and renewals if you're going to try to justify that there isn't significant risk because you have those renewals coming in.

Actually, the question that was asked was, What do regulators want? And I think a direct answer to that is, I don't know.

MR. STEINIG: Frank, you had a perspective on whether these are short-term liabilities. Do you want to comment on that?

MR. FRANCIS P. SABATINI: The only perspective I had was that, on the life product side we have no problem either on term insurance, recognizing that we're going to be getting certain levels of renewals, and then we talk about premium persistency or policy persistency. The same concept could easily extend over to the life and health IBNR. A certain number of those policies are going to renew on a term basis every year, so the assets could be invested longer with the renewal premium being used to fund the run off of the IBNR. So in a cash-flow-testing context, there's nothing wrong with, I think, building that in and then testing in that nature.

MR. DAVID N. BECKER: The question was in the context of a health IBNR. If you actually earmark assets, and the assets are relatively short, and you know the typical payoff pattern for the IBNR, you can perform a measurement of how much interest rates would have to change before you had a problem. That would be a fair way of evaluating it.

Another way to evaluate it would be possible if you're modeling a larger block of business that is cash-flow tested and is related to this liability. You can include the IBNR with that block as far as the reserves, and you would allocate additional assets to support that IBNR. Then, in your liability model, you would assume the IBNR amount will, in fact, exactly be paid out over some reasonable length of time. And you could build a liability factor in your model that literally pays out that amount of money over what the normal period for which IBNR liabilities typically are paid. And then, in that manner, it's combined in your regular cash-flow testing of a larger block.

MR. SABATINI: If you start trying to look at what an optimal investment strategy is for those kinds of liabilities, you don't end up with short-term assets. You will look at it on a going-forward basis and at the receiving of premium.

MR. BECKER: I agree with you on that, Frank, though I think one of the things you must keep in mind is that, although it may not be the optimal strategy, you are taking some risk by investing

longer because you're counting on that extra premium. And that's something you need to recognize when you look at your cash-flow test.

MR. SABATINI: Right. But it's no different than testing premium persistency or any of the other products.

MR. STEINIG: The next question concerns reinsurance. What responsibility does the appointed actuary have in verifying reserves for reinsured business? A reinsurer often has hundreds of direct riders sending reserve information to it. Also, how about the actuary who must opine on a retrocessionaire's reserves when he or she is yet another step removed?

Lincoln National does some reinsurance business, and so we thought maybe Dave would take this question.

MR. BECKER: I used to be the valuation actuary for reinsurance, so I know first hand the kinds of issues that you can get into with this. What's the level of the responsibility of the appointed actuary or the valuation actuary for reinsurance? That responsibility is significant.

I'll answer in a narrow way, because it's not entirely clear to me what the questioner was asking. If you have a client for which you believe there is a problem with the reserves that are being reported on, then it is clearly an obligation on the valuation actuary's part to instigate efforts to try to obtain the information that is required. Now, however, that applies to a specific situation where you have some reason to believe that there's a difficulty. In general, from a framework of how you manage your business, you could raise your comfort level of what's being reported to you, and what you're reporting is reasonable.

If your business that's coming in is on individual cession, the first step is to put it in your system. There shouldn't be any problem with the reserves because that's under your control. If you're looking at reserves that are coming in under special administration, which are basically lists, then one of the things you can focus on is the character of the business. For example, you might want to handle

yearly renewable term (YRT) analysis differently from coinsurance analysis because the reserves can be significantly different. Also, remember, there's a lot of universal life (UL) YRT reinsurance. And if that is coming in on a monthly basis, your reserve at any point is rather small. So it may not be per policy. It may not be that significant overall.

However, we tend to look at our clients. We basically look from the larger to the smaller clients. We work very closely, especially with the larger clients, to get an electronic record of what the liabilities are. In some cases, for the larger clients, we get it at least annually. Oftentimes, from our larger clients, we get it quarterly. And there are some cases where we actually get it monthly. When we get those electronic records, we use the PolySystems Inc. software because that way we can tell the ceding company the precise information that's required. It's not, perhaps, as extensive as it would be for our own internal liabilities, though. We run it through that system to calculate the reserves.

When you get down to the smaller clients, we actually build, based upon the data that we receive, a kind of mini model of that treaty. The model throws out a pro forma profit and loss (P&L) statement, and it also throws out pro forma reserves.

We'll track those pro forma reserves with what the client company is reporting to us. If we find out that there's a significant discrepancy between the model and the reported reserves, then we go in and investigate the situation. Of course, at times, what we find out is, because we're trying to keep that model up-to-date, based upon the monthly tabular information coming in, the problem is us. We did not model it very well.

Other times, we find out there is a problem. It does not appear to be in our model; therefore we contact the client company to try to get more information about what's happening. If we can use that to true up our model and get agreement, then we're fine. If we don't end up getting agreement between the two, then we question the reserves that are being reported.

Interestingly, once in a while, we find UL business being sent in where it's YRT, instead of getting something like 1/24CX, which isn't real large. What's happening is our clients are sending us actually

the fractional portion of the total UL reserve. Well, that's simply not right. But that sort of thing has happened because when they wrote their software to extract the information, they didn't go in and pick up the net amount at risk (NAR), and the age and all that. They just picked up a proportion of it.

So those are some of our techniques. An additional technique is that we do reviews of all the treaties on an annual basis. But the pricing, the product development associates, do account reviews every two years, and those are fairly extensive. In those account reviews, for initial business and then follow-up, they usually build detailed models of how they think the business is going to come in, and how it will lapse off, and what claims will be. So we can actually compare what we're doing with what's reported to us with regard to what the pricing people thought was going to be sold on a given treaty based upon their pricing discussions. This is not only for new business, but also for follow-up business. So, again, there's another reasonableness check.

A last thing we do is calculate ongoing statistics like reserves per thousand, and we track those. Again, those are only in situations where we're getting tabular information, where we can't run it through PolySystems or a similar system. We just look at the trend in those ratios, and if we see that those ratios are erratic, that then is a signal that it should be investigated. Or if we have two companies that have similar sorts of business, and a similar mix of ages, and their premiums are relatively similar when you get into things like XXX or 147, then we can compare ratios between to companies to see whether the overall levels are correct. If it's annuity coinsurance, we get information every quarter, and we get asset information, for example, at the third quarter year-end, or third quarter for the year-end work.

That's an overview of the structure we use to be comfortable with the reserves that we're reporting in our statement.

MR. STEINIG: Does anyone want to comment on the retrocessionaire spectrum of the question?

MR. BECKER: In many cases, we ask for the retrocession information on a cession basis. Also, when we retrocede out, even if business came in on a special administration basis, we send it out on a cession basis. So for our retrocessionaires, they're getting more or less of the kind of information they need. When we're the retrocessionaire, I'm not exactly sure what we do with regard to other reinsurers who see the business.

MR. STEINIG: I was flipping through the book and the handouts. One of the sessions that's going to be held at this symposium is the regulatory expectations panel, which is session 31. There was one page on reinsurance from another aspect, not responsive to this question, but dealing with the ceding company, and the responsibilities of the ceding company actuary. Because it's kind of on point, I wanted to pass it along to you.

It says that the ceding company doesn't have to do the cash-flow testing or asset adequacy when it's the reinsurer that is holding the assets. But there is a responsibility, to the extent that you're relying on collecting from the reinsurer to meet your liabilities, to do a little work to make sure that the reinsurer is, in fact, sound. That should be addressed in the opinion where the reinsurance is important to your entire operation. So you might just want to look at that.

MR. BECKER: Steve, in fact, one of the things we do for retrocessionaires is in addition to the same types of analysis that we do on other information that would be reported to us on more or less a tabular basis. With regard to reinsurance credits, we look at the risk-based capital (RBC) ratios, and the ratings from the rating agencies on those reinsurers. We look at them to see whether these are quality companies and if we're comfortable with the fact that taking credit for the reserve is appropriate.

MR. STEINIG: The next question concerns normalizing interest rate curves. Do you normalize your interest rate curve from the starting point at December 31? How do you define the normal curve? And where along the curve do you pivot from the starting point to creating the normal curve?

MR. BECKER: First of all, when we're doing stochastic testing, we don't normalize the starting curve. Whatever we start with is what we start with, and then the stochastic model essentially moves it into the future. However, if you're looking at something like the required seven scenarios, we may do some normalization. The normalization period that we use is typically in the neighborhood of two to three years. But I know from speaking with people at other companies that time frames of two to four, or even five years are not uncommon in terms of the length of time over which the normalization is put in place.

But there are some differences in how the yield curve is normalized. In our case, when we do normalize it and, again, that's only for the required seven scenarios, the normalization is done by pivoting on the five-year rate. But in other cases, it's possible that people could be looking at a historical slope, say, between the 90-day Treasury and the 10-year Treasury. So what we found is there's some variation exactly on how actuaries do the normalization process.

One other method of normalization that Frank suggested was take your short rate and move it toward the mean, as if you had a mean reversion target for it. Take your long rate and move that toward its mean reversion target over a period. So that would actually be a third way to do the normalization. Remember, on the normalization issue, one of the suggested changes to the actuarial opinion and memorandum was that, if the difference in the rates was over 300 basis points, then the authorities wanted the required normalization. One of the comments that we put in with regard to that was, well, if the yield curve was inverted at the date of valuation, you probably want to normalize that one as well.

This is just on my part rather than, of course, what Lincoln's policy is, but I think yield curve normalization has to be handled very carefully. I worry about putting anything that forces normalization in any given manner in the law. I think that's imprudent because normalization is something that involves a lot of judgment. There is no one right answer on it. It may be appropriate to do, but I think the appointed actuary, in consultation with his or her investment professionals and colleagues, ought to be the basis for forming a normalization routine.

MR. SABATINI: My experience has been that, when you normalize you get a better result than when you don't normalize. So my first reaction is, why bother, except when the yield curve is inverted?

If you've ever studied and taken a stochastic set of scenarios and then tried to see where many of the New York seven fell in that distribution, you'll find that anywhere from three to four of the scenarios tend to fall in the tail of that distribution. So it creates a perspective on the seven valuation scenarios, but you're really testing some of the more extreme situations. So tinkering with it is not something that's really, in my mind, adding a lot of value. I would much prefer to move to more of a stochastic-based methodology.

If you don't want to run 100 scenarios, you can create 100 scenarios and then use techniques to reduce them to some more manageable number like five or ten. There are a number of different techniques that you can use to do that that allows you to select a set of scenarios that reflects the larger distribution of a larger scenario set.

MR. RAYMOND: I did actually have one comment. I'm not a big fan of doing stochastic testing. We typically do deterministic testing. There's an issue closely related to the issue of whether you should be normalizing the curve. I cannot recall any year-end where we felt we were in a situation where we had to normalize the curve.

One thing that I have felt very strongly about is looking at a number of deterministic scenarios that look at the impact of changing the shape of the yield curve. This, to me, is more meaningful than saying, how do I normalize the curve? I want to understand the impact on my results of the yield curve changing to various shapes.

I won't pretend to know how to pick which shapes those are. I have some people who understand those things better than I do. However I'm not comfortable when I look at the results if I've only looked at one pattern of yield curve shapes. We typically look at a number of different patterns of changing shapes of the curve.

MR. BECKER: I'll follow-up on that. I think Craig has an excellent point. We do studies of our business on a semiannual basis, and we're going to be doing them on a quarterly basis. Those studies consist of a set of stochastic paths and then shifts where we parallel shift the curve up and down.

But, in addition, we run, say 12-15 deterministic paths at the same time. Those paths often contain the New York seven and other specific paths that we try to elucidate. We do that by a joint effort among the business unit, the corporate area, and Lincoln Investment Management. We try to find insights into particular changes in the shape of the curve and the level of rates that might identify problems. In other words, it is kind of an expanded stress test. This is where the emphasis is to Craig's point on that. We have found that that deterministic study as well as the stochastic analysis is very illuminating about uncovering risks that may be lurking in the block of business. So that's an excellent point.

MR. STEINIG: The next question concerns market value adjusted annuities. If the assets for the market value adjusted annuity are held in a separate account and valued at market, what rates should be used to present value the projected guaranteed benefits? In New York, it seems to be a valuation date current rate. Is it just one rate regardless of the term lapse, or is it a whole yield curve?

MR. RAYMOND: Apparently, there's at least one person in the audience who's interested in these contracts. I'm assuming what we're talking about is what we used to refer to as a modified guaranteed annuity, or a New York Regulation 127 market value adjusted annuity..

There's an interesting piece of news that I don't think a lot of people are aware of. We have had a tax problem with these types of annuities for a long time. It is a federal income tax problem that affects the company's tax results, when assets are held at market in a separate account. I will get to the question, by the way. When you're holding assets in a separate account at market, and liabilities at market on a tax basis, because of some anomalies in the tax law, you're required to hold liabilities at book and your assets at book. Your liabilities end up essentially being the lesser of market or book value, which causes some unusual distortions in your taxable income.

There has been a group of us who have been working for the last 12 years to fix this tax problem. One of the tax bills that was signed by President Clinton within the last couple of weeks had buried in it the provision that fixes this modified guaranteed contract taxation problem. On a tax basis, you hold assets and liabilities at market. I think that for anybody who is interested in the product, this is great news. It's going to have a big impact on the comfort of people looking at these products and doing them on a market-value basis.

The question was, how do I actually do the reserving for these products? The model regulation and the regulations that have been adopted in most states are very vague on how you actually do the valuation. The normally accepted practice is essentially what's defined in Regulation 127 in New York.

The wording of the New York Regulation 127 allows some flexibility on the direct answer to this question. The valuation rate you use should be based on the market yield to maturity of your assets at the time you're doing the valuation. The regulation gives you the flexibility to do that either as an aggregate rate for the entire portfolio, or to develop a yield curve of yields to maturity based on the length of each guarantee that you have within the portfolio. I have seen it done both ways, and, depending on the size of the book, and depending on how you manage it, can get you better results either way. Clearly, having a single valuation rate is a lot easier. It's a lot easier to implement, and it's a lot easier to understand.

My experience shows that, if you are managing the portfolio so that you're duration matching the entire portfolio, the liability flows together, and using a single valuation rate will give you more consistent and less volatile results. If, however, you are doing more direct cash-flow matching, or key rate duration matching of each of your liability durations, using separate valuation rates for each liability duration gives you better results. In this case, your valuation matches up more closely with the way you're actually investing and managing the block.

MR. STEINIG: Is it possible to reinsure both the assets and reserves, coinsurance not modified coinsurance, even though it's a separate account product?

MR. RAYMOND: I'm not aware of anybody who has done that. But I don't see any reason that you couldn't. Particularly, where most of these products are done in a way that they're not even registered with the Securities and Exchange Commission (SEC). For those that are registered, it's the product itself that's registered and not the separate account that's registered. Assuming the separate account is not registered, I don't really see any problem at all in doing reinsurance on a coinsurance basis on the book. You may have some interesting valuation issues if you're not keeping the specific block segregated on a reinsurer's books, but I don't see any reason why you couldn't reinsure it.

If, however, you had a product structure so that even on this type of product, you're ending up actually registering the separate account, there are many SEC issues you'd have to deal with. When we've looked at it, our typical answer is, you could do it, but you have to work through some difficult SEC issues. And if the account itself is registered, and not the product, you would probably have to disclose the fact that you have reinsured it in the prospectus.

MR. STEINIG: This question concerns reserves set up in a single state for the minimum aggregate reserve test. It's a three-part question. We'll do it one part at a time. The first part says, if a company needs to set higher reserves in a state to meet the minimum aggregate reserve as requirements and elects to do that through filing an annual statement there that differs from the statement filed with the domiciliary state, may the extra reserve be shown in exhibit 8G as additional actuarial reserves, asset/liability analysis?

And I'm honored to tell you that the panel collectively felt that I was sufficiently expert, even though I'm only the moderator, to handle this question. The answer is, no.

The second part is, if not shown there, does the company need to get the state's special permission to de-strengthen reserves if the law should be changed to eliminate the requirement to meet each state's minimum reserves? And let me just clarify the question where it says if the law should be changed, that's really a reference to a change in the actuarial opinion and memorandum that would change the opinion from saying this meets the standards of each state where the statement has been

filed to an opinion that says it meets the standards of the domiciliary state. So would special permission be needed?

MR. RAYMOND: My direct answer to this question is the answer better be no. I think the practical answer is, that you would not have to. Ideally, the structure of the way the law would be changed, and what has been talked about in the groups that have been looking at the change in the law, would mean the company would be able to drop the extra reserve unless it was notified by the state that the minimum requirement the state had should continue to be followed.

How do you present it in your annual statement? What I think would be the most effective way to present this in your annual statement, and what I think would maintain the most flexibility as far as what you would do in the future is to not identify the reserve you set up as a specific policy reserve.

If a state requires you to use a 3% valuation rate on a certain block of business rather than the 4% that you're using in your home state, rather than listing in exhibit 8A that you use 3% interest for that block and showing the higher reserve, you would set up a voluntary additional reserve in 8G. It would not be a cash-flow-testing reserve because that is specifically for something that's needed to meet cash-flow-testing requirements. I would line by line show my 4% interest rate just like my home state, and then in exhibit 8G show a voluntary additional reserve. In that case, I never tell that other state that I'm holding that particular policy's reserves at a higher basis than the 4%. But I can still sign the statement that says, in aggregate, I meet that other state's requirements.

When you go back to some of the specific state law requirements as far as requiring permission for changing the basis of your reserves, since you never actually changed the basis you're holding those reserves on, you don't need approval to drop the voluntary reserve when you determine you no longer need it. That's what a voluntary reserve is. It's one I can take down if I determine I don't need it anymore.

MR. STEINIG: The third part of the question is, may a company perform the cash-flow testing based on the low level of reserves held in the domiciliary state rather than the higher reserve actually

held in the state with the special state in filing? Does the reserve in excess of the domiciliary state's reserve need then to be reported as not tested? Or may the entire reserve be considered as tested since the whole block of business was really modeled?

MR. RAYMOND: I think the first part of that question is easy. Sure you can. I don't think there's any reason why you would have to retest. When you set up an extra reserve, you have more assets. So if less assets are sufficient to provide for my liabilities, I clearly don't think I have to go back and retest because I have more.

I was talking to somebody who said that they have a similar situation to this, and they actually go back and rerun their models with more assets, and file a separate actuarial opinion in the state also for cash-flow-testing results. I don't think there's anything wrong with this. To kind of tie the two questions together, if you're going to identify those extra reserves as being tested, you should do something to get the impact of those extra cash flows into your results. You haven't tested them unless you've done something to put the impact in the results. I can't imagine having any trouble signing the opinion that the assets are sufficient if I tested it with less assets than I've actually shown.

If I didn't do anything with it, the right answer is, they were not tested. Alternatively, you could identify the testing methodology as documented conservatism because you can document pretty easily that a voluntary reserve that has no direct liability cash flows is conservative.

MR. SABATINI: I think you can argue the other way around and say that they were tested. Do an example. If you have a liability on a contractual basis that's $1,000 in reserve and your state of domicile is $1,200, and you have to hold $1,250 for another state, and you test $1,000 of assets against $1,000 of liabilities and demonstrate adequacy, you've tested 100% of liabilities. You've tested all the reserves. The fact that you used assets less than the reserves is not a determining factor, and you've demonstrated that you don't need those reserves in effect on a stand-alone basis. So you could argue in that context that those reserves were actually tested.

This point centered, as Craig pointed out, on the way the regulation is written. You're testing a reserve, which you think of as a number in the blank some place. On the other hand, what you're really testing is the ability to meet the obligation and associated expense to that obligation's cash flows into the future. So if you could meet that obligation by using assets less than the reserve, in a sense, you've satisfied the real intent of the opinion and memorandum because you've shown that you have an adequate amount. If, in fact, the reserves you're holding are larger than what you used in the testing, then to the extent that that's redundant, you've tested the obligation.

But Craig's point was well taken. The way it's written is it's like you're testing that number in the statement. And if you did use something less, you could argue that you didn't test that number, you tested a smaller number. But then he cleverly found a way out of that by saying, that's conservative. Not bad, Craig.

MR. RAYMOND: As I think about this, really the question comes down to, how do I fill out the form? That sounds like a pretty practical issue. This should have been a practitioner's question, not an expert's question, shouldn't it?

MR. STEINIG: The floor is now open to anyone who would like to ask a question.

MR. WAYNE E. STUENKEL: Back when the valuation actuary model regulation was being proposed a few years ago, there was a lot of concern about potential personal liability by the opining actuary. I have a couple of questions. First, to your knowledge, have there been any situations where an opining valuation actuary has been held personally responsible? And second, is there a good bit higher possibility of personal liability with this illustration actuary work that's going out? My thought is that probably the answer is yes because the valuation actuary would probably only be sued if the company went insolvent, whereas an illustration actuary could be sued if the policy didn't perform, if you have an angry policyholder out there.

MR. STEINIG: Who would like to tackle that? Does anyone know anyone who has been sued or disciplined?

MS. DONNA R. CLAIRE: Actually, there have been several cases. My theory is, again, don't work for a company about to go insolvent. One of the first things the regulators will do is actually examine anyone who could possibly be sued at that point. And they will look very closely at any actuaries who have signed opinions recently. In the cases I've worked with so far, I was on the regulatory side. I didn't think the actuary necessarily did enough to be personally liable, so actually the suit was dropped, but it has happened.

In several instances, however, even the cases where companies haven't gone insolvent, it has gone before the Actuarial Board for Counseling and Discipline (ABCD). A couple of actuaries were reprimanded in certain levels. There is at least one case in which a certain actuary can no longer sign opinions in at least one state. But I also agree that you're taking on a lot more responsibility with the illustration actuary.

What we're trying to do with the illustration practice though is at least come up with several alternatives to have, in effect, liability coverage for your board. The problem is, you could be sued 20 years later, and you may not be with the same company. So that's something that the person signing as illustration actuary should be aware of.

MR. STEINIG: Donna, I'd like to clarify the one lawsuit situation as opposed to discipline situations. Was that a suit initially filed by the state itself or by the guaranty association?

MS. CLAIRE: There's not a particular list filed by the state. I'm actually dealing with one that is in sort of a preliminary stage where the guaranty association is looking into suing the actuary. It has not come to any conclusion at this point.

MR. RAYMOND: Yes. I would second Donna's comments on the illustration actuary versus the valuation actuary. I'm not sure that technically, on paper, there's any greater liability for the illustration actuary than the valuation actuary, although I'm not sure of that absolutely. I think there's a much bigger practical risk for the illustration actuary because the result of the illustration actuary's

work is much more in the public realm and much more related directly to individual policyholders. The likelihood of getting pulled into a lawsuit there is going to be a lot higher.

MR. BECKER: Just one follow-up comment on that. Thinking about all the sales practice issues that are coming up right now in UL, it seems that, if we had the illustration actuary ten years ago, he or she would be sued right along with the companies. We didn't have the illustration actuary ten years ago.

I agree with Donna and Craig's comments that there's a greater likelihood of lawsuits. I don't know about the severity of them. Obviously, it's easier for policyholders to be dissatisfied about what they thought they were going to get, whereas the triggering event for an appointed actuary is somewhat more unlikely to occur. However, with regard to the fact that had we had illustration actuary regulation in place, say, in 1980 or 1981, perhaps, a lot of events that have led to those lawsuits would not have taken place, and we wouldn't have the lawsuits today.

One thing I'm always reminded of whenever I think of laws and regulations, and sometimes the burden they require, is you always have to temper that opinion with the fact that I have yet to see the regulation that preceded the abuse it was trying to stop.

MR. RAYMOND: I would like to make one comment to follow-up on that. I feel very strongly that, as much as this scares me from a professional point of view, it's very important that we, as actuaries, be willing to step up to taking this kind of responsibility because I think it is important for the profession, for the industry, in general, that we're willing to do these things.

It's very important to find ways to get us more comfortable in exactly what the magnitude of that liability is, and how we understand and control it. What concerns me the most is not the role that we're taking as an actuary here, but the fact that I don't have a clear understanding of what the legal implications of this are. That's one of the things Donna has talked about and is trying to help us from the Academy point of view. But I think that's the important thing.

We all have to find ways that we can be more comfortable with what we're getting ourselves into. The fact that it scares us is something that we have to find a way around, as Dave is getting at. It's important that we be doing these things.

MR. WALTER S. RUGLAND: I just have some observations and then a question. The first question you had, Steve, was, what do regulators want? And it's the wrong question. The posture of the appointed actuary has basically removed from what regulators want to what the professional requirement should be. And it's a good question to say, what, as a professional order, should we do?

Another question would be on normalization. You brought up a normalization question in the concept of what the regulators want, or what does the actuarial opinion and memorandum regulations suggest. Again, we should resist that, as was pointed out in the discussion.

We need to remember that the New York seven came about because the New York Department did not want to accept the 1980 amendments in the law. The department did not want to accept the notion that interest rates could vary depending on the type of risk that was involved in the annuity contract. And in order for the New York companies to operate in the market, it was agreed that they would accept the 1980 amendments if it was an actuary's opinion that the reserves and assets matched up all right. The New York companies said, that's a great idea.

But then it was negotiated that these seven scenarios needed to be tested. Now, keep in mind, that was in 1981? 1980? Computer sophistication was much different than it is now. The economic environment was much different than it is now.

Then along came the 1990 valuation law, and again, it was a real effort to make sure the New York Department was in tune with what was happening in the National Association of Insurance Commissioners (NAIC). I remember being there when Bob Callahan insisted that it would be a good idea to transfer into the regulation the New York seven. Again, it was negotiated. This was about ten or eight years ago. And so now we put the New York seven in, but we were careful at that time to try to include them as an example.

I think a lot of people are finding that the seven scenarios are creating an awful lot of work to deal with, and we're walking right past the actuarial judgment issues. So my real question is, do we need the New York seven anymore in view of computer technology, sophistication of our science, and the issues that are being faced by the actuaries today as they do this work? And, if we don't need them, should we take steps, or can we take steps to get rid of them?

MR. SABATINI: Well, I'll certainly answer whether we need them. As I mentioned earlier, I think that many of those scenarios, when you test them, are more on the nature of testing the adequacy of surplus than they are of testing the adequacy of assets supporting the reserves. They're fairly extreme. They're also terribly unlikely. I'm not sure I would argue that a 3% pop-up and where interest rates would stay up for the next 20 or 30 years at that fixed level is likely.

And it's also hard in terms of the technology we use today in terms of building models and the assumption dynamics. It's awfully hard for those assumption dynamics to work under some of these somewhat antiseptic interest rate shifts. So I think bottom line is probably a much longer list than I could come up with that would argue against them. And, generally, those scenarios, as a rule, tend to force you away from looking at what that whole testing process is trying to tell you. It's not only trying to ask you to evaluate, as an actuary and using your judgment, as to whether the assets supporting the reserves are adequate, but it's also, on a secondary context, trying to give you information about risk.

And those scenarios are so implausible. The fact that I have a $10 billion deficiency under this one scenario, this scenario is so implausible, I don't look at it. And it pushes you away from the likely observation that there might be a problem, which is why I mentioned earlier that you should focus on selecting. Even if you use deterministic scenarios or generate, on some random basis, scenarios, try to capture a plausible universe of events that are consistent with reserve resting, not surplus adequacy testing. Select those that you think are representative and use those. That's more reasonable.

So the answer is, I don't think you need them. And I think if, as Walt says, that they are poor examples, I wouldn't even use them. I don't know, Dave, if you have any thoughts.

In terms of how to change it, there has to be some organized effort and some demonstration that the New York seven or the valuation seven have outlived their usefulness.

MR. BECKER: Frank, what I'll do is first make just a comment on experience we've had with regard to modeling and the New York seven, and then I'll make somewhat of a more general comment about the issue. Actually, Walt has asked a question that has many different aspects to it, and some of which are very important for us as a profession.

But, on the first point, should you really rely on the New York seven? Is that safe to do? I should say how realistic are they? We use stochastic testing, and we generate, for example, 1,000 paths. Then we use a statistical algorithm to try to compress those 1,000 paths into equivalence classes of sets of where the paths are in some statistical definition relatively close so that we would not think that those two paths would give us that much difference.

Then we take the set of 1,000, and we compress it down into 50 equivalence classes. We pick a representative scenario from every equivalence class, and we weight that scenario with the probability equal to the number of scenarios in that class divided by a thousand, which was the entire universe. Now one of the things we try to do is to take the required seven scenarios and see if the required seven scenarios could serve as the representative of an equivalence class with non-zero probability where, basically, we don't take probabilities below a tenth of a percent.

The fact is, over the last two years, in one year-end, three of the New York seven scenarios were assigned probability zero. So we took our 50, and we added three more to them, just because we include them in the set even though we include them at probability zero so we have the results available. In the other year, four out of the seven scenarios had probability zero.

This tends to tell you that on a probabilistic basis that the New York seven scenarios are not representative of the real world. There's a fair amount of empirical support for that.

Another point is that, since the New York seven scenarios are in the nature of stress test, are they really probing surplus as opposed to reserve and asset adequacy? I suppose you could say if you can do well under all New York seven scenarios, and given that they are stress tests, that you can take comfort. Now if someone did rely on the seven, they should know that one thing the New York seven don't test are inversions of the yield curve. So you probably need to augment the New York seven by testing inversions.

That's answering a question of reserve and asset adequacy, and maybe that would be enough to do it. But there are open questions. What if you fail one of the tests? What if you fail two? What if you fail three? How many do you have to fail? By how much do you have to fail them before you're adequate or inadequate? The trouble is, unless you're positive in all of them, it's hard to come up with an unambiguous rule.

Appointed actuaries are also in the role of risk management for their companies. And, in that role, you want to find out not just what harms you with regard to reserve and asset adequacy. You also want to see what situations are good for the company and given the way you're managing it, and which situations are bad. And that would suggest then that there are other issues and other types of tests, as Craig alluded to, with certain sorts of deterministic tests, the test for changes and shape of the yield curve and thins of that nature.

What I'm most afraid of from the required seven is that we use blind reliance. In other words, we substitute, in place of judgment and science, essentially a safe harbor. That's very dangerous for the profession. We should all be trying to raise the level of science in our analysis of the company.

MR. SABATINI: I have just one other thought, building on Dave's comments. Over the past decade, if you look at the long Treasury, it has pretty much bounced around in a band between 5% and 8%. And if you're familiar or have studied the subject of interest rate risk and insurance company

assets and liabilities, and you've studied some of your own business, you'll know that that's the band in which we're pretty much safe.

And any time interest rates have gone down towards the lower end of that band, we were faced with dealing with the down scenarios as being somewhat problematic in asset adequacy testing. And, of course, now that we're up against the upper end of that band, the increasing scenarios are going to be problematic from an asset adequacy point of view. Are those scenarios and the way they're constructed giving us false signals? Are they forcing us to really consider whether, until now, we failed two scenarios?

But if you made a really robust effort and created a good set of stochastic areas (even a conservatively constructed set of scenarios because you're doing this in the context of an asset adequacy or a reserve sufficiency context), and you still come up with the probability of zero in those two scenarios, you're faced with this dilemma. So I think we've lived in the band comfort, and there's motivation to make the change simply because we're going to have significant degrees of actuarial anxiety if interest rates ever move outside of those things.

MR. RAYMOND: I'd like to add a couple of brief comments on this because I think this is an extremely good issue. One of Walt's questions was, how do we get rid of the New York seven? I'd love somebody to correct me if I'm wrong on this, but I guess I don't believe that there's anything that requires the New York seven to be done today. I think we need to make sure we don't say the required seven. The seven scenarios are to prepare your opinion, but there's nothing that requires you to do them. You can always do alternatives. And I believe that's true. Donna, am I right? There's nothing that says I have to do them.

MS. CLAIRE: Actually, in New York they are required, but not sufficient. In the Standard Valuation Law (SVL) they are just for example.

MR. RAYMOND: So the real question is, how do we get New York changed so that the seven scenarios are no longer required in New York? And how do we get the profession to stop saying they're required every place else?

Underlying a lot of the comments I just heard from Dave and Frank is the question of, what are we trying to get out of the cash-flow testing? I see what most of us have been going through as a progression of utilization of this process in the test results. A lot of the comments Frank has made about what he sees wrong with the New York seven, because they're so extreme, come from the point of view of trying to map out a distribution curve of the results to try to really get a handle on what number is the right number to have adequate reserves.

Many companies are right now only trying to get to the point where they're comfortable that the reserves are not inadequate, so they can sign the statement. When you're coming from that point of view, being able to stress test, and looking at the extremes and understanding what the extremes are is important. If you can be comfortable with the fact that the extremes are all positive, then that gets you to a result that you can be comfortable signing that statement. I don't think that's a bad answer.

It doesn't bother me when Frank says that these scenarios you're testing have a very low probability of happening, they're way out on the extreme bad tail. If I can test the bad tail and be comfortable that the reserves are sufficient, they're probably too high. They're clearly, in my mind, too high. But since I have minimum reserve standards, they tell me I have to hold those reserves anyway. That's enough to be able to sign the statement.

I would like to be at the point where I'm trying to determine what the right reserve number is, and also I'm taking these results and developing them into management information where I really do understand that range of risk that I'm taking. I'm not just determining what the extremes are, but how likely that extreme is, and how likely the magnitude of the margin of my reserves is. So there is a conflict about whether the scenarios are good or too extreme based on the difference in perspective of what you want to use the results for.

If all you're trying to do is sign the statement, I think testing the extremes is a great answer unless you get Dave's situation where you start falling. Then this doesn't give you enough information to determine whether you are adequate. You need to do a lot more work to be able to be comfortable with whether or not you're adequate after you've failed some scenarios.

I've never seen a situation where I was comfortable only looking at these seven scenarios. I think you clearly have to look at what other risks you have, and look at more than that even if you're doing deterministic scenarios.

MS. GRACE L. ROKOSZ: I just wanted to express one usefulness that I've always found in the New York seven. They are a starting point, a beginning way of understanding cash-flow testing; when a person first starts doing it, he or she is not an expert. And just as the industry started out with them, we still have people who are starting out in cash-flow testing.

I also wanted to comment that in the fall of 1993, because I contemplated doing cash-flow testing going forward, I suddenly realized that a level scenario beginning at that point was very similar to two years prior. I didn't feel that the pop-downs were all that unlikely anymore, and I took them seriously. From September of 1991 to September of 1993, I believe interest rates dropped 4%.

MR. ROBERT H. DREYER: I'm something of a self-appointed advocate of smaller company issues. I'd like to make three brief comments on some of the things that have been said.

First, Walt, while I agree with you that the paramount issue is what should the profession be doing, for the smaller company, there is a very real practical issue of having to respond to regulators who many times do not care what the profession should be doing. So there are really two questions there, and they have, obviously, different answers.

As far as the New York seven go, I'm pleased by attendance here for two points. One, we use the New York seven, and I heard several people at this meeting mention how they seem to bracket most of the stochastic tests that are made.

The second reason I'm pleased is, Dave, we have created a couple of inverted scenarios to go with them. And with a small company, I feel this is quite adequate.

Third, Donna mentioned the errors and omissions (E&O). I just recommend that, if you ever are relying on your board's coverage, get in writing that it covers any activity that you take while you're with your company, not on a claims-made basis.

MR. THOMAS C. FOLEY: I don't really have a question. I just want to continue to emphasize something that Walt said. Let's talk about a hypothetical regulator, and let's suppose this hypothetical regulator doesn't particularly like laws, doesn't particularly like rules.

His primary concern, when he interacts with a company actuary, is, number one, trying to find out if that actuary knows what he or she is doing. Number two, he is trying to find out if the actuary has some sense of equity across the entire block of business because this hypothetical regulatory actuary's primary concern is for consumers, which means the company needs to be ongoing. It needs to be solvent. It needs to have equity across business. And to the extent that we can get rid of laws and rules and interact on the basis of this is what I should be doing as an actuary, not trying to push myself against laws and rules. I think my consumers are very well served. I think your companies are very well served.

Walt said this very well, and I'm trying to say it in another context, there are regulatory actuaries, regulators, and commissioners who are picking up on this theme of cooperation, that we're all in this together. There's a large part of me that doesn't like the illustration model.

I was really a key player from the NAIC side in putting that together because it does set up safe harbors, and we feel a whole lot more comfortable not having safe harbors. We want you to really do what actuaries should be doing. That is, judging your business and trying to get equity across everyone, and really coming to regulators. And the ones that come to me, or come to this hypothetical regulator whom we're talking about, on that basis, have great dialogues. But it's very interesting because often when a company actuary comes to this hypothetical regulator, he or she

doesn't really expect to have a dialogue and is really surprised that that's what we regulators want to happen.

So I would encourage you to continue to think in terms of what you should be doing. All my consumers, with regard to valuation, pricing, and all these aspects, try to interact with regulators that way. Not all regulators are to this point. Not all states are going to have people who are going to have actuarial depth enough to interact with you, but it's starting to happen. And you can make it happen more. Don't get frustrated by the isolated regulatory actuary who may not want to interact with you on this basis.

MR. RAYMOND: Tom, I think those are great comments. It's nice to hear that. I'll echo some of the things that Tom said. When I look at the valuation law (maybe I brought a little naivete to it), I've always viewed this as basically a process that we look at as, from a professional point of view, something that we should be doing, and information we should have. Then we got a wall built around it that's there to define how the regulators can get the information and verify that we're doing what we should be doing.

Unfortunately, because of the requirement and the reporting aspects of it, most of the practice that's built up around it has built from not how do I do what's right first, and then how do I report it to the regulators, but how do I meet the reporting requirements to the regulators? And now, once I've done that, how can I make this worthwhile information for me? Maybe we've gone about this backwards.

Now that we're getting to that point of how do we make it worthwhile information for us, I think a lot of us need to step back and start with that attitude of how do I make this worthwhile information. And then we must try to work in the second step of how do I present this back to the regulators so it meets their requirements. I think what Tom is really saying is that's what he's looking for. He's looking for us to show him that we've done what we should be doing and now show him that we've done technically what he said is absolutely the minimum of what we have to do.

MR. W. BLAINE SHEPHERD: Being the only other regulator or actuary that was identified in this meeting, I would echo Tom's comments in terms of communication and the importance of our gaining an understanding of what you're all doing, and what you're about. And, you know, I'm one person who cares very much about what the profession is doing, and I would encourage our communication and cooperation.