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**NEW STANDARD VALUATION LAW (SVL)**

Moderator: DOUGLAS C. DOLL  
Panelists: DONNA R. CLAIRE  
              JAMES N. GORSLINE\*  
              DOUGLAS J. KNOWLING  
Recorder: DOUGLAS C. DOLL

The new SVL has expanded the scope of the valuation actuary. How are actuaries responding to:

- Risk of legal liability?
- Vagueness of actuarial standards related to adequacy testing?
- Reliance on other company experts?
- Consultants versus company actuary perspectives?
- The science versus the art of process?

MR. JAMES N. GORSLINE: I can hardly make each of you an attorney in the time that has been allotted to me to speak, but I would like to sensitize you to the legal environment that you work in and offer you some practical suggestions on how you might avoid ever having to go inside a courtroom, where somebody calls your work into question, criticizing you for having committed malpractice, making unintentional errors, or participating in some sort of fraud. I'll talk about some of the problems with the new SVL, and more generally, some of the problems that actuaries face in the legal climate that you operate in.

I'd first like to talk about whether actuaries should be concerned about actuarial liability. There are several reasons that each of you should be concerned about potential liability, whether you are employed by a company or whether you are a consultant.

I realize that most of you are employed by companies, rather than being consultants. Obviously, the consultants have a lot more litigation exposure than those of you who are employed by companies. But, if you're employed by a company, don't take too much heart in that, because I think that you've also got litigation exposure. All professionals rely on judgment. Because all professionals express opinions, and because all of those opinions are not necessarily matters of fact, but areas that are more subjective, your opinions can be called into question down the road. Because of that, professionals have to be extremely careful and have to be cognizant of the potential liability that they have. Actuaries are no exception.

Let me list a couple of reasons why you need to be concerned about liability. First, plaintiffs' attorneys are no longer reluctant to name only entities as defendants in corporate lawsuits. I wish I could tell you that in every actuarial malpractice or every actuarial fraud case that I've been involved in only the company has been sued or

\* Mr. Gorsline, not a member of the sponsoring organizations, is an Attorney at King and Spalding in Atlanta, Georgia.

only the consulting firm has been sued. But I can't tell you that. Plaintiffs' attorneys often name individuals. They often name the person who actually did the work. They often name the person who actually put pen to paper and filed the report with the insurance commissioner. I'm not sure that if I were a plaintiff's attorney I would do that, but I'm not like a lot of plaintiffs' attorneys, and a lot of plaintiffs' attorneys do that. So, you can't take any comfort in the fact that you're not a deep pocket and won't get sued individually, because it can happen.

Plaintiffs' attorneys are not going to know whether you're covered by insurance. They might assume that you are, and that, if they name you individually, there may be some source of insurance from which their clients' damages can be satisfied. They might name you for that reason. They might simply want to ensure that they'll be able to subpoena you, take your deposition, and be able to get any documents that you have. They may name you for that reason. Alternatively, maybe they won't name you. Maybe they are afraid that if they name you individually, you'll be more aggressive in defending the lawsuit to clear your name than you would be if they didn't name you. There are reasons that plaintiffs' attorneys may or may not name you. The sad fact is, it's becoming more and more likely that individuals will be named along with companies.

Another reason that you ought to be concerned about liability is that there is a chance that your employer will sue you. Particularly these days when a plaintiff calls into question the employer's conduct, the employer may look for a scapegoat to defend him or herself. They may say, "I relied on the work of my actuary." That's an increasing likelihood, although we haven't really seen it too much yet.

The third reason is that you have a reputation to protect. Let me contrast where actuaries are with the accounting profession. I've had more experience representing accountants, but I think that's because accountants are more frequently the target of lawsuits than actuaries are. I'd like to share with you some statistics, because I think that the actuarial profession is where the accounting profession was 15 years ago.

Fifteen years ago, accounting firms were spending less than 1% of their gross revenues on litigation settlements, litigation defense costs, and legal bills in general. In 1993, that figure is expected to be 13% of an accounting firm's gross revenues. In other words, out of every dollar that a large accounting firm collects this year, 13 cents of that goes to pay lawyers, to pay jury verdicts against the accounting firms, and to settle lawsuits in which the accounting firm's professionalism or judgment is called into question.

Let me just summarize what happened in the last couple of years to the accounting profession. A jury in Galveston, Texas hit Coopers & Lybrand for \$200 million in punitive damages. That was 50 times the amount of compensatory damages the plaintiff suffered. Coopers later settled that case for \$60 million. That case was brought by the investors. After Coopers settled with the investors, the bankruptcy trustee sued Coopers on behalf of the creditors, and it reportedly ended up settling that case for another \$95 million.

In May 1992, an Arizona jury hit Price Waterhouse for \$338 million. That was more than 2,400 times Price Waterhouse's audit fee for that client. That verdict, if it

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stands on appeal, will cost every Price Waterhouse partner \$350,000. Then, last summer, Ernst & Young settled all of the claims that the Resolution Trust Corporation had against Ernst & Young for the work it had done in various savings & loans that had failed. Ernst & Young paid \$400 million. Each partner contributed at least \$50,000 to that settlement. The government wanted more money, but it was satisfied that the Ernst & Young partners couldn't pay any more than \$400 million. I'm not sure that the next plaintiff will be that kind.

Other examples could be mentioned. In the Lincoln Savings & Loan fiasco, Arthur Anderson paid \$30 million to settle on the eve of trial. Arthur Young was also involved in that case. It paid \$64 million to settle on the eve of trial. Touche Ross & Company paid \$7.5 million to settle on the eve of trial. You say, "Boy those are pretty big. Maybe they shouldn't have settled." I think it was probably good that they settled, because Charles Keating didn't settle, and the jury hit him for \$1.5 billion. Those accounting firms might have shared in that big number if they hadn't settled prior to trial.

The bottom line is that the premiums for malpractice for accountants are up 300% since 1985. For the "Big Six," they've gone up 1,000% since 1985; the maximum coverage is cut in half, and the minimum deductible is often now \$5 million a claim.

So you can see that the accounting profession in the last five to fifteen years has really had some problems. I'll identify some of the reasons that accountants have been sued in the past and why I think actuaries are going to be sued in the future. The first thing is that the plaintiff's bar is waking up. I think five years ago most plaintiffs' attorneys wouldn't have known what you meant when you said the word "actuary." But that's no longer the case. Some plaintiffs' attorneys are making a specialty in suing actuaries and in representing people who lost money in failed insurance company situations. So the plaintiff's bar is waking up, and that's going to lead to increased litigation.

There's more agency rulemaking. A perfect example is the new SVL. That's a law that I really don't like. I doubt that very many people in this room like it. It raises the expectations of everybody as to what the actuary is doing and what the actuary is giving an opinion on. It allows people to point a finger at a specific individual, and it singles out potential scapegoats. The fact that agencies are enacting more and more rules is going to lead to increased litigation.

There's increased competition. This is both on the consultant side and on the company side. On the consultant side, the competition is leading them to reduce their fees, which makes them reduce their hours, which can lead to more mistakes. On the insurance company side, maybe you had 15 actuaries in your department last year. This year, because of cutbacks, you have 12. So now you have 12 people doing the work of 15, and it's more likely that somebody will make a mistake.

Rainmaking is rewarded. Again, this applies to consultants and to the companies. On the consultant side, when you're given a bonus because you bring in a new client, you don't try to go out and get good clients. You just try to get clients, because you get a bonus. Similarly, on the company side, you're not rewarded for giving out bad news. You're not rewarded for saying the rate has to be so high that the company is

not going to be able to write any business. You're rewarded when you set the rate low enough so that the company can write a lot of business. So rainmaking is rewarded, and I think it's going to lead to increased litigation.

There's also loss-shifting by others. That one speaks for itself, I think. We live in a decade in which nobody wants to assume that a loss suffered is their own fault. It's always somebody else's fault. If somebody suffers a loss because of a failed insurance company, he or she is going to conclude that it's somebody else's.

There's increased third-party reliance. Here I think is another instance in which the new SVL is going to pose some problems. Obviously, the regulators are going to rely on that law. If I were you, I wouldn't take a whole lot of comfort in the fact that there is a fraud carve-out in the new SVL. First of all, I have yet to represent an accounting firm or an actuarial firm where they weren't sued on more than one theory. One theory is always negligence. They always sue on negligence because you might have insurance coverage for negligence, and often you don't have insurance coverage for fraud. But they always say whatever the actuary did is fraud. A skillful plaintiff's attorney can characterize anything as fraud. You might just have failed to do a test. Well, in the eyes of a skillful plaintiff's attorney, that's not a mistake. "He/she didn't forget to do the test. No, he/she intentionally didn't do the test," the attorney will say. The plaintiff's attorney will say, "He/she knew that if the test was done, it would come up with a number that he/she didn't like and a number that he/she didn't want. It intentionally wasn't done, and ladies and gentlemen of the jury, that's fraud!"

A skillful plaintiff's attorney is always going to characterize something as fraud. The reason is, you can't get punitive damages in most states for negligence. Plaintiffs' attorneys want the multimillion-dollar verdicts, the \$100 million verdicts that are designed to punish somebody for fraudulent conduct. So they always allege fraud. The fact that they always allege fraud makes this exception in the new SVL meaningless.

Also, agencies are now suing frequently. Of course, the fraud exception or the exception against litigation in the new SVL doesn't apply to lawsuits brought on behalf of the company, or brought by the Commissioner. Well, what if this situation occurs? What if the Commissioner is acting as the receiver or liquidator of a failed insurance company? In that situation, does the fraud exception to the new SVL apply? It's an open question. I can make some arguments that it might not.

Then there are many available experts. We see this all the time. There's no shortage of people who are willing, by charging a couple hundred dollars an hour, to say that your work was below standard.

There are many laws now that govern your conduct, the service-versus-commodity idea, the downsizing affecting the relationships, and, of course, the last one is the most important reason why actuaries get sued -- you're a deep pocket.

Let me now show you the various legal causes of actions that plaintiffs may use in suing actuaries. I'm not going to comment on these very much. You can be sued for breach of contract. You can be sued for negligence, which is professional

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malpractice. You can be sued for fraud, which is intentional or reckless wrongdoing. You can be sued for breaching your fiduciary duty; for example, staying silent when there is a duty to speak. There are various statutory causes of action that you can be sued under. The bottom line is that, if somebody suffers a loss and you were involved in the transaction given rise to the loss, lawyers can find some legal cause of action to sue you under. That's the important thing that you need to keep in mind.

Now that we've talked a little bit about the problems and what leads to the problems, let me give some suggestions. Most of these are gleaned from things that I have discovered in the lawsuits that I've handled, either on behalf of accountants or actuaries. These are things that will help you, first, to not get sued, but even if you are sued, to better ensure that ultimately you will be able to avoid any judgment rendered against you.

The first point that you need to understand is that appearances are vitally important. You need to operate on the assumption that, if something might look suspicious to an outsider, you can believe that most people will assume those suspicions are well founded. The lesson to learn from this general topic is that you need to choose your clients with care. Obviously, this is more applicable to the consulting actuaries, but even if you're a company-employed actuary, you need to choose your employer with care. You need to try and work for a company that wants to be above board, that wants to do the right thing.

I guess maybe I could have said, instead of choosing clients with care, one of the proverbs like, "If you lie down with dogs, you get fleas." Or, "If you run with pigs, you get muddy." But you get the idea. If you associate with people who are problematic, you're going to end up getting burned right along with them.

The second point is that you need to avoid conflicts of interest or situations that appear to be conflicts. I can't tell you how much plaintiffs' lawyers love to find a conflict of interest. There is something about a conflict of interest that makes juries just get incensed and makes them really want to hammer somebody hard. A lot of times it doesn't seem like it's that big a deal, but in the hands of a plaintiff's attorney, it turns into something that looks bad.

The third point is perhaps one of the most important that I'm going to make. This applies to consulting actuaries or to anybody who signs a valuation opinion. You need to make sure that all open items are closed. I can't tell you how difficult it is to defend a lawsuit when, during the discovery process, you have to turn over to the other side open items or to-do lists in which the piece of paper doesn't reflect that it was actually closed.

I had a property/casualty lawsuit in which one of the open items was a question mark written by the guy who was reviewing the consulting actuary's work, which was something like, "Did Jake check to see if the loss-incurred triangle for accident-year 1987 was accurate?" Now, how am I supposed to explain that to a jury? He said, "Yes, I did do that." Well then why didn't he mark that he had done it? Make sure that you close all open items.

Avoid unrealistic time pressures. In that regard, my understanding is that many state commissioners and regulatory people will give you extensions if you need extensions, but you must ask them early. You can't expect to get a deadline extended at the last minute.

The second series of suggestions that I have is based on the premise that hindsight is 20/20. This is the real problem in all actuarial and accounting malpractice cases. They always occur after the fact. You're trying to predict the future, and you're giving opinions and making estimates and judgments based on what you think the future is going to be. Well, by the time that your conduct is tried before a jury, all of that is going to come to pass. Hindsight has perfect vision.

The first suggestion is that you need to make sure to look at the big picture before signing off. I can't tell you how many times all the items on a program have been followed. All the i's have been dotted. All the t's have been crossed. Everything was perfect. But I come in as a lawyer with no actuarial training at all, and I say it just doesn't look right. How could you possibly have made such a conclusion? That is because the actuary never stepped back and looked at the entire forest, because he/she was so lost in the trees. So make sure you look at the big picture before signing off.

The second point goes hand in glove with the first point. Don't apply rules mechanically. If you make a mathematical computation error, I can't help you. That's a mistake that's hard to get around. It's just a flat-out mistake. But I've seen some actuaries apply rules mechanically. They get so involved and so immersed in the detail of running spreadsheets and that sort of thing, that they don't really document things and they don't really review the work that they've done. They don't really focus on where they're going. You need to be aware that you shouldn't apply rules mechanically. Think about what you're doing and think about whether it makes sense.

The third point is that you need to document all judgment calls. That's vitally important. You have a Section-8 memo that you have to submit in connection with some of these new SVL opinions that you sign. My advice would be that you document everything that you do. You spell it out. You tell exactly what you do. You tell exactly why you tested only a part of it. You do everything and you spell it all out in that memo. Because down the road, that's going to show that you were planning and that you were doing things with due care. Furthermore, if the Commissioner reads that report and doesn't reject it and doesn't say that there's any problems with it, I think you can say, "Look, I did it and nobody questioned it at the time. Everything I did is documented in there." That's an important point.

Get your work peer-reviewed. I know that that's going to be talked about later, and it's a vital important point. It applies whether you're a company actuary or a consulting actuary.

There's an expectation gap. If you get sued, your jury is not going to be composed of people who attend Society of Actuaries meetings. The jury is going to be composed of people who probably have never even finished high school. You folks do some complicated work. It's tough to explain the concept of reserve analysis, or

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whether or not assets are adequate to meet liabilities, to somebody who doesn't have the training. Somebody on a jury is going to assume that, with your training and all of your computer programs and all of the high fees that you're paid, you should have been able to predict the future. Well, everybody here knows you can't do that. Everybody here knows that there are inherent limitations to what you do. That's the expectation gap. The public thinks that you can do better about this than you really can.

With that in mind, you need to make sure that you clarify your duties and responsibilities with engagement letters; particularly if you rely on somebody else's work, make sure you spell that out. Now I understand that maybe some of the insurance commissioners don't like for you to say that, but if you rely on somebody else's work, I'd write that down and I'd say it three times instead of one time. I'd really highlight it if I were the one who was signing that opinion.

Second, make sure that your data is good. I think that point speaks for itself. The third point is to consider who may rely on your work and plan accordingly. The final point is to examine your client's motivation and agenda. Even if you're a company actuary, figure out what the company wants and make sure that you're getting all of the information you need from your employer to do your job.

If you do get into trouble, here are two suggestions. First, consulting an attorney early is money well spent. Because if you know that litigation is about to come, sometimes attorneys can head that off; whereas, once a lawsuit is filed, it's too late.

The second point is, don't write a memo to file explaining everything that you did wrong and expect that not to be discoverable in litigation. Consult an attorney first – he/she will tell you to address the memo to him or her, and then it won't be discoverable in litigation.

MR. DOUGLAS C. DOLL: Presumably, it's not too late to go back and do documentation for year-end 1992. If there are still some open items, do you suggest we take care of those now, even after the fact? Is that better than not doing them at all?

MR. GORSLINE: I think there are problems either way. Just make sure you clear all open items in the future.

MS. DONNA R. CLAIRE: I'm going to follow along with what Jim said and try to state exactly what you should be doing.

The current Actuarial Standards of Practice and the Model Regulation on the Actuarial Opinion and Memorandum gives actuaries a lot of leeway to do what they think is best. The problem is that this leeway can also be used against you in a court of law.

Put it this way: if a company goes insolvent, the actuary is one of the people they are going to look at real close. They are going to look at these reports very closely. For example, where it says "consider doing further scenario testing," they're going to say, "You didn't do further scenario testing because you knew the results were going to look bad." That's going to be a little bit hard to defend against. What we're trying to do with the practice notes is describe current practice, so that five years down the

road, when you do get sued, you could say that was your best guess at that time of what to do.

One of the areas that is a potential cause for concern to appointed actuaries is the area of reliance on other company experts. This will be (and is already) a source of contention between appointed actuaries and regulators. For example, your investment people may state that the earnings on limited partnerships will be 20%, even though no earnings have shown up in the annual statement of this asset class for the past five years. The actuary can currently rely on this statement and use 20% in the calculations. It would, however, be much more prudent to either use a lower number or to do sensitivity testing to see the effect of this asset on results.

The overriding standard I go by is what I call the "Belth" standard. Mr. Joe Belth writes *The Insurance Forum*, which digs into companies' dirty linen. The Actuarial Standards of Practice and the model regulation do give an actuary a lot of wiggle room. However, my theory is that, if you are doing something that you would not like to see published in *The Insurance Forum*, you may want to reconsider your actions.

When New York Regulation 126 was first being drafted, and again when the Model Regulation on Actuarial Opinion and Memoranda was being written, there was discussion as to which would be better – an outside consultant or an employee of the company – as the appointed actuary. Theoretically, the consultant can be more objective, and say "no" easier to management. It is also true that sometimes outsiders are listened to more by company management. The consultant does have the benefit of seeing how a number of other companies are functioning. On the other hand, an insider may know the company better and know where the bodies are buried. Bottom line, both the consultant and the employee want to get paid. "Bad" results will not make either popular with management, so I do not see a major advantage of one more than the other.

However, if I was an employee of a company and had major doubts about the findings, to protect myself, as I'll point out later, I would go to a peer reviewer and recommend that an outside consultant come in.

As Jim mentioned, one thing an appointed actuary wants to avoid is working for a company that is about to go bankrupt. How do you do this? There is no sure method, because company managements run the company, and some managements can do some pretty strange things. However, there are some basic things that any actuary can check by using the annual statements of the past year or two. If you are a consultant, I would check these before taking on a job; if you are an employee, these may be red-flag items that should be discussed with management carefully before signing any opinions. These can be signals to alert you now that it may be a good idea to try to get the company to hire a consultant to either do the testing or do a peer review, so you can have the benefit of an outside opinion as to asset adequacy.

One of the first items I would check is the risk-based capital (RBC) level. Technically, the RBC level has nothing to do with reserve adequacy. I know that these formulas are not going to be officially used for a year or more. However, every company has



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calculated them, and a number of regulators have looked at the results from various companies. If the RBC level is at the point where regulatory action can or would be taken, you can be relatively certain that the regulators will be looking at the company and your asset adequacy report very carefully. Any company that is going to get such close scrutiny probably deserves it, so, as an actuary, I would be very careful about volunteering to sign an asset-adequacy opinion in these companies.

Another important item is the surplus pattern. For example, if the surplus went from \$25 million in one year to \$20 million the next to \$10 million the year after that, this would also be an early warning signal. Again, the reserve-adequacy testing does not technically cover surplus. However, it is very hard to argue that the reserves were adequate when the company was insolvent. The surplus pattern could be caused by several items, such as very high acquisition costs or by some very bad investment returns. Either way, the surplus pattern can indicate some major problems that can come back to bite the appointed actuary.

A third category deserving of attention is what I call weird assets. Many of these will also be picked up by an RBC analysis, but some may not. These include a large portion of assets in nonschedule D assets, such as limited partnerships, real estate, joint ventures, and common stocks. At the very least, they make the modeling job a lot harder as one tries to figure out the best way to model them. These types of assets may also be illiquid and may have higher-than-average default rates.

The above are a few items that quickly indicate whether one could have a major problem and perhaps should avoid signing any asset-adequacy opinion unless very careful checking is done.

If one is doing an asset-adequacy opinion, there are various items that one must have to do a reasonable job. This checklist contains some of these basic requirements and should be made a part of the actuary's work papers when doing any asset-adequacy opinion. The first is the names of the contact people in needed areas. This would include the investment area, the data record area, pricing area, etc. The person who is the contact person, along with what is being supplied, should be noted in your file. The reason this is important is that, if anything does go wrong, it may be years later before a regulator or a lawyer questions you on where certain assumptions came from. "I don't remember" is a very weak answer.

One of the items that is important to the actuary is that he/she must have free access to data. If there is any information that is not being shared, the actuary should attempt to find out why. Any doubts about data should be noted in the file.

Any information from prior tests should be examined. These tests may have pointed out possible problem areas you have not yet discovered. If there was a prior appointed actuary, the new appointed actuary should discuss with him or her why the appointed actuary is no longer doing the job and any major concerns that he/she may have had. I read one asset-adequacy report, which was done prior to the Model Regulation, which basically said "The company fails four of the seven basic tests and will have negative surplus in all scenarios for the next few years. Have a nice life!" This report does not indicate any corrective management action, and it certainly raised a lot of questions in my mind.

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Examining prior tests compared with this year's tests will also indicate where there are major changes. The actuary can determine whether they are legitimate or whether there were errors in one or both reports.

The actuary should request any relevant correspondence with the Insurance Department. For example, if the Insurance Department has stated that Asset X, which is earning 15%, is unsuitable for the company and must be sold within two years, the actuary doing the testing should know this to properly reflect the asset in the cash-flow testing.

Information on pending lawsuits against the company should also be obtained by the appointed actuary. For example, if the company has recently lost a \$30 million lawsuit, and the company's total surplus is \$40 million, the company's health would be adversely affected with the negative publicity, which would imply that higher lapses should be expected.

Any expected major management actions should be factored into the work done by the appointed actuary. For example, if the company is about to sell all its liquid assets to Strip-Um Life, this can have a deleterious impact on the asset-adequacy testing.

All the above sound like obvious things the appointed actuary should look into. However, I know at least one instance in which each of the above was not followed, and the new appointed actuary was questioned closely regarding why such obvious things were not done. I strongly urge the appointed actuaries to keep information on this checklist on file.

In reviewing asset-adequacy opinions and memoranda, both as a peer review and for regulators, there were certain areas that appeared to be potential problem areas.

The first area is one in which I do not think the actuary is doing all he/she can to protect himself – the area of confidentiality. There is a Practice Note by Lauren Bloom, the legal counsel for the American Academy of Actuaries (AAA), which mentions some areas to watch out for in the actuarial opinion. Unfortunately, the mind-set in the U.S. is that if something goes wrong, one should sue. Adding some disclaimers may not prevent all suits, but it can eliminate some of them. In addition, I add the word "Confidential" to every page of my actuarial memorandum – another protection for the actuary.

Another area I mentioned briefly before is asset returns. Let me reiterate that the actuary can open himself or herself to criticism if one blindly relies on investment people. Assets should pass the smell test; if anything looks too good to be true, it probably is.

Another area I have noticed some problems with is interest-crediting strategies. The credited strategy tested sometimes appears to be picked solely because it produces the best test results, not because it has any bearing on what the company actually credits. My recommendation is that one get historical data on the actual crediting history and use that as a guide. If the results do look "bad," it is possible that management will decide to adopt a new strategy. If they have not yet adopted the

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strategy, the actuary should get management's intentions to change the crediting strategy in writing.

The investment strategy is another assumption that does not necessarily bear any relationship to reality. For example, all the current assets could be collateralized mortgage obligations CMOs and real estate, but the testing assumed all new money would go into five-year noncallable bonds. This is another area in which the actual strategy should be modeled, with perhaps additional sensitivity testing of alternate strategies. If management decides an alternate strategy is going to be followed, this commitment should be received in writing.

Expenses are another area in which facts and models may not meet. For example, it is unreasonable to assume that the maintenance expenses will be \$250,000 a year if the company is currently paying \$10 million a year in expenses according to the annual statement. At least a part of corporate overhead should be allocated to enforce policies.

Some asset-adequacy testing I have seen totally ignores taxes. Considering that death and taxes are the two realities in life, this seems unreasonable. One actuary I spoke to said that he ignored them because he expected the company to be in a deficit position throughout the testing period. I have a news flash – if that is a true statement, then it is quite probable that the company will not be around at the end of the testing period; so I would doubt the reserves could be found to be adequate.

An issue that has come up several times is data quality. There is an Actuarial Standard of Practice on Data Quality. The appointed actuary is responsible for following this. If there is a real problem with the quality of data, the actuary should disclose this in the opinion and memorandum.

There will be some cases in which the actuary will be uncomfortable with the results. Sometimes this is because the actuary is a perfectionist, but perfection is unattainable in any model. Many times, there is some problem. If the results are negative, either under basic testing or under sensitivity tests done because the actuary was not sure of the right formula to use for some assumptions, there are some alternatives.

The actuary can choose to get more data. For example, if the actuary had been told that real estate was assumed to earn 20%, he/she can model this plus alternatives. It may wind up that real estate is such a small percentage of the portfolio that earning 20% versus earning nothing will not impact the expected reserve adequacy. If there is a difference in projected reserve adequacy, the actuary may also choose to check the local library for articles on real estate in the area(s) the company owns properties to see if he/she were comfortable with this 20% number.

Another alternative is to have a peer review of the asset-adequacy testing, to see if an actuary with a slightly different perspective would come up with the same answer.

If the actuary has gathered his/her facts and determined that there may be a reserve-adequacy issue, the next step is to consult with management. With the real estate example, it may be that the company has an *ironclad* guarantee of the 20% earnings backed by the full strength and credit of a AAA corporation that is leasing the

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building. It may also be that management will not be persuaded by your facts and refuse to either change the 20% assumption or put up extra reserves.

The actuary may want to qualify his/her opinion. In the memorandum, I would then show the results of sensitivity tests on the assumption. This alternative is not a popular one; it is preferable to have management convinced to either change its investments or establish extra reserves.

This is another area in which the Belth standard of what is reasonable applies.

To summarize, all actuarial opinions and memoranda are subject to regulatory review. Keep a copy of all relevant records for the required seven years. This includes keeping a copy of any software program(s) used. If, years from now, you are asked to reproduce a number, it will be quite difficult without this information.

The source of all assumptions should be documented. This would include who provided the assumption and what information the assumption was based on. Remember, all work papers are subject to review. In the case I was involved with, every piece of paper I had regarding the company, including scribbled notes I had taken during telephone conversations, was subpoenaed.

The appointed actuary's goal of the Model Regulation on Actuarial Opinions and Memoranda is not to see how much one can get away with; rather, it is to produce a report that is meaningful to management and useful to the regulators.

MR. DOUGLAS J. KNOWLING: Now that we're all concerned about legal liability, let's take on some more. Solvency testing isn't a bullet point in the program, but because of the expanded scope of the valuation actuary, it appears to be on its way. The exact form and content is still being developed, so I will discuss the evolution of the valuation actuary, give you a listing of the solvency initiatives in the U.S., and then talk about some important issues related to solvency testing.

I'd like to start off with a quote that I think we're all familiar with. "The work of science is to substitute facts for appearances and demonstrations for impressions." Of course, this is the current Society of Actuaries motto. Maybe it should be changed, given that valuation actuary work is anything but precise, scientific-type work.

How has the valuation actuary evolved? Prior to 1975, it was a mechanical process. There were set valuation interest and mortality rates. In 1975, it was altered slightly with the requirement of the opinion by the valuation actuary that reserves met the requirements of the state of domicile and made good and sufficient provisions for all unmaturing obligations of the company, under the terms of its policies. Still, it was basically a precise process.

Of course, in 1980, the changes to the SVL allowed for valuation interest and mortality rates to be responsive to economic and demographic areas.

In 1985, the valuation actuary concept, was ushered in through the report of the joint Society and Academy Committee on The Role of the Valuation Actuary.

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In 1990-91, the new SVL and the Actuarial Opinion and Memorandum Regulation were brought on, with ten states requiring the opinion for year-end 1992 and an additional five for year-end 1993.

Finally, we have solvency testing with a 1995 target date that is subject to change.

Let's take a step back. What is solvency testing? Because actuaries tend to like formulas, I thought I'd present it in that method. We begin with typical cash-flow testing that we've been doing for reserve-adequacy analysis in which I project the liabilities and assets over various interest scenarios. Then we add in the going-concern pieces. Both surplus and new business will be modeled. The result is solvency testing. We're looking for a positive surplus throughout the projection.

We're probably all aware of RBC that will be required at the end of this year. It gives us a snapshot of the financial condition of the company at year-end. Various risk factors are accumulated to develop a target capital. The target is then compared to the actual capital, indicating varying levels of regulatory action.

In September 1992, the Academy Task Force on Solvency issued a position statement that said more was needed beyond RBC, as RBC did not fully identify certain factors, such as inadequate prices and concentration of risks. It also stated that the actuarial profession was uniquely qualified to provide assistance in the solvency issue.

The Society of Actuaries Dynamic Solvency Task Force released a report in March 1993. Its charge was to produce a plan to accomplish research and develop materials so that the actuary would be fully educated and have the proper training and access to data to give a solvency report to management.

Take a little closer look at the Academy position statement. There were three major recommendations made. One was that a stronger actuarial role was proposed via the annual report to management on surplus adequacy. The report would evaluate the financial status of the company, both currently and over future scenarios, with the idea that it should be a long-term outlook. Quality would be assured through compliance monitoring with a centralized uniform system such as standards of practice through the Actuarial Standards Board.

It is felt that closer ties to regulation could be achieved by using the Canadian or United Kingdom model, in which a strong regulator works closely with a rigorous actuary, and the appointed actuary is responsible not only to management, but also to regulators.

Finally, the Academy thought that the current guarantee system needs reform. Various problems include variations by state, no direct authority until state of domicile declares insolvency, and the reliance of an informal coordination among the states. The Academy felt that a broad-based effort is needed to reform this guarantee system.

The Society of Actuaries Dynamic Solvency Task Force developed a plan that covers necessary research and basic and continuing education. The report makes some

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assumptions about solvency testing: the who, the when, and the how. An outline of the model report and the overview of needed research was provided.

The report suggested a handbook be developed, similar to the valuation actuary handbook, that would give an overview of solvency testing, provide aid in report preparation, and provide methodology in modeling such things as assets, policyholder behavior, and company behavior.

Finally, the report advocates peer review. It provides insight and experience to the process. But problems could arise due to confidentiality issues as well as antitrust considerations.

What were some of the other assumptions that the task force made about solvency reporting? First, it applies to all U.S. insurers. In other words, there are no exemption tests, such as we see under the actuarial opinion and memorandum.

Everyone currently is assuming this report would be to management. But it easily could end up as a report to regulators, which would tend to complicate the issue a bit. Again, the actuary would be allowed to rely on others. Currently, for the SVL, the reliance is generally just on the investment area for the assets. But now we'd also need to rely on management for growth goals, sales projections, and profit targets. The consistency of assumptions is still the responsibility of the actuary, however.

Finally, the actuary is assumed to have full access to information to produce an independent and professional report. Now this may put the actuary in an adversarial role, if results don't turn out as hoped. That might not be as much of a problem if the report is only to management and not to regulators.

The outline of the solvency report would include a summary of results that would state the measure of financial strength, summarize the work, and disclose reliance and disclaimers. The general description of supporting analysis would discuss the block studies and any aggregation that was needed. Major assumptions and formulas would need to be disclosed, including what the economic scenarios were, what the timeframe was for testing, what asset/liability assumptions were used, what strategies were used, and, finally, what the stockholder dividend policy was, which is something different than is required for reserve testing. Validity testing and reconciliation would provide additional credence to the work.

It's interesting to note that research has been addressed in relation to solvency. But it's never been really talked about in detail for the valuation actuary. Many areas that apply to both solvency testing and valuation actuary work need to be studied.

Confidence standards need to be researched to address the appropriate level of confidence and ways to determine how much surplus should be increased to move confidence from, say, 96 to 99%, so that the company will remain solvent. The appropriate number of years of the projection needs to be examined, as well as the interim requirements. Are we looking at solvency at the end of each year, or are we going to look quarterly?

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With the multitude of scenarios we're examining, we need to know what data are important and how to examine, for example, a thousand scenarios and get a reasonable result. Credibility and reliability theory tells how many scenarios are needed to feel comfortable with the results. Is it seven, is it 40, is it 1,000? Economic scenarios need to be developed that will tell us the relationship between interest rates and, say, the stock market. This is something that's not been addressed heavily for valuation work.

Appropriate and possibly more sophisticated behavior models are needed for lapses, asset prepayments, and premium payments. What alternatives to cash-flow testing are available? Perhaps RBC can be used every year with cash-flow testing done only every 3-5 years.

Clearly, there are many questions that need to be answered. As I said before, the research would apply not only to solvency testing, but also to valuation actuary work, so we'll look at some of the research areas in a little more detail.

Confidence standards, as I said, need to be developed so that we can identify the probability of insolvency. What level is appropriate? It's easier to get a more accurate picture of the positive side, in which surplus ends up positive, as opposed to the loss tail. Also, is the magnitude of the failed scenario important, and how does this relate to current standard confidence concepts?

Imagine saying in a report to management that "based on the multivariate distribution of surplus and 1,000 trials, the results of this report are 85% credible." I think that would be a little difficult for management to accept. But credibility does need to be considered. Currently, it's commonly used for casualty and health insurance, in which you consider the number of claims needed to have full credibility of the data. A question is the number of scenarios needed to get full credibility to solvency test, which is a similar question to the number of claims. It may be that there is a different distribution that's beyond the scope of the statistical methods most actuaries are familiar with.

So far cash-flow testing has mostly addressed dynamic interest rates. Taxes have been considered to be the current situation forever. This year has shown that taxes will not stay the same forever, given what's been introduced the past year. Other economic and political variables, such as the stock market, unemployment, and the global economy, affect company solvency. The interaction of these variables makes research very difficult. The behavior of consumers and company management has many influences.

For consumers, let's take lapses as an example. The amount of agent contact with the consumer, our company as well as the other companies, will determine whether they're going to take their money elsewhere. If there are high surrender charges in the contract, they may not leave. If the contract is performing well, relative to market, they may not leave. Both personal finances and the economic environment may cause lapses to occur, even when they don't financially make sense in terms of the marketplace. Maybe the consumer just needs the money. Then finally the marketplace, as far as the level of sophistication, would make a difference on

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consumer behavior. I think we'd all agree that the single-premium deferred annuity market is much more sensitive than the traditional life market.

On the company management side, take investment strategies as an example. The economic environment will tell us what assets are currently available and their yields. Regulators may say that the asset is available, but, because you're an insurance organization, you're not allowed to invest in it. RBC may keep management from wanting to invest in some of the riskier assets, given the higher amount of RBC that would be needed to support that.

The sales force, of course, wants a higher credited rate, indenting management to invest in riskier assets. The marketplace may dictate a certain return needed to support various crediting rates.

Then the owners of the company, whether it's the policyholders for a mutual, or the stockholders for a stock company, want a higher return for the company, given a certain risk. Finally, company managers are human and their personal compensation will come into play.

Research is difficult, given that there's a lot of interaction between these variables, and they're all very hard to model.

What are the pros and cons of solvency testing? On the one hand, solvency can't be guaranteed, but it's useful to test the full outcome of company plans so that we have a better feel for what may happen. You can argue that many esoteric assumptions are required. It's a big, black box and it just spits out some numbers. How do we know they're any good?

But, by making assumptions and performing projections, management can better understand the forces at work and make better decisions. You can argue that all this additional work creates little value-added. Most of the companies are going to be okay anyway, and it's just an added burden at year-end. But, if solvency testing is then applied to strategic planning, you can make better use of your efforts.

Getting back to the topic of liability, actuaries doing solvency reporting will be at further risk of liability and criticism. But solvency testing can also produce additional opportunities for actuaries if information is provided to management and management can make full use of the work. The actuary can then become a stronger part of the management team.

Solvency testing is not yet a requirement. There is some controversy involved. We could ask some questions. Are actuaries in the best position to address solvency? The answer to that is actuaries would be a key part of a team needed to address solvency. You'd need to include management, investment people, and possibly the marketing people.

Can actuaries really reduce insolvencies? If you look at some of the recent insolvencies, it may be argued that they would not have been prevented.



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Could a solvency report be misused? Possible examples of misuse could be in some of its information being disclosed in advertising, or confidential information such as business plans or sales projections being leaked out to parties who shouldn't see it. Finally, should actuaries really be giving opinions or should we be giving advice? I think rather than quantifying solvency exactly to a number, it would be better to just help management understand the results of its actions.

Because I started with a quote, I thought I'd leave you with one. This isn't my suggestion for the new motto of the Society of Actuaries, but it is food for thought. "There are, in fact, two things, science and opinion. The former begets knowledge and the latter, ignorance."

MR. JAMES F. REISKYTL: With regard to solvency, the Society is interested in volunteers to work on the research. The Society is not taking a position on the issue of a requirement. It is controversial, to say the least, and there is a debate going on within the Society as to the role of the actuary and who will fill this role.

The investment and financial area happens to be coordinating this effort, but clearly there's work going on in the life area, the health area, the retirement area and just about anywhere in which you're interested.

Pete Hepokoski is coordinating a handbook for presentation in draft form at the October annual meeting. We would hope we would get a reaction there. This will be a living document, and it will be your chance to express your opinions on this whole subject.

Regarding Doug Knowling's comments, I'm not sure whether the appointed actuary and the person preparing this solvency report will be the same person. I think I can argue either one. But, clearly, the underlying research work that needs to be done can be used.

Being a member of the Solvency Task Force, we see the solvency report as more of an internal report; sensitivity analysis that will be very useful to management, with less focus on an absolute statement, as you eluded to.

MR. MARTIN R. CLAIRE: Sometimes standards of practice or even laws have areas called "safe harbors," which say if you don't want to think about it, and if you use this assumption, things are fine. What is your attitude about this? Are there really safe harbors? If I decide I don't want to use a safe harbor, I want to use my own judgment, am I raising a flag? Why didn't I use this safe harbor? Are you damned if you do and damned if you don't?

MR. GORSLINE: There are clearly situations in which you're in trouble if you do and you're in trouble if you don't. Sometimes you get caught between a rock and a hard place. It's hard for me to answer in the abstract a question about safe harbors. It depends on what the standard practice is. What would a reasonable actuary do under similar circumstances? Would a reasonable actuary conclude it was okay to rely on a safe harbor? Would he/she ignore the safe harbor and go ahead and do the testing? I would think that certainly, if some sort of fact came to your attention that suggested the safe harbor might not be so safe, you ought to at least run that rabbit

trail down and document why you were going to rely on the safe harbor in the light of some information coming to you that suggested you shouldn't rely on it. I would think that if you chose to abandon that safe harbor and do work that the safe harbor wouldn't ordinarily require you to do, you ought to document that thoroughly.

I guess the best advice I can give you in that situation is that, whatever you do, document your conclusions thoroughly. You can be totally wrong, but if you document your conclusions, with the benefit of hindsight, you can say at least they were trying and doing their best to exercise care. They weren't just applying rules remotely. They were thinking about it. They were documenting their resources and their reasoning and their judgment, and even though they were wrong, at least they were giving it their best shot. You can go a long way with that argument, assuming the person is above some sort of minimum level of competency, as long as you've got the ammunition with which to make those arguments. So if you document all of your assumptions and judgments in that connection, I think you'd be safe.

MR. DOLL: There was a seminar the week before last in Florida. It was sponsored by the Society of Actuaries and the Financial Reporting Section, and it was called the Postmortem on the Valuation Actuary for 1992.

One of the speakers at that seminar was Larry Gorski, who spoke on the regulators' reviews of the actuarial opinions and memorandum. I brought along my notes from the seminar, and I thought you might be interested. Larry was talking about the review process in Illinois and how it's going. It's basically a five-step process. First, they go through the opinions looking for qualifications and for statements where extra reserves were set up. They do that for all the domestic companies and "foreign companies of interest." The second step is the format perspective. Do the opinion and memorandum meet the specifications in the law and regulation, or do they meet previous departmental requests? For example, if the department asked the company previously to do certain specified extra scenarios, they'll look to make sure those were done.

Step No. 3 is the depth and quality of analysis. What were the actuarial assumptions? What were the changes to the assumptions made since last year? In step No. 4, they look at how the valuation actuary interpreted the results. In No. 5, they make a decision as to whether the opinion is acceptable or not.

Larry said that Illinois hasn't rejected any opinions and memorandums yet. But he has asked some companies for more sensitivity-testing. He says this is their way of telling the company that "This memorandum or the work done is not acceptable yet. We hope you bring it up to snuff, so that we don't have to reject it."

One of the problems he says they've encountered to date is inappropriate reliance. Some of the opinions rely on work done by other actuaries. They rely on investment people for assumptions. In some instances, you can't tell whose opinion is being made, because it'll refer to projections and so forth, and he can't tell who is claiming responsibility for it. In Larry's opinion, the opinion ought to be that of the appointed actuary.

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Another problem is amounts not tested for asset adequacy. Larry looks for this to be no more than 5% of the total reserve.

Separate-account products and traditional life products is another problem area. These need more than a "waving of the hands."

The theoretical issues Larry brought up include the following. When you look at the ending values, they should be at market value, not book value. The memorandums should at least address nonparallel yield-curve shifts. The seven specified scenarios in the memorandum may not be adequate, and the regulators are looking into some sort of extra requirement on the scenarios.

Regarding reasonableness of assumptions, Larry wants a comparison with recent experience on the lapses. How reasonable is it to start off with lapse experience significantly better than what the company had experienced during the most recent year? Single-premium immediate annuities should address mortality improvement. Regarding assets, the appointed actuary ought to ask enough questions to understand all the assets.

MS. CLAIRE: The annual statement comparison of everything sort of makes sense, as an overall review. This includes lapses, mortality, investment earnings, expenses (both insurance expenses and investment expenses), and certain areas where it's easy just to check against the annual statement to make sure your cash-flow testing is at least in line with those. Again, what the regulators are using to see if your data are reasonable is the only other thing that they have from you, in general, which is the annual statement.

MR. DOLL: One of the purposes of this seminar was to see how good those practice notes are and whether we need additional practice notes. Donna, because you're in charge of those, what do you say?

MS. CLAIRE: There is a committee of 40 that is probably coming up with about seven additional practice notes on various kinds of health products, such as long-term care, continuous care retirement communities, disability income, etc., and all the things that you should consider there.

There will be a note called "analyzing results and forming an opinion." We had sent out a valuation actuary survey asking, for example, "How many scenarios do you have to pass for you to say you've passed?" The bottom line answer is, "Your guess is as good as mine." At this point, the regulators realize there are so many assumptions that, to arbitrarily say you have to pass seven scenarios or six out of seven doesn't make any sense. But we will come up with something about analyzing results and forming an opinion, just to list the major topics there.

Another one that we're hoping to get an author for is reinsurance. Other topics are shareholder dividend and expenses. Some companies have a functional expense study done. A number of companies have pricing expenses, but that does not necessarily tie into the annual statement. So we'll try to come up with some practical alternatives there also.

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MR. DOLL: One of the other topics that I remember was intermediate results. What happens if you do the scenario testing and all the scenarios are good at the end, but you have some scenarios in which the intermediate results are negative? The view from the majority of people at the seminar was that the reserve-adequacy test is just that – a reserve-adequacy opinion and not a solvency test, and that these intermediate losses are not something that should cause reserves to have to be increased. One caveat (and this was strongly stated by Larry Gorski) is that if you do have intermediate negatives, you should at least consider what effect that might have on some of your assumptions, such as lapse.

MS. CLAIRE: On that last point, if the tests show that a company is insolvent in two years, a very legitimate question for a lawyer to ask is, "How can you say the reserves are adequate?" I wouldn't want to have to be on the stand and try to explain why at the end of ten years you're okay, if, at the end of two years, the company was no longer in business.

MR. DOLL: The National Association of Insurance Commissioners (NAIC) actuarial task force is getting together late this week. They plan to bring up some potential changes to the valuation actuary model regulation. Some of the things they are going to talk about are adding more disclosure to the opinion, a reasonability standard for reliance on investment persons for asset projections, yield-curve normalization, and a list of assumptions that must be included in the memorandum. All that will probably be for changes in 1994, I think, not 1993.