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**RE-ENGINEERING ACTUARIAL SYSTEMS**

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Large actuarial systems have become drains on human, computing and financial resources. And in some cases, daily actuarial functions have grown beyond the scope of normal cost-containment techniques. Re-engineering actuarial systems can significantly alter the trend. However, not all efforts result in improvement, and fundamental changes often yield unforeseen consequences.

MR. JAMES F. TOOLE: I'd like to break down the title some to give you a better sense of what this session is all about. Systems, in this context, wouldn't include just computer software and hardware; it means nontechnical processes as well—the entire ebb and flow of information throughout the organization. The scope of the system to be re-engineered might be the entire company or a relatively closed subset of the company, such as a division or a separate business unit. For those of you who are still uncomfortable with systems in our title, you could think of it as re-engineering actuarial functions.

Actuarial, of course, would imply those functions that are actuarial in nature, but our discussion is not just applicable to actuarial functions. The system might have a function other than an actuarial one depending on how broadly you want to define it. You could include marketing and other functions that actuaries impact or vice versa.

Now finally, re-engineering. Re-engineering is a term that has been bandied about a great deal. It has been used, misused and applied in many ways that are not really appropriate.

I don't like to say it anymore because it means so many things to so many different people. It's like saying *paradigm*. Everybody thinks they know what a paradigm is, but it's a word that's really been overused and not strictly defined or strictly applied.

So let me describe some things that re-engineering is not, and I'll leave it to the other members of the panel to say what it is. Re-engineering is not rewriting software. The best software is useless without timely and accurate information. Re-engineering is not an excuse to go out and buy the latest technologies. If you want new hardware, don't use re-engineering to validate that desire. You'll later hear that it's best to start by assuming that you won't be adding new hardware. Try to work within the parameters that you already have. Technology is merely a tool to be applied during the re-engineering process; it shouldn't be looked on as a panacea for solving your problems.

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Re-engineering is not implementing a total quality empowerment program. Many companies have piggybacked empowerment on top of re-engineering. Empowerment and quality should be the effect of re-engineering, but I think that people are rightly skeptical of corporate mantras and psychological mumbo jumbo. Re-engineering is getting watered down and it's starting to smell a little fishy. I would contend that the empowerment crew is putting the cart before the horse.

It all boils down to this. Re-engineering processes can precipitate change in a corporate culture, but change in a corporate culture will not accomplish the goals of re-engineering. So what is re-engineering? Essentially, re-engineering is taking a close look at the process of creating your work product, be that manufacturing, or services, or designing an insurance policy. It's about getting information to people so they can do their job more efficiently.

I don't need to tell you that so much has changed in the last 20 years that many of the processes and many of the laws, for that matter, are mere barnacles on the ship of state, that needs a great deal of careening. Re-engineering is the process of doing that careening. You allow the people who actually do the work the opportunity to impact it. Sometimes, when you're done with the careening, you find out that your hull is rotten and the only thing holding it together was the seaweed and the barnacles. But, that's the risk you take. When you examine the state of your ship, you are sure to find a great deal of rot.

I would now like to introduce our first speaker, Nancy Boyce. Nancy is a Chartered Property and Casualty Underwriter (CPCU) and currently a manager of re-engineering for Prudential Insurance and Financial Services. Nancy has experience in property and casualty (P&C) and personal lines of business. Nancy is going to be giving us an overview of some of the re-engineering projects that she has worked on in both the life and P&C divisions and a briefing on a re-engineering project that is currently underway in the valuation area of Prudential.

MS. NANCY E. BOYCE: I'm going to talk about Prudential Insurance and Financial Services and our experiences to date in re-engineering. I'm going to give you an overview of the methodology that we're using in both our life and P&C re-engineering, and talk to you about what has worked well and where we've had some problems. If you decide to re-engineer, perhaps this will help you.

We've recently embarked on our re-engineering projects. So you won't hear anything from me about the toughest piece, which is the implementation. We're getting ready to go into that in our life and P&C sides, and, frankly, that scares me a great deal. I think you're going to hear our next speaker talk more about implementation.

About a year ago, Prudential Insurance and Financial Services was formed. Prudential took a look at all of the companies that we had become and decided on what their core businesses were going to be. They took our P&C entity, which was Prudential Pac, and combined it with our life side and our ordinary agents. It has been very difficult for us.

The new company has some real problems. We're dealing with about 16,000 agents and they're on the old debit agency system. That worked well years ago, but it

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doesn't work so well today. We also had some very large overhead expenses, and when we merged various departments from these two entities, we had excess people. What's most important is we had huge operating losses from our P&C entity. Hurricane Andrew chalked up \$1.3 billion worth of losses for us. If Prudential hadn't given us the capital, we would not have been an entity anymore. I'm from the P&C side, so I feel that very acutely.

Our executive group has given a charge to this new entity to transform itself by 1997. What we're doing is focusing on our customers' needs. We're trying to increase our customer satisfaction, find our target market and actually sell to that target market. We're improving our business processes; re-engineering is the main thrust of this. We're also looking at upgrading our technology as an enabling factor. Finally, we hope to improve our financial performance by putting accountability where it belongs and developing financial performance measurements as needed.

We're building on our strengths. We have a large agency force. We have great associates. We have a large number of very loyal Prudential customers, and we have the Prudential financial strengths behind us. So while our re-engineering efforts would really fit in this triangle under the business processes section, by doing the re-engineering we'll be helping all the different efforts.

As I said before, we have two main re-engineering efforts, one on the life side and one on the P&C side. The life side right now has a subgroup which is the valuation quarterly process. That's a group that has just recently kicked off.

The property/casualty side has three subgroups under it. One is looking specifically at processing new business. These are back-office type things. Another piece is looking at how we process renewals, and the third one is looking at our claims process on P&C. Those efforts are well underway and, as a matter of fact, we will be starting to implement some of them soon.

We're doing something in life and P&C that's different from some of the re-engineering books that you may have read. Have any of you read *Re-Engineering the Corporation: A Manifesto for Business Revolution* [Michael Hammer and James Champy, New York, Harper Business, 1993]? He has four basic steps to re-engineering. We've used an outside consultant on life and P&C for the methodology, and what we've come up with are the following steps: formation, exploration, creation, affirmation, transformation, and implementation. I'll talk to you briefly about each step and where some of them are different.

Formation is where your executives get together and say we really need a re-engineering effort and we're going to charge a group of people to go off and do it. So you have what we call a strategy team set-up, and they tap people to be part of the design team. They also give a charter defining the goals. We have some stiff goals on both sides: to save \$150 million in operating expenses on the life side, and about the same on the P&C side; to increase customer satisfaction; to decrease work hand offs.

The next step is exploration, where you take a look at the current process. We've had a great deal of fun going out and visiting other companies to see what they're

doing. Not that we want to copy somebody, but there's a piece everywhere and if you put them all together, you might have something that's right for you, or maybe it will just expand your mind. I think, at Prudential, we haven't done that in a long time, and it's been a real eye-opener for some people, especially those who have been at Prudential their whole career.

Creation is one step where we have gone off the beaten track. This is where we review the current process by mapping it out in some detail. We don't go into elaborate detail of every little thing that goes on, but in enough detail to see where you have value and where you don't have value in your process today. After you've done that, you brainstorm and come up with multiple models. Many people would tell you, "Well, gee, you come up with one model, then you go out and cost justify it, and then you implement it." What we've done on our life and P&C teams is come up with multiple models that have different parts; it's almost like Legoš. So in the end, we hope to get one viable model, but by coming up with multiple ones, we're hoping that we can get the best of all possible worlds. This is very different than other methods that you'll hear about.

I'll give an example of one of our maps. This is the process of adding a new car on an existing policy as it is today at the P&C company. It is a messy process to get a new car added to the policy for a poor customer. And if you're the customer out there, and 30 days later you get a little endorsement saying that you added a car, it's rather sad. So this is what we were starting with. We haven't re-engineered it yet, so I can't show you the final process, but the latest version I've seen has about four little boxes going straight across at the bottom of the form.

Here was another step in what I call the creation process. We came up with 48 new models for how we could do business on the P&C side. And we decided, for each model that we came up with, to have a breakthrough or wild idea. It's not that we will do all these things, but you must expand your mind and think of things that no one thought of before.

We ended up with five models to present to our strategy team, and they basically moved that five down to three. They took pieces of the five and said, we'd like you guys to go out and affirm three models. So now we move to the affirmation stage. This is another thing that's very different from any of your standard methodologies in re-engineering. In this phase, you create specialty teams and cost benefit all the Lego™ blocks of each model. The specialty teams that we have deal with things like human factors, which is the personnel and associates types of things. Will people have meaningful jobs at the end of this? Will they be happy employees? Will we have to lay off people? If we do, what will we do with them? How will that work?

We have a process team, which is looking at all the processes that will be needed for each model, and making recommendations as to how those will go.

We have the customer communication team, which is my team. We're the voice of the customer. We go to all the other teams and say, "Ah, you think this is a great idea? We're the customer and we think it stinks." We have a great deal of customer

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data and we're trying to use that. We also put together focus groups with our customers to see what it is they really want.

We have a product team that is looking at product issues. Why isn't the P&C combo policy using Insurance Services Office (ISO) products?

We have a cost team that has put together requirements to cost out each of these models. They go around to all the other teams and gather the data and then actually put together the final cost models for us.

Then we have the technology team that works on making sure that the technology is going to be right for each of these models and telling us what we can and can't do.

FROM THE FLOOR: Are these six teams equal in status or are some teams more politically correct than others?

MS. BOYCE: That's a good question. Some teams are bigger than others because their issues are broader; although we all have equal say in the end. Each of the specialty teams is headed by a design team member. I'm a design team member. And each of the design team members go in and fight amongst themselves, but not in front of the people on the specialty teams. We don't come out with a product for the executive group until we all agree. There's no one to really be politically correct for other than ourselves.

FROM THE FLOOR: Coming from the corporate world, I find it a little hard to believe that you have six equal teams with arguments worked out in advance.

MS. BOYCE: Some really ugly arguments take place. As a matter of fact, the customer team tends to get trodden on all the time. I have to fight like hell for them. My team is probably the least politically correct team and, in the end, we may be beaten down, but we won't give up until the very end. There probably are some inequities strictly because of the size of their responsibilities. The product team is probably the most powerful of the specialty teams.

So you've got all these teams. This is another confusing part, but it's finally starting to work well. You have about 80 people involved in these teams, and they are locked up for four weeks. We've taken them out of their jobs and stuck them in a place where they all meet in different rooms and they have to go back and forth for four weeks. They're in the third week right now, and it's getting real old. It's good in a way because you have a great deal of give and take, but it can get nasty. These re-engineering efforts are not all buddy buddy. But this is a real interesting approach to use to actually come out with a final model where all the pieces work. What we're hoping to accomplish by doing this is to come out with one final model at the end. It will probably have pieces from several different ones.

FROM THE FLOOR: To follow up, is the model essentially how these two divisions are going to work together as one?

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MS. BOYCE: No. There's a P&C model and a life model. The one that I'm talking about right now is the P&C model. There's a tandem process going on in life. It has the exact same teams.

FROM THE FLOOR: I still don't understand what a model is. Is it more than just the structure or the organizational chart?

MS. BOYCE: It's all the processes. What kind of business will you sell? How will you sell it? How will you take in new business? How will you process changes? How will you pay claims? What types of jobs will you have?

This is a real big charge for these people. But you brought up a good point. You have a life process going on and a P&C one going on at the same time. At the beginning of May 1994, both of them will get together to make sure that the models will work together because we're now one company. Some of the concern that we've had is that, by doing them separately, we may be hurting ourselves in the end. We don't know the answer to that right now.

FROM THE FLOOR: Why did you do this separately?

MS. BOYCE: The executive group decided to perform them separately, I guess because we were separate entities beforehand. I know there was much debate at an executive level. I don't know why the final decision was made.

FROM THE FLOOR: Where are marketing people represented in those six teams?

MS. BOYCE: We have marketing people on almost all those teams. We actually have retired agents or managers who are no longer part of the union. We don't have live agents because our field force is unionized. We also have some of our customer service representatives from the agency offices. They're giving us a great view on the customers. It's one thing for somebody in a home office to sit there and say, yes, I know what the customer wants, and it's another thing for somebody in the front line to say, this is what I put up with every day. So we saw that was important and we've tried to address it.

FROM THE FLOOR: Who is on your design team? What levels are they from?

MS. BOYCE: This differs somewhat from your Hammer model. Hammer would tell you to get the lowest level people because we are redesigning the entire business. We had to have people who had enough knowledge to be able to know how the pieces fit together within the broader context of putting together the life and P&C companies. We have every level represented from what you would call an associate manager level up to a vice president level. There are no senior executives though.

I wanted to talk next about what has really worked well for us and where our problems have been. The first thing that I think is important for any of you who may be embarking on a project like this is to get executive commitment. You're going to run into many problems, and you're going to need some guidance. You need somebody who has the clout to be able to help you work through them. Our

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executives are the ones who started this process for us, and they've been there for us when we've needed them.

The second thing is to communicate with your associates. We did internal TV broadcasts. At Prudential, we have a little studio and they broadcast out to all the other sites through what we call BTV. We had panels of our design team members get up there and talk about what it is that they're doing when they're locked up in these rooms, so that people aren't so afraid.

People tend to be really afraid. They think that re-engineering means they are not going to have a job. It means the company is going to really change. They're going to relocate. All these rumors are going to be out there. This internal BTV really worked well. We also recorded it and sent it to all of our remote sites that couldn't get the BTV.

We had the usual flyers and sent out newsletters. James Champy, who is the co-author of *Re-engineering The Corporation*, did a BTV broadcast out of Georgetown University, and we were sites for viewing that broadcast.

We had a couple of what the executives call rumor meetings. One of the executives will sponsor a rumor meeting and all the associates send in their rumors, such as, is the company going to close tomorrow? Are you going to close out P&C? Are 500 people going to lose their jobs? Employees send them in anonymously and one of the executives has to answer them truthfully. Sometimes they're not the answers that people necessarily want to hear, but it's a real good way of getting your executives in touch with folks out there and getting some of the rumors out in the open because they're going on whether you acknowledge them or not.

FROM THE FLOOR: Who is the audience?

MS. BOYCE: Any associates at any level who want to come. And any associate can send in the questions. It's an open forum.

Do not make systems the focal point of your effort. We see systems as an enabling technology. We did not have people redesign the system. They've redesigned the processes and then we may need system's support for those processes, but we're not starting out to rewrite our software or to buy a new system. That may be a byproduct of some of these models, but it's not the driver of this. In the beginning, our systems people were saying, "We can do that, and we'll fix that, and that will be fine." That was not the focus. It doesn't change the people, it doesn't change the job, and it doesn't change the process.

Encourage teams to get to know each other. We did this at another session with our valuation group. We gave everybody a Myers Briggs personality typing test. Basically it tells you what people's personal preferences are. It doesn't type you as a type A, type B or type C person. Instead it says, what energizes you? Can you energize yourself internally by being quiet, or are you energized by many different people being around you? How do you get information? Do you sense it? Do you have to touch it? See it? Feel it? Or do you use intuition? How do you make decisions? How do you deal with the world?

We took this test as individuals and then we got a type for the team. This will help your team members to see where different people are coming from and why they are the way they are. It helps people, especially in our group, which was made of actuaries and nonactuaries, to see the variety of people on the team and to appreciate the differences in the people. And it also helps you to recognize that when somebody says I don't understand you, they're not saying it to you to be insulting. I think everybody would tell you that we had a really good session with that yesterday, and that it is a really useful tool.

I have to say have some fun. These are really grueling things, these re-engineering efforts. People fight. People get mad. You have to break it up with some fun, and we've done some things like games. We've played Balderdash, which is a dictionary game. You find a word and you read it, and people make up definitions for the word, and then you guess which definition is correct. It lightens things up when you need to be lightened up a little bit, such as when you're there at nine o'clock at night and you know you'll be there another two hours. And it helps people to step out of their boxes and gets them out of their focus.

We will also do an exercise with a black dot. You take a white piece of paper and you put a black dot in the middle of it, and you ask people to write down what that black dot is. And then you make them go around the room again, and again, and again. And they have to come up with creative responses. It helps stimulate creativity, and it also helps break up something that could be really upsetting. As people are working on these teams and doing all this, they see their jobs changing, going away, or moving.

Finally, we have learned lessons. And these are things that I think we've learned the hard way. Free up people to work 100% of their time on re-engineering. We are not doing that at Prudential, but it is causing, and has caused real problems. All the work tends to go to the few people that are there 100% of the time.

Do not underestimate the needed time and energy. Our P&C and life teams are meeting until 10:00 or 11:00 o'clock at night as they slog through some of this stuff. They travel all over the place. They meet in different places. They go to people's houses. They work on the weekends. It's just sort of a part of what they have to do. But some people say, oh, yes, I can do it in two hours this week and three hours next week. Then the crunch comes, and it just doesn't work.

Point three. It's very hard to get people out of the present. Everybody says, oh, yes I can be creative and I can get out of my box. When it really comes down to it, when you throw a wild idea at them, many of them just pull right back in and go right back into their boxes. They say, "It would never work, and the executives would never let us do that. They'll kill it before it gets anywhere." Put a real mix of people on the team. You don't want a team of all underwriters, or all actuaries, or all claims people working on one of their own processes. You need outsiders. You need people who are new to the company. You need people to give some fresh vision. You also need some of the senior people to bring some reality to it. You need a good mix of people, and you need a good mix of those personalities.

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FROM THE FLOOR: You said you only go down to the associate management level. Aren't you missing the people who are actually doing the work?

MS. BOYCE: We missed those levels on the strategy and design teams. On the specialty teams though, we have people all the way down to the clerical level, and they're going out and designing the actual processes. You're right. We did miss them in the beginning, and I would say that was bad. We do have all different levels on the little subgroups that we have. It was just those bigger overview teams that didn't. And I do think it would have helped if we had some other people, because our higher level people tend to be more locked in.

FROM THE FLOOR: Don't the lower level people get intimidated by the higher level people?

MS. BOYCE: Yes. And we saw that. One of the people we brought in from the field had never been on an airplane or had never travelled. She was so scared, she had to go home after the second day. The other people talk over each other. You have to put up some rules.

I have a poem. This describes some of the ups and downs of re-engineering:  
We are chosen. We are brave. We are re-engineering. We are em-  
powered. We are valuable. We are good. We are damn good. We  
are validated. We are on the road again. We are silly. We are wicked.  
We are stupid. We are blind. We are deaf. We are in big trouble.  
We are the world. We are tired. We are very tired. We are so very  
tired. We are really very, very tired. We are sick. We are sick and  
tired. We are brain damaged. We are not happy campers. We are no  
longer empowered. We are invalidated. We are getting on each  
other's nerves. We're going to kill each other before long. We are  
nervous. We are scared. We are terrified. We are petrified. We are  
not intimidated. We are right. The end.

MR. TOOLE: Tim Ruark is an FSA and has been at Cigna for eleven years. He is currently working as Life Marketing Actuary at Cigna Re. He has written articles for *Contingencies*, *National Underwriter*, and *The Actuary*. Tim's going to be talking about a specific re-engineering project that was completed by Cigna Re.

MR. TIMOTHY J. RUARK: Cigna Reinsurance has a great deal of experience in re-engineering. In fact, a couple of years ago, we won an award called the Society for Information Management (SIM) Award. I think that we have some valuable insights that we can offer. But we are in the world of Disney, so I would like to at least make it interesting and, perhaps, even have some fun along the way. It's a serious topic and sometimes the most serious topics call for a nonserious approach.

I'd like to give you an outline on what I'm going to do today. First, I'm going to do a little bit of background on re-engineering. Then I want to work from today: what are the results? What did my division at Cigna achieve through re-engineering? Then we'll back up and we'll go through the process and try to demonstrate how we were

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able to obtain the results that we did. And finally, like Nancy, I'd like to wrap up with some lessons that we've learned along the way.

Here's a definition from Mike Hammer, who Nancy referenced. He's definitely one of the gurus of re-engineering. Re-engineering is about inventing new approaches to process structure that bear little or no semblance to those of previous eras. That's a mouthful. Here's another definition. Re-engineering is a way of thinking and working to deliver results. It is the vehicle to realign strategy, operations and systems to produce significantly increased financial results. Again, there's a lot of terminology.

As I said though, we are in the land of Mickey, and I'd like to work with a different definition. I'd like to draw a parallel to a rafting excursion. Like re-engineering, in a rafting excursion, everyone has a general idea of what they're going to be doing. But everybody's trip is going to be a little bit different. And some of you folks, along the way, might get dumped in the water. But once you start, there's really no going back. We'll see some more of this parallel throughout my talk. But you can see here that if this is an image of my company starting re-engineering, we're in bad shape. Our raft has holes in it and our computer looks busted.

At my company, our re-engineering took a two-pronged approach addressing both the business processes and technology. Those were the two areas of focus that we had for re-engineering. For most intents and purposes, we just used computers to automate manual tasks, kind of an even exchange. And that's really a very poor use of technology.

Let's chat a little bit about why we chose to re-engineer. First we were very inefficient. We had no centralized data. So there was a great deal of redundancy in our work and duplication of effort. Our results were volatile. We had a situation where we almost crossed our fingers hoping that the results that came out of our system were reasonable. If we expected to see the number ten, we might see the number ten million.

My company has been writing reinsurance for 75 years. But here we were in the 1990s marketing products to the MTV generation, and back home, in administration, we have the Lawrence Welk generation working. So that's the situation that we were faced with. Another reason why we chose to re-engineer was the expenses for our operation relative to the revenues that we had. We were not as efficient as some of our competitors. And because of that, we knew that we could deliver more value to our customers if we made some changes. At the same time, our expenses relative to the services that we provided to our customers were not the way that we wanted them to be.

Cigna is, as most of you know, a very large corporation. At the same time that Cigna Reinsurance was faced with this scenario, Cigna Systems had heard of this process of re-engineering and they were looking for an area of Cigna to test market. And based on our size, that was a real good strategic fit. And so that's another reason why we re-engineered.

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We have assets of about \$80 billion and probably 48 thousand employees. Cigna Reinsurance is a division with, at this point, about 110 or 120 employees. It's very small for Cigna.

I now would like to move forward into what we achieved. At this point, we're looking back. What did we achieve through re-engineering? Our staffing was reduced 13%. Our expenses are up 15%, but our revenues are up 40% over that time period. Our earnings are up almost 50%. And our return on equity is up 11%. Obviously, we've achieved a great deal in this time period. I won't suggest that all of it was due to re-engineering, but I will suggest that a great deal of it was due to re-engineering. When done correctly, it is extremely powerful.

Let's talk about what we achieved in staffing, but first, I have to reiterate what you heard earlier—that it is a painful process. Some people will lose their jobs. Others will become quite unhappy and move on voluntarily. For the most part, that's what we experienced at Cigna Reinsurance—job loss due to attrition. It's painful, not only because of the process, but at the same time you have this process going on, you also have to run your business. It's an incredible strain on some of your employees.

It's particularly difficult for systems personnel. Before we re-engineered, we had 15 people in our systems area in Cigna Reinsurance. They were comfortable with our systems. After re-engineering, and here I'm talking about our actual technology, we had completely different systems. And many of them had to move on. Many of them were no longer comfortable in our area. I believe we have one person in a department of about 15 that was there before we re-engineered. The rest of the employees are no longer with us.

We established work teams. We did not have work teams before, and if you look at our people before we re-engineered, they were really characterized in a few ways—none of them are very flattering. Keep in mind, most of my discussion of re-engineering for us deals with our administrative system. We did re-engineer the entire division, but most of the impact was on the administrative area. The employees were described as having low morale, and not understanding where they fit in. Generally, their skill level was a bit low, because there was a great deal of manual, repetitive work.

With the institution of work teams, the character of our employees is much different. We have much more highly skilled and highly motivated people. In fact, part of our new procedures is to compensate some of our administrative people for the performance of their teams. Although that's commonly used in many venues right now, it was a little bit uncommon for people that were in the trenches doing administrative work. Our people definitely feel more challenged and they feel like there are greater rewards. The work teams are a big part of that. I mentioned the significant reduction in staffing of 13% overall for Cigna Reinsurance. It was much more drastic in the administrative area. It's closer to 40%.

I want to talk about the impact and what we achieved on our systems side. I want to give you a picture of a dozen systems, all working independently, now and then touching another system, but really no coordination at all. Our current system, on the administrative side, replaced all of those systems with just two. We call them the

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individual life system (ILS) and the client management system (CMS). Re-engineering allowed us to do this. These systems are much more coordinated and it's just a much better framework for us to run our business.

Let me talk about a couple other specific systems that may be of interest to this group. Actuarial pricing really did not undergo much re-engineering. Part of that is because, as many of you know, many actuaries like programming and make excellent programmers. We often will work on a PC-based system and, in that environment, we're able to create wonderful systems for doing pricing. For the most part, even before re-engineering, we were doing a good job of pricing. And that ended up not being an area of focus for most of our effort.

An area of focus that did impact our actuaries dealt more with financial control and the corporate overview of our division. What a difference re-engineering makes where people in financial reporting jobs rely on reports out of our re-engineered systems. Imagine the chaos. They used to have those volatile reports that they had to rely on, versus the current reports that are very consistent. And if they need additional information, they can order them up that day, perhaps that hour, on their screen. So it's been a great boon for the people in the financial areas that are trying to have an overview of our division and maintain financial control.

Now I'd like to talk about some new markets that we've been able to get into due to the re-engineering process. Specialty life. That's really my area. We are now reinsuring annuity business. We're into a great deal of investment-based products. And all of that is new since we re-engineered. We also are doing international personal accident. We're in the Latin American business, and we also do some disability claims management. At the same time, we are doing the same business that we've always done. So when you think about the staffing reduction that we talked about, 13% overall, and you factor in these other new sources of revenue, the 13% is even more impressive.

The last area of achievement that I would like to talk about is customer service. I am told that before re-engineering, it took two weeks to implement a new individual life policy. There were so many different systems in which to get involved, requiring so much time. I'm told the process today takes about 15 minutes. And that's very important for customer service. We also have much more bench strength. Because of the teams that I mentioned, we now have people that understand all different facets of the way that we administer. If anyone should have to leave our organization, either temporarily or permanently, we have people right there to step in. It's a great comfort for our division. We also assign administrative people to our customers. My division has always had sales people that are assigned to customers. That's nothing new, but it is new that we have administrative people that are assigned to customers, and it has been very well received by our customers.

Our new systems also help people like underwriters and actuaries who are looking for good data to make decisions and to make decisions quickly. We feel, at this point, that we have that, and we're able to respond much more quickly than we could have prior to re-engineering. Those are the items that I wanted to cover as far as what we've achieved. Now I would like to go back in time a little bit and discuss the process.

## RE-ENGINEERING ACTUARIAL SYSTEMS

Re-engineering starts with attitude. You need to have the enthusiasm of your leaders, and my company definitely had that. Our President, Fran Newman, was the key proponent of re-engineering. She quickly broadened her support to her immediate staff so that there wasn't just one focal person. That's very important. Your leadership has to be behind this type of thing.

As you heard earlier, you don't want to let your systems' needs lead. You don't do things just to get new technology—technology is the result. I think you end up either getting out of the business or you end up buying new technology just because of the advances in technology that are out there. So most of the time, it does end up that you get new systems; it just shouldn't be the leading factor.

You need to think 80/20. You need to try to get the most bang for the buck. If you are being successful in re-engineering, you may find a time when what you want to reach is what we call the *Holy Grail of re-engineering*. You want to find this one system that can do everything. You want to resist that, because the most bang for the buck is what's important. Later on, you'll have opportunities to add bells and whistles, to pick up some of the little things that you left along the way. Stay on course. Keep your focus. Don't get slowed down by these peripheral items. I also want to mention that you need to think radical, don't think incremental. Seventy-five years of being in the business gave us a great deal of incremental change. We needed a radical change, and that's what re-engineering was for us.

As far as assembling personnel, you need to have people that are considered achievers or high-profile people. You need to send a message throughout the organization that this is important. And there's no better way to do that than to get some people involved that are considered movers and shakers. In a way, these achievers tend to become your guides. You're going to have times when re-engineering is not going very smoothly. It can be a frightening time for people that are kind of along for the ride. It's a time when they need somebody that has some good judgment, some strength, and a piece of the rock, if I may borrow from Nancy's company. And your guides are your people that are there for the people in the raft. In re-engineering, your key personnel, your achievers, are the ones that the others will look to for comfort through this process. So that's very important.

It's also important to remember that just because some people are high profile, it doesn't mean that they're suited for this job. They may be suited to be selected initially, but it may turn out that they are not very good in this process. And if that's the case, they have to get out and you have to get somebody else in there because you cannot afford to move slowly in re-engineering.

The re-engineering team that we actually used included ten to fifteen consultants from outside the company. We had three people that were from Cigna Systems. We had a half a dozen from Cigna Reinsurance Systems. And at any time we had two to five people that were what I would consider dedicated users, people that were testing the systems. It was quite a group that we put together to be a part of this and to help push it forward.

As far as planning, definitely focus on the future. Don't spend time mapping what you've been doing in the past. It tends to create incremental change where you need

radical change. At the same time, it's going to make your people a little bit defensive when you go in and ask them: What are you doing? Why do you do that?

Be flexible. Try to get quick closure on things. Be willing to change because this is a long process and you need to be able to move in a slightly different direction if you have to. You need a catalyst. We had an outside consultant. The manpower that gave to us was significant. An outside consultant is also expensive, but a good one is worth the money.

Prepare for resistance to change. You're going to have times when you'll spot some saboteurs on your raft. These people may have been with you the entire way, and you never noticed them before. A key time for them to show up is after you've had some problem, a glitch that slowed down the re-engineering process. Be prepared for it and be ready to deal with it.

Here's our time line. The implementation took about two years. We were selected as a pilot. Prior to that, there was an assessment period, and afterwards there was a four-month follow-up of the work that we did. This whole process took two to three years. Three and half million dollars is what we attribute to our re-engineering effort, and we found it was paid back quite quickly. We didn't just have the commitment of my division's leadership. We had a commitment of Cigna Corporation to do this. Three and a half million dollars is a great deal of money, and you must have people behind it. That money was split in one of two different areas. I think more than half would have been the consultants. They were there for a long time, and there were many people. The other high-cost item was the actual computers that we put into place—buying the technology.

FROM THE FLOOR: How did you handle new products during the re-engineering process?

MR. RUARK: They certainly were put in afterwards. Some of those new products are not even in our systems now. But the intent is that all of them will be, and we certainly didn't slow down our efforts because a new product idea came up. We continued forward.

As far as implementing, we've already touched on communication. As far as logistics, you want to make sure that you have plenty of space to do what you need to do. We're running our business, and at the same time, we have all these new computers that are coming in, and all these consultants that want a place to sit. Make sure that you have space to handle these people. That's important.

As far as our operations review, our administrative area went from having 27 job descriptions down to five job descriptions. There were many people that shared those five job descriptions. But that gives you an idea of the redundancy and the inefficiency of our past. All our people had to interview for those positions, and the human resources people played a big part in this.

In our systems configuration we have token ring software, and on that are all the workstations of our employees and our local area network (LAN) servers. We also have a connection to Cigna's mainframe because we do source some data from it.

## RE-ENGINEERING ACTUARIAL SYSTEMS

We also have remote bridges in place that take care of some of our people that are more isolated. We have important offices in Philadelphia, Dallas and London, and all of those people are connected through those remote bridges. Each of those locations has their own token ring with workstations and LAN servers.

Contrast this with what we had before, which is what I'm told is referred to as dumb terminals—a terminal that displays work that's done elsewhere. It was a terrible system for us because we were sharing priorities with Cigna Corporation. If a report wasn't quite right, it became difficult to get it right, so one just decided to make do or to make estimates. Now we have workstations doing most of the work right there on site.

In my last bit of time I'd like to talk about some lessons that we learned along the way. First, there's increased importance of data integrity. We all know how important data is. Before re-engineering, I mentioned all the redundancy and volatility. We had people that were looking at reports and looking at data along the way. Some of these people had been with us for 30 years, and they knew when data didn't look right. Now we have a great deal of automation in place. Numbers that go in often aren't seen again until the back-end report, and then a particular number is grouped with who knows how many other numbers. You can't troubleshoot that way. It could be years before you find the mistake. So the importance of the accuracy of data can't be understated.

Expect robust promises when you talk about re-engineering. It's trendy. There's going to be some hucksters along the way. To borrow from my analogy here, there may be somebody that will tell you that they can take you up the river in half the time, but they may not be talking about rafting anymore—they're going to be talking about something else. Be careful when you hear that.

Retaining experienced employees. We found that many areas want to re-engineer. They needed people that had some experience to help them, and what would be a better way than to go to Cigna Reinsurance and grab some of their people? We had to combat that by increasing job grades and also increasing salary levels, especially for the systems people that were involved in our re-engineering. As a result of re-engineering, we needed highly skilled people. But again, we are a small part of Cigna Corporation. It was very easy for us to tap into the Cigna Corporation, or for that matter, to tap into the Hartford area for insurance expertise. Think about that for your company. Are you going to be able to tap into those types of resources?

The time is never right for re-engineering. If you are going to wait on the banks of the river and test the water until it's the right temperature, until it looks calm enough, or the sky looks right, you're going to find that you never re-engineer. And in this case, your competitors are going to pass you by. My company made a mistake by re-engineering at a certain time, and our mistake is quite easy to see. We ended up buying first-generation technology. We knew that second- and third-generation technologies would follow, but we didn't know it would follow so quickly. But even with that mistake, which some would consider significant, there's no way that we wouldn't have re-engineered. That mistake was a small price for what we achieved.

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Don't commit money and words without time. We had a great deal of training time set aside. We made sure that we were committed to this; we didn't just talk about it; we actually showed people that this was something that was very important.

Assign data ownership. Data integrity is important enough, why not assign people to it? Make them responsible for certain types of data. And don't underestimate the time needed for data conversion. We did have systems before re-engineering. They were backwards, but we had them. We thought it would be easy to just take that data and transfer it into our new system. We were mistaken. That was very difficult.

We really did want new systems. Back in 1989, when we looked around, it was obvious that new systems and new technology would help us. Although I told you that that's not why you should get into this, that's why we got into it. What we found was we wanted new systems, but we definitely got a new culture. One way to think about re-engineering is that it's the guest that won't leave. We will continue to re-engineer. It will never be, I hope, as significant as the process I just described, but the mentality is there, and the people are in place that can make re-engineering type changes in our future. It's true that my company did win a SIM award, but there's no guarantee that if we did the same thing again that we would win an award, or that we would even be successful, because the white water that you go down is going to be different every time.