

RECORD, Volume 27, No. 1*

Dallas Spring Meeting
May 30–June 1, 2001

Session 93 PD Pension Plan Administration

Track: Pension

Moderator: JOHN F. KALNBERG
Panelists: ANDREA L. LUALLEN
CURTIS S. MORGAN
Recorder: JOHN F. KALNBERG

Summary: Pension actuaries are becoming more involved in the administration of defined-benefit pension plans. Along with this work comes special challenges that are different from those seen in more traditional pension actuarial work, including:

- *Why employers look to outsource plan administration*
- *Implementation methodology*
- *Setting up calculation functions*
- *Data conversion and availability*
- *Process design/optimization*

MR. JOHN F. KALNBERG: Our topic is pension plan administration. We're planning to talk about the administrative side of our job. As traditional actuarial work has needed fewer people, many of us have gotten involved in the administrative side. Either that, or the administrative side of our job has grown bigger and bigger. Often, in the big consulting firms, the people that went over to the dark side went over to the administrative side. Those that were left behind didn't really know what happened to the people that went over to the administrative side. For those of you that have been left behind, we're going to tell you about the other side. For those of you who have gone over to the administrative side, we hope to make you think a little differently about the stuff that you're doing. Most of the people that have moved over are glad that they did so. There's a much challenging work to be done on the administration side.

We're breaking into two different kinds of roles. Our first speaker will be Andrea, who's with the Towers office in Parsippany, New Jersey. She's working in a more traditional role at Towers, in the retirement practice side. She is the interface between the outsourcing service center, and the regular plan actuaries. Curt is an actuary who has been committed to the outsourcing side at Unifi Network of

PricewaterhouseCoopers. He's going to talk about some of the nontraditional things that actuaries may get involved in.

MS. ANDREA L. LUAllen: Curt and I are going to talk about outsourcing. Some of you might be familiar with it, but maybe we'll actually change your mind about what it actually is. Why do our clients outsource their plans and their administration? Why do the consulting firms offer these outsourcing services? Why are we getting into this business? How do our client relationships in outsourcing arrangements differ from a traditional consulting relationship? We're going to talk a little bit about the traditional actuarial functions in outsourcing. What have we been doing all along that is actually outsourcing? When we put together this list, it surprised us that a lot of the things we've been doing for many years are actually considered outsourcing. Curt is going to talk a lot about the nontraditional applications of actuarial knowledge in outsourcing and some fun stuff that he gets to do in his line of business.

What is outsourcing? Outsourcing can run the gamut from outsourcing specific little functions, such as benefit calculations, to supplying software for in-house administration by the client. At the specific end, this could be designing a system to do the benefit calculations so that the client can do its own benefit calculations. At the broad end, this could involve full call center and Web-based administration done by the consulting firm. So it runs the gamut from helping them out a little bit to actually doing everything for them. All of those things are outsourcing.

When many of us first think of outsourcing, we think of a company doing everything for its client, but that's really not what outsourcing is. It includes the traditional roles that we've been playing as pension actuaries for years. I mentioned benefit calculations as one of them. We're going to get into a lot of other things that we do as well. Often it's the fastest growing business for some of the large consulting firms. Lately, we've had a lot of interest in outsourcing by clients, so we've had to grow our department to meet this demand. For many firms, the focus has been on full-blown, full-service outsourcing with "access and play" self-service features. That would be things that are Web-based or that use voice response. The participant can actually have access to his or her own data.

Why do plan sponsors outsource administration? Basically, they're looking for access to technology that might not be available, or they might not be able to efficiently deploy, because they're just one employer. Maybe it would be too expensive for them to try to have all this technology themselves. What we're talking about is Web-based technology. IVR means interactive voice response systems or some sort of wireless technology, or client server-based applications. What we can add or what they're looking for when we outsource is quality, consistency, and responsiveness.

We've found that many of our clients are dealing with a lot of HR people in the field and their employees are not getting the right answers, and they're not getting

consistent answers. They may ask one HR person a question and they get one answer. They might turn around and ask another HR person whether it's in the same location or in a different location, and they're going to get a different answer. So, one of the reasons that our plan sponsors are looking to outsource is to get consistency. We can improve the responsiveness of their local HR people. If they have a group that already does the benefit calculations, we've been able to increase the response time answers to questions, benefit calculations, and so on.

We'll set-up process flows or process disciplines and controls with quality type controls that might not exist with the client. They also will get access to systems, technical and transactional expertise, and access to best practices that other firms are using. If they were doing this themselves, they wouldn't have access to that necessarily. They're able to leverage off of our experience in outsourcing and our experience with other clients.

There are also resource steps that they might not have. It is scalability. For instance, if they decide to have an early retirement window, or a lot of layoffs, or there are certain peak times of the year, for instance, around negotiation times for union plans, you might find a lot of people retiring. Obviously, during windows, a lot of people are going to be retiring. The client might not be able to handle all the stuff that's going to happen when these peak times or special events occur. What the consulting firm can do is it can actually put more resources on that case during this peak time, and that is a very important thing. It also allows HR to focus on their more strategic roles, the things that HR really wants to do. HR doesn't want to be the one to tell Mr. Smith that he's vested or calculate the benefits. They have other things that they really want to do to help retain employees and hire good employees.

The current business trend has been for companies to focus on their core competencies and outsource the functions that really aren't directly related to those core competencies. That's another reason why our clients are looking to outsource. They're not in the business of calculating benefits. They are a business that builds engines or runs a bank, or whatever. This isn't their business. So they decide to have the consultant who is really good at it do it. They can then focus on what their core competency is.

Plan or organizational changes are another opportunity for outsourcing. For instance, if they change to a cash-balance plan or they change plan formulas, they might begin outsourcing because they might not be able to handle the new formula very well. For instance, with cash-balance plans, you have record-keeping issues. You might have a lot more lump sums that need to be paid.

Consider mergers. When two organizations merge, sometimes the HR staff is completely lost. One of the examples that Curt used that I like is you have one person at the company that has been doing the calculations for 25 years. She's retiring. All of a sudden, you're up the creek. What are you going to do? Nobody

else knows the plan at all. That's another instance where we see clients beginning to think about outsourcing.

What types of clients are using these services? Full outsourcing involves the recordkeeping of the data and the benefits transactions. Transactions include things like: performing benefit calculations, doing estimates, producing optional election forms, communicating with the employee about benefits, getting the forms back, talking with the trustee (either via electronic feed or some other media to let the trustee know what the benefit amount is), and dealing directly with the participant on any questions that the participant might have. Those are what we call transactions.

Full outsourcing involves recordkeeping transactions, and employee self-service, voice response, Web-based activities. Generally, these are large, complex corporations. They're highly transactional and deal with a lot of benefit calculations. They have a lot of people that call in and ask questions or people that want to get their balance all the time. They want to know what their balance is in the cash balance plan.

They're generally hybrid plan sponsors with record-keeping needs. For instance, they are cash balance type sponsors, although they're not limited to that. In our office, we have a lot of plans that have full outsourcing that have the traditional formulas. But you tend to see a lot of the corporations that move to a hybrid plan, like a cash-balance plan or a pension equity plan, and they start thinking, "Hey, maybe we need to get somebody else to do this."

Mid-level outsourcing is basically the same as full outsourcing, but with limited employee self-service. There might or might not be a voice response system. There definitely won't be any Web-based activities. Those are generally mid-sized corporations. They might have a more stable plan design, such as a final average pay or a career average pay plan rather than a cash-balance plan. The employees will probably have less access to Web tools. Not everybody has a PC on his or her desk. The plan population has a harder time obtaining access to a computer. They might be too budget-constrained to allow full outsourcing. They just don't have the resources to pay for us to do everything, so they have opted to leave out a few things or do a few things themselves.

Then there are the traditional service users. The consulting firm would do the benefit calculations. These are generally smaller plans. They're going to be more resource constrained. In other words, they might lack the HR staff or the expertise to do the benefit calculations themselves. They will, generally, handle all of the other transactions that we talked about in full outsourcing. They'll handle dealing with the participant, answering questions or giving the participant the package for retirement or the estimate. They'll deal with the trustee themselves and will deal with any other participant communications themselves.

Obviously, we've just shown these three, but there's a lot of stuff in between each of these. For instance, in between the mid-level and the traditional, there's a lot of things that can go on there. For instance, maybe the consulting firm would do the recordkeeping and the benefit calculations, but the client would take care of everything else. There are more than three options.

MR. MORGAN: I have a point of clarification there. One of the areas in which we've seen interest in the full outsourcing option is within transactional organizations involved in mergers and organizational changes. They have created some very complex plan administrative environments. When we created this presentation, we used the word transaction in two completely different contexts. We've seen a lot of interest from large companies with high volume and complex plan designs.

MS. LUALLEN: Right, maybe it is because of grandfathers and because of mergers or plan design changes.

MR. MORGAN: Right. They're the ones that if it's simple, they will do it themselves. If it's a mess, they're the companies that come to people like you and me.

MS. LUALLEN: Right. We get the messy ones. Why do actuarial firms offer these services? Hopefully, after we get them they're much better than they were before. What do we actually add to the mix? First, this is where the opportunities are today. The clients are demanding this service, so that's one of the reasons why we're offering it. In some cases, it's actually a defensive move. If one of our existing clients wants this, and we don't offer it, the client might not take that business elsewhere, but they might also take its valuation business and the other core stuff that we're doing with them. In a lot of cases, the consulting firms have done this to retain their best clients.

Because of our expertise, we have the ability to deliver real value and appreciated service. When I get involved with this stuff, the client thanks me over and over again for the expertise that we bring to the table and the value that we add. That makes you feel good as a person, but it also makes you feel good as a firm.

Also, it often solidifies the consulting firm's position as a business partner to the client. Obviously, we're out there to make money, but we're also out there to be business partners with our clients and to help them make money. While it is true that the clients demand it we're defensive, and we want to protect relationships. We also want to be a business partner. Being business partners is how we do our best.

Outsourcing also can enhance the traditional and nontraditional skill sets of the actuary. Of all the things on this slide, this one is my favorite. It combines the perspective of the plan user, which is the participant, the plan administrator, and the plan sponsor. When the actuary becomes the plan administrator, he tends to realize just how those plan changes that he's contemplating affect not only the

bottom line, but also, how expensive it is going to be to administer this thing? How easy is it going to be to administer? Are the participants going to understand it?

What happens is your perspective really changes. In my job, I started off as a valuation actuary and have evolved into plan administration. My perspective is very different now compared to ten years ago, so this is definitely a favorite of mine. We found that when you get a plan administration actuary involved in doing plan design, you might come out with a slightly different formula, but it will probably be a better formula because everybody will understand it, and it will be a little bit easier to administer.

How is an outsourcing relationship different from a traditional relationship? There's not a lot of difference, but we're going to highlight a few things. As far as contact frequency on the valuation side, and regarding the traditional role that we're talking about, you'll have occasional contact with your client during peak times of the year when the valuation is being prepared or when Financial Accounting Standards numbers are coming out. You're not going to talk to your clients every single day unless you have large clients. You are going to have occasional contact; and with outsourcing, you're going to probably be in contact daily.

The client on the traditional side is usually a finance person or someone involved in design. On the outsourcing side, you deal with the HR administration people. The product on the traditional side is advice and the plan financial results. On the outsourcing side, it's those transactions we were talking about, including the participant's service, dealing with the participant with his plan questions, and so on. Fees on the traditional side are, generally, recurring and ad hoc. On the outsourcing side, this is the same, but the fees are, generally, on a much larger scale than in the traditional work. Contracting on the traditional side varies wildly. Everybody probably does something different. On the outsourcing side, because of the scale of what we're talking about, there are usually formal contracts. They're usually multi-year, and the scope of service is, generally, very well defined. We're trying to avoid getting into that black hole of doing work that you're not going to get paid for.

Once the decision to outsource is made, what is the role of the actuary? There are two roles. I'm going to talk about the traditional role, and then Curt is going to talk about the nontraditional role. Basically, we've been doing outsourcing for years, probably since our profession started. Perhaps we didn't think about it as outsourcing, but some of the outsourcing functions that we do include, benefit calculation, system design, specifications and testing. For instance, a little spreadsheet you put together to help the client calculate a lump sum is outsourcing. A task that helps the client calculate a benefit, or a full-blown system that you've designed, can also be considered outsourcing.

There are special calculations that we've traditionally done. These include: mandatory distributions 70 type calculations, domestic relations, order modeling,

and segregation, qualified and nonqualified benefit allocations for 415 limits for pay caps, F.I.C.A. tax on nonqualified accruals, deferred retirement after normal retirement age (and any suspension of benefit issues that crop up in relation to that), and employee contribution features and issues. There are still plans out there that have employee contributions or they have employee contributions that stopped a long time ago. There are also lump-sum repayments. For instance, say a guy leaves, takes a lump sum, and comes back to work. We must determine if there are any special grandfathering provisions. We've been dealing with these for years, even before our firms were doing the full-blown end-to-end outsourcing for our clients, but these things really are outsourcing. The client has asked us to do these tasks because they either didn't have the expertise or didn't have the staff to do them. Some of the other non-benefit calculation related ones include the documentation and communication to participants; for instance, there are plan documents, summary plan descriptions, summary of material modifications, and benefit statements.

Under regulatory compliance, when we're dealing with non-safe harbor plan designs, we must determine whether they comply with IRC Section 401(a)4 and IRC Section 411. We also deal with the 415 limits and the suspension of benefits, if our clients have opted to do this. If they do or don't, what are the consequences? Another consideration is optional form conversions on the design side.

We have been helping them make sure that they are protected from antiselection as far as the elections go. There's also the whipsaw of wins in cash-balance plans. For those of you that aren't familiar with what that is, in the cash balance plan when you're calculating the present value of an accrued benefit, if you don't set the plan up properly, it's possible that you might end up with a lump sum value that is greater than the account balance, and we don't want that to happen. Then there is the determination of the most valuable form. A plan must demonstrate that the joint and survivor is the most valuable form. We must make sure that any factor conversions, don't cause a problem. Those are the traditional roles, and many of us had been doing these for years before we even realized that we were involved in outsourcing. Curt now is going to talk about the nontraditional roles.

MR. CURTIS S. MORGAN: Outsourcing is really just administration done by somebody other than an employee of a plan sponsor.

I'm going to talk about some of the other fun things that are expansions of my expertise that came after I spent 10 or 12 years working as a traditional actuary consulting to large employers. As background, I did spend a fair amount of time doing consulting work, valuation services, and plan design consulting. As our firm at the time, Kwasha Lipton, began to build an outsourcing practice, I moved over with one of my clients as one of the first large clients implementing a full outsourcing environment.

Since then I've spent a lot of time helping companies, both in outsourcing and in

plan design. I would argue that my administrative experience has made me a better design consultant. I'll certainly never design plans again like some of the ones that I did when I helped companies very early on. Many of those proved to be more difficult for employees to understand and for employers to administer. Given the technology that we're using and the volume of transactions that we're trying to deploy, administrative design becomes a lot more important to many of our clients. I guess the first nontraditional role that impressed me as I went into kind of an administrative and, particularly, an outsourcing mode is that we are building some pretty serious transactional systems. A little later, I'm going to talk about or draw an analogy between the systems that we build and a production line from a manufacturing facility. Much like those manufacturing production lines, these are very complicated. The project management aspect of handling an implementation and getting all the pieces into the right place at the right times was a skill set that I did not have when I first went into outsourcing. We did things like use Microsoft Project and set up tasks, priorities and dependencies—the things that come up everyday in our business now.

I'll draw an analogy to the one time I visited the Boeing assembly line. Those guys are project management gurus. When they're ready for the engine to be bolted onto the plane, there's an engine right there under the wing. There's a guy with a wrench and a guy with a bolt, and they're all ready to do it. That's how a lot of these assemblies have to be done.

We're putting calculation systems together that rely on the data to be in the right place at the right time. They rely on regular valuation systems or cash-balance recordkeeping systems to have the balances ready for input into the calculations. There's a lot going on. We're converting data often from 20 to 30 different sources, and hoping it will all come together. You need to set up systems for prioritizing data. Do you adjust data on payroll right on the pension payroll system? The answer is, it depends on the status of the employee involved. So there's a tremendous amount of project management involved and a whole skill set that we don't really see in traditional actuarial work. There the attitude is, "Let's do our valuations and get our valuation services done." In traditional consulting arrangements, a client is relying on your knowledge to be able to think on your feet and give them good advice at some point in time. These are long-range projects that stretch out often over 12 to 15 months as we start to implement these services.

Along with project management comes issues of tracking and resolution. We need to track all of the little issues that arise. For this acquisition back in 1997, when we brought the data over, the 1994 pay wasn't right for some small group of people. Someone has to keep track of that; either birddog it to closure, get the data loaded into the system, or when we put the system up, set up an error condition for the participants who are affected, so that we don't send the wrong results to participants when they use our systems.

Tracking resolution is something that we're also not used to doing just in a pure consulting role. The other side of it is that we need to help our clients make decisions and document the basis for those decisions because we're building systems based on those decisions. Changing your mind mid-stream or late in this process can really cause this to derail an implementation, so it's kind of a new skill set that I had to develop.

Training customer service teams is another issue. These are complex plans that we are dealing with. Often, when we're dealing with the people who are going to be answering the phones for our clients, these are often people new to our business. They are being brought in and trained for a period of three, four, or five months. They are given tools to help them provide the information that they need, but you're training people who don't have 10 or 15 years of pension experience to interact with participants on very complex issues. Making sure that their help texts, their tools and their training are sufficient for them to do what they need to do is an important aspect of our jobs.

Develop Web tools. We all use the Web. We all use sites. We know good sites and bad sites. Dealing with issues of navigation and hypertext in a way that a participant can use these systems effectively is an important skill. What happens is the highest cost component of an outsourced operation is the people. It's the labor. The more that we can do to maximize self-service and minimize confusion from the users' standpoint, the fewer calls we will receive at the call center, which reduces the costs for us and our clients. So, creating easy-to-use tools that are intuitive to the users of the systems is something that we all need to do. We all need to bring that knowledge from what we've done when shopping at Amazon.com or Barnes & Noble or other sites and put it to use in our systems. This is important.

At the same time, we don't have quite the same budget as some of the retail sites do. I had a client ask us as part of their flex enrollment, if they could have a shopping cart that people would fill with their medical plan and dental plan as they went through the annual enrollment process. Unfortunately, we had to tell them that we didn't have the many, many millions of dollars that it would take to develop that technology and apply it. That's the kind of site and experience that people are used to seeing in retail sites, and that's what they want to see at our sites.

FROM THE FLOOR: Isn't that a build it or buy it issue? Is something like that available from somebody to buy the software or develop something like that? Why would you have to develop something like that?

MR. MORGAN: We haven't really found one that fits into the complex data structures that we have. You can't just take that tool off the shelf and apply it to a flex enrollment application. Hopefully, it will be soon, but right now it's not quite there. I think I've hit systems ease of use pretty hard.

The mindset that you have coming out of the exams is that you can use a lot of

the knowledge that you have and the discipline of the actuary to help to model service demand. I have some examples of how plan designs or seasonal things can actually drive the demand on our call centers, on our Web sites, and even on our fulfillment center to the extent that we're providing things like retirement kits to participants. We need to assemble those kits.

There are a couple of plan design driving variables. One is retirement patterns tied to vacation policy. I've done a lot of work with the regional Bells and the telecoms. Their bargaining agreements have people getting their full vacation allowance as soon as they work into a calendar year. We see a tremendous volume of bargained retirement kits happening for January and February terminations because their people will work until January 2nd, get a full year's worth of vacation, and then will retire.

Another very common one is in plans where years of service are counted by counting hours. In most calendar years, sometime around June 5, a full-time person will have worked 1,000 hours in that calendar year. So, we have seen a fair number of our clients with these plans have involuntary retirement spikes. The retirements were not involuntary, but they were unintended by the plan sponsor at the time. They've gotten used to this retirement spike that happens right around the middle of June as people earn an extra year of service. At that point, service accruals stop for the rest of the calendar year. The person has earned his or her year of service and is not going to earn anymore. Bonus programs, obviously, also generate this kind of spike to the extent that somebody has to be on payroll to earn or get his or her bonus for the prior calendar year. People will stay.

The other unintended window is tied to General Agreement for Tariffs and Trades (GATT) stability periods. Say that May GATT rates are on the order of 30 basis points higher than the February GATT rate. That means that for our clients that have traditional plans and convert lump sums, people retiring in the third quarter of 2001 may see lower lump sums than if they leave on June 30 of 2001. We may see an unintended retirement window there. We will see a spike of activity in both our modeling software as soon as we announce the rates for clients that use a quarterly rate and in requests for retirement election kits for people as soon as they see that the interest rates are going up.

There are other areas in which we provide services. We provide outsourcing services around what we call survivor benefit support, which is a single point of contact call center for people to handle all of the beneficiary issues associated with an employer retiree death. It's a single point of contact for getting saving plan distributions, life insurance, converting health insurance to a surviving spouse, or for survivor pensions. All those things are tied to a single center. That is a business that is highly seasonal. We see death spikes occurring through different periods of the year, typically, right after the holidays. We see greater demand in the January-February timeframe than we would in the spring and summer months.

Birth patterns through the year are pretty stable. We see more activity in our health and welfare practice through enrolling new dependents, getting new babies health insurance coverage. However, we have been surprised. About two years ago, we had a hurricane that went through the East Coast and it wiped out all power and telephone systems for three days. It was a surprise to me, but we actually did see a measurable spike in births nine months later that were reported to our call center. The only thing we could conclude is, without power, the TVs weren't working, and there was nothing else to do.

Marriage patterns. There are big spikes in June and September, which tend to impact health and insurance. We see enrollment of new spouses and changes in savings plan participation. Family changes seem to drive a lot of other savings plan needs. Divorce is another factor. We see a small pattern, but not much. After the holidays, it seems that divorce filings and submitted qualified domestic relations orders go up.

The stats and large streams of numbers identify patterns and can be used to identify areas where we're going to need to increase staff for peaks. It also identifies potential risks in service or quality so we can address them.

I'm going to get into a little bit of this assembly line analogy. As Andrea mentioned, in outsourcing, particularly in pension outsourcing, our product is a transactional service to plan participants, projections, retirement kits, termination kits, and payment direction changes. We see tremendous numbers for fully outsourced clients' address changes, tax selection changes, and direct deposit changes occurring throughout the year. Our big driver, particularly for the active employees, tends to be projections and retirement kits.

I'm going to talk a little bit about building the system that supports these types of calculations. Calculations are projections into the future. Maybe they're going to put in some salary assumptions and bonus assumptions as well as the termination date and the retirement date to build in to see some projections. Then there are actually detailed retirement kits where people are making elections themselves. As for implementation and a project plan, much of it involves building the assembly line to produce these transactions.

For ones in which the data is correct and complete, the calculations are relatively straightforward. Maybe the volume of that type of calculation is such that we're going to support it within the system. There's another line that needs to be built for all the exceptions and all the calculations that aren't supported there. Maybe the person has a complicated domestic relations order that calls for a segregation of benefits, or the person earns over the pay computation limit of 401(a)(17) and has different options with respect to the nonqualified benefit and the qualified benefit. I'll talk about maintaining both the primary line, which I'm calling the automated line, and the secondary line.

The requirements of the successful implementation include maximizing high-quality throughput on the primary lines. This involves making sure that we maximize the number of calculations that we can possibly automate and support. At the same time, we need to identify the non-supported transactions or defective transactions before they leave the line. All of those types of situations will cause us to not want to release results to participants if they will rely on them to make elections.

Monitoring tools and procedures for the automated line are fairly sophisticated systems that are impacted by lots of things everyday: data coming in from the client, data coming in from the trustee, and multiple client feeds. How are we making sure that any of those types of situations aren't corrupting the underlying system? There are also process controls to manage the parallel manual line for processing the exceptions in a timely manner.

These systems work by requiring participants to call or log onto a Website. They expect to see instant results at this point. One of my clients produces over 600,000 pension projections a year over the Web. There's an expectation and now an entitlement for that workforce to build the instant results. I'm going to retire in ten years. I want to know what my numbers are and I want to know them now, because my financial planner's office needs these numbers to help me make sure that my financial plan is intact.

Because of the high expectations that we've set with regard to the automated system, when somebody hits one of these errors, we need to make sure that we are appropriately staffed to have the manual calculations done, to have them checked thoroughly, and to get them out to the participant as quickly as we can. So when I talk about this second production line, we really need to make sure that the process flows in a way that we'll get the participants what they need when they need it.

I'm going to talk a little bit about monitoring the primary line. I made the analogy within our practice that one of my clients is a chemical company. It is producing these chemicals all the time, and there is continuous testing going on at the end of the production line. They are testing what's coming off the line to make sure that it meets the requirements of their customers. I look at our production lines as the same thing. We need to have good, solid sampling techniques and automated regression testing. A fair number of the cases that are being processed through the system each day are being checked to make sure that the results continue to be what we expect. We want to be sure that there's no change from what the person would have received had they seen the calculation yesterday or today. So we do frequent regression testing to ensure that the system operates as intended.

I talked a little bit about data being a possible corruptor of these systems. Others are swapping hardware and software. We're in an environment where servers are being upgraded all the time. Our suppliers upgrade software all the time. If a supplier assures us that the way the system works is not going to change, we need to

constantly be regression testing to ensure that the system really doesn't change. We maintain very sophisticated testing tools, and complete test populations, and test data, so that we can run the calculations today and make sure that they produce what they did yesterday. As I say, at this bottom point, by maintaining thorough test plans and populations of data, the automated regression test can be run very efficiently without a high cost, but it can reduce the risk of quality corruption.

One of the other high-risk areas of high risk in maintaining these administrative systems is upgrading the systems. We spend a fair amount of time planning every system upgrade. When we think about the testing around these upgrades, there are two phases of testing that we do. The first thing that we do is maintain matching test and production environments. We have the environment that we are happy with that's in production today. We also have a testing environment. We develop the upgraded software and upgraded applications. We do that upgrading and development in the test environment. Before we're ready to move into production, we make that a thorough regression test is done of what's in production today and is reconciled to what the results are in the test environment. The only thing that has changed in the test environment should be the things that are being upgraded as part of this move.

After we're satisfied that the test environment is now better than the production environment (that is, it reflects all of the upgrades that we need to do), we do a lock-down or a set of results in the test. We want to make sure that when we migrate from testing into production, and then run the same results in production, that everything that was supposed to move from test production has moved. This was the nontraditional role of the actuary. We've moved pretty far away from life contingencies, but very heavily into risk control and paranoia. A paranoid mindset that can come out of the risk analysis that we do as actuaries can help to make sure that we are monitoring our systems and minimizing our risks.

There is the secondary production line. Say we have a primary production line. If you think about a process flow, there may be 20 or 30 steps that a calculation goes through as it goes through our production line before we release the results. At each of those steps, we have a secondary team of people mimicking each of those steps for the manual calculations. Every time that we're doing one thing in production, because it's actually a computer doing it, we have one person doing it and another person checking it in the secondary line. We have sign-offs required at the appropriate checkpoints. The initiation of the secondary line processing occurs either when a participant requests a non-supported calculation or when a calculation runs through the system and triggers a warning condition on the primary line.

As far as our conclusions, I'm hoping that by listening to both Andrea and me, you'll hear that the outsourcing practices of many of our firms are ripe with opportunities for actuaries to apply our unique skills and mindsets in both traditional and

nontraditional ways. The growth of these areas has been phenomenal in both of our firms and many others, and really has provided a tremendous amount of opportunity for actuaries to branch out and try new things. It has been very rewarding for Andrea, John and me.

MR. SCOTT C. THORNTON: I have a couple of questions on the pricing for these administrative services. How are they usually priced? Is there a set price per participant, per retired participant or active participants per year? The second question is, do the actuaries get involved in the pricing of the administrative services?

MR. MORGAN: I have to be very sensitive to price discussions at actuarial meetings because of the anti-trust policies, but I think there are a couple of different models out there. Just as there are different scales of services, there are different pricing models. There is transactional pricing for mid-level outsourcing where we're providing back office administration, so you might see a per calculation charge or per commencement charge. For pension administration, there might be a flat recordkeeping charge for a cash-balance plan.

We've seen a bunch of per head charges varying by status. There are other clients that are on flat-dollar charges. It's just hundreds of thousands of dollars per year or per month for this population. It is then incumbent upon the firm negotiating that contract to protect itself against things that could cause a spike in activity. Even if you forget special plan amendments, a company going through a layoff or a plant shutdown will have significantly greater volume than you might expect from looking at past actuarial valuation reports. That's a response to the first part of the question.

MR. THORNTON: The second question was whether the actuaries get involved in setting up the pricing methodology in negotiations.

MR. MORGAN: I'll turn this discussion over to Andrea. In my experience, we do get involved, particularly in the first wave outsourcing clients. We're now at the end of the first wave. The majority of the large companies have outsourced most of their pension administration. Early on, there was a lot of talk about what the expected volume should be because plan sponsors weren't really monitoring how many retirement kits were being prepared or how many deaths were being processed. You get rough information from the flow of lives that was in the actuarial valuation report. As you start to build a model, you need to expect the volume you are going to have or how many disability kits are going to be requested. That's when the actuaries can really come in and look at the population. They can look at the demographics and help to set some of those assumptions in a way that minimizes the risk to the service provider, but, realistically, it reflects the volume of services that they're providing.

MS. LUAllen: I would tend to agree with Curt. To the extent that the client

knows its business is producing these things, the actuary gets less involved in the pricing. If the client shows its volume last year and the year before and the year before that, the actuary gets involved a little bit. The actuary is less involved if the client says, "I have no idea. The lady that did it left last year and her filing cabinet was in the building that burned down." You might laugh, but it happens. That's when the actuary doesn't get involved.

MR. MORGAN: With that being said, the other side of the issue is that the people who are experienced in this practice need to recognize that a lot of the tools that we offer and the things that we do will actually drive up administrative volume. I gave the example of 600,000 pension projections a year for one client. Prior to outsourcing they didn't offer pension projections at all. The person would have to come in, fill out a form and request something. They could do it once a year, as required by ERISA, but it didn't offer the kind of instant access. So, to some extent, the technology drives the demand. On the other hand, you're hoping that the transparency that results from the availability of all this data increases the participant appreciation in the plans that are being provided.

MS. LUALLAN: One thing that we didn't mention earlier is that, originally, a lot of clients wanted to outsource because they wanted to save money. We found that generally doesn't happen. What has happened is the participants tend to get a better appreciation of the plan, and they're getting better information. We talked about the quality of the information, and the consistency of the information. I think that's worth a lot to the client. Clients have gone from their employees complaining about the plan, because they could never get a straight answer, to an outsourcing situation in which, without changing anything else, they love the plan. So that has been our experience.

MR. CHARLES E. DEAN: It seems to me that you're doing a lot of calculations that people are depending on and that we hope are right, but could be wrong for reasons of data or interpretation. I have a twofold question. Do your companies, in any case, assume the legal responsibility of being the ERISA plan administrator? If so, under what conditions would you or would you not assume that responsibility? In addition, notwithstanding what your answer is to that, what do you do to try to minimize your potential legal obligation that somebody is going to sue because they're unhappy about a calculation?

MS. LUALLAN: I'll answer the second question first because I think it's a little easier to answer. Most of the communications that go out from our service center, and I'm sure that Curt probably will agree with this, have disclaimers on them. The actual numbers are based on the plan document. To the extent that the numbers in this thing you're receiving are different than what the plan document says, the plan document rules. It's also based on the data in the system and depends on whether your actual data is different, and so on. There's usually a paragraph or two at the end of every letter that gets sent, or on every projection method that gets done, or a kit that goes out that has disclaimer language. I think that's very important to

have.

MR. MORGAN: I think there are several ways that we try to reduce erroneous calculations leaving our facilities. The first is what I talked about earlier. It involves going through the calculation line by line as we set the system up and putting appropriate warning conditions into the system. When I say warning conditions, this is a flag in our system that says don't release these results until somebody has reviewed the calculations. We will mail a calculation to a participant who calls or logs onto the Website and requests a calculation that the system feels may be suspect, or the data aren't supporting, or if the participant receives a message that says the calculation could not be processed. So the warning conditions and error conditions are our first level of protection against a wrong number going out.

The second is effective design of the output of the calculation system itself, showing the participant all of the data elements that are used to generate the calculation. When you think about a pension formula, for the most part, the calculations are arithmetic once the data elements are assembled. We'll show in the output the actual arithmetic that goes on and the input data that's being used. If a participant knowingly relies on a calculation in which the data is clearly, incorrect, we believe that the plan sponsor is somewhat protected by caveats on the output saying this is the data that we used. If it's not correct, your calculation will not be correct.

I'd like to answer the first part of your question pertaining to the extent to which we assume fiduciary responsibility and, more importantly, fiduciary liability. Generally, the contracts provide that we are not the plan administrator. I believe that's the case across the industry. I can only speak for myself, and not even my firm when it comes to our policy with regard to that. However, the general expectation is that we are providing specified transactional services to our clients within a specific scope of services agreed to in the contract. The claims and appeals process under ERISA still remains and the plan document still prevails. All of the appeals procedures need to be adhered to and all of our clients do so, often relying on the outsource vendor or the administrative vendor. I don't want to use the word administrator in this context, because it's not capitalized in that way. The administrative service provider will provide them with information about all the interactions between the participants submitting a claim and the plan. Does that answer your question?

MR. DEAN: Yes, it does. Nonetheless, things can still happen. In fact, one can be blameless in the eyes of God and still be sued and still lose a suit. Is it your experience that these things are sufficient and that there aren't any lawsuits or claims? Or are there, in fact, claims and you have to build that into the way you price the service?

MR. MORGAN: There are claims that come against plans all the time. In my experience, which, again, is limited to me, there have been very few situations in

which we have not been able to work with a participant to get the answers that they need to the questions that come up. Every one of our clients has a formal claims and appeals process that everybody goes through. That's no different whether it's their internal HR department producing calculations and sending them out to participants or whether it's an outsourcer providing those transactional services. The difference is, we believe that we bring higher level people with greater expertise and better systems and technology. The number of claims for those situations is dramatically reduced through outsourcing.

MR. DEAN: If you're doing as much of the processing as possible on the Web, you can ask people to verify the information they want to submit, whether they want to make this kind of a transaction, or whether they want to make investment shifts within a 401(k) plan. Where do you think a physical signature on paper is a requirement? Where do you think a fax of a signature, presumably on a paper, would be sufficient? Where do you think simply asking enough questions and having the employee state, through a mouse click, that this is, in fact, what they want to do? Where is that sufficient? How much can we put on that assembly line, and how much requires that somebody mail or fax some information? Where is that dividing line?

MS. LUALLAN: The one transaction that comes to mind is spousal consent. We still have no way other than notarization or witnessing by the plan administrator. Spousal consent would still need to be given through a signature, and it would be mailed to us. A fax of a notarized document would not be good enough. We might accept that temporarily to get things moving, but with the caveat that the original has to be in our hands before direction is given to the trustee, or you will not get a check. That's the one that kind of comes to mind. If I'm not mistaken, there have been some regulations that deal with what needs a signature and what doesn't.

MR. MORGAN: There are a few different ways to deal with this. Andrea's correct that, in the pension administration world, virtually all pension commencement type transactions require paper at this point because of the spousal waiver rules. Documentation is required to demonstrate that you've complied with the annuity starting date rules. There are situations for which we do take a significant number of transactions over the phone or the Internet. Your example of 401(k) administration is one; health and welfare administration is another.

Many of our plan sponsors or many of our clients still require participants (when they're either hired or shortly thereafter) to authorize the use of the acceptance of transactions over a phone or through Web technology by signing a one-time acknowledgment that they're going to execute transactions using these tools. With that being said, all of those transactions are protected at our shop by social security number and personal identification or employee identification number at the point of entry into the systems or into the call center. No transaction is taken without that P.I.N. code.

As for protection at the back end in these transactions, we try to ensure that the person receives a confirmation of all transactions. These are, typically, fraud protection type issues. Take, for example, the instance of somebody leaving his or her PC logged on and walking away. You can imagine the horror stories. Somebody might reallocate their 401(k) balance, or request a loan, or both of these things. All produce paper or e-mail confirmations to the person that tell them what has happened. There could be a misunderstanding of the transaction, and if the person calls claiming it isn't what he or she intended, it gives us an opportunity to clean up and reverse the transaction before things get too far out of line.

The last one, and one that we're really concerned with from our perspective, is address change. Somebody might call with a P.I.N. saying, "My address has changed. Can you mail my pension checks to this new address?" Like many other providers in other industries, we protect ourselves against this by determining whether we can accept an address change from retirees in writing or over the phone. Then we send confirmation statements, both to the new and old address, confirming that the address change has been reported. If there's an issue, call the service center right away. We do our best to try to protect against the odd situations of fraud. At the same time, plan sponsors work through the authorizations necessary for them to use our systems in the first place. That's a longwinded answer, but it was a pretty complicated question.

MR. DAVID M. WELSH: I have three questions. First, do most of these systems cover vested terminating employees as well as active employees? Second, I was curious about how the market for this kind of consulting service was running. Perhaps this had been something that started with larger employers and was moving down toward smaller employers, or vice versa? Maybe there's no trend at all? Third, given the nature of these systems have you all encountered any problems along the lines of people hacking into them?

MS. LUALLAN: I think that whomever the system handles depends on the client. For one of my clients, we handle anybody who was active as of a certain date. If anybody terminated prior to that date, the client was still handling calculations for those people, whether they were terminated vested coming up to retirement or death situations. However, we're actually starting a transition now to handle those calculations for them. They're a little more complicated. They had a few older plan provisions and different optional form factors. So, it turned out that we are doing it in a piece-meal fashion.

I think that it really depends on what the client wants. Do they want that full-blown outsourcing or do they want some mid-level outsourcing? I would consider it to be more of a mid-level offering, where you're handling some of their transactions, and they are still handling some of their own transactions. It really depends on the client. We've seen the client keep a couple of business units. Perhaps those formulas are different from 99% of their population, so that would depend on the client.

MR. MORGAN: I think we're handling people who are status-terminated vesteds and sending them benefit notices. When you turn 65, you can get this benefit. You can call if you want early commencement (if you're eligible) and we tell you what those rights are. With regard to the handling of people who left in the 1950s or 1960s who are now reaching age 65, a lot of that depends on the state of the data and the willingness of the client to convert that into electronic data, if it's not already electronic.

With regard to the market, I think that we both work for large consulting firms that are handling large clients right now. The systems and level of automation that we've talked about today are still being offered, as least by our firm, only to the larger employers. However, we do know that there are companies out there that have focused on mid-level companies, and they provide these services to mid-level companies. I can name only two, so if I said who they were, I'd slight probably the other 20 that are in that market.

All of our firms are concerned about hacking and have fairly extensive security groups that look at our systems and our firewalls to make sure that they are as protected as they can be. We use all the encryption technology in communicating. Some of our clients have asked us to provide information to their participants via the Intranet only, which means that the person is already working at their desktop on-site or logging onto the employer networks through secure lines. We see that as a declining model, and the security that we have in place is becoming more accepted by our clients to put stuff out on the public Internet. We all are concerned about hacking all the time.

We think that we're protected to some extent because our users are individual participants who are logging in as individual participants using social security numbers and P.I.N.s. As I said earlier, they are receiving confirmations in writing of every transaction that's executed. So the ability for them to be individually impacted by fraud is fairly limited, and we try to protect them through the other technology. We try to protect the plan sponsors, in general.

MR. SHERMAN E. LIEBERMAN: Having gone through this process, you now have a greater appreciation of how the administrator systems have to handle certain complex plan designs. My question to you is, now that you're doing the actual valuation and plan design on the administrative system side, do you find that you communicate with that actuary in your firm before he or she does a complicated plan design, or is he or she still doing it in a vacuum? Do you get it on your desk later and have to implement it, or is there a line of communication between you?

MR. MORGAN: There are two aspects of your comment I want to address. The first one is regarding the complexity of the design, the sensitivity level is more than just how complex a system is required to support the design. It goes beyond that to how difficult is it going to be to communicate to participants and for participants

to operate within that design. I think that we try to address both of those. I think, in particular, I'm much more effective in a design mode because I can anticipate where participants might trip up over specific plan features.

I can only speak for the stuff that I have done personally and the stuff that our firm has done. We've done a very good job of integrating the design people and the administrative people when we know that the administration is coming to us. In many instances, I am both a design and an administrative consultant to the clients that I work on, so we're generally of one mind. In other instances, I work very closely with some very talented design consultants. We make sure that once we get past the high-level design and start to get into the grids, we actually work with project plans and tools that are geared to administrative implementation tools, and we make sure we understand how the rubber is really going to hit the road.

MS. LUALLAN: I think my experience is probably a little bit different, because I don't actually work in the outsourcing area, per se. I'm still part of the retirement team. In our retirement team, all I do is pension plan administration. What usually happens for me is that the actuary that does the valuation and is doing the plan design will come, but I'm doing the calculations or I have a team doing the calculations. They'll call me up and tell me they want to do a window or change the plan in a certain way. They want to know if that is going to work for me, or if I am going to be able to handle that, given the plan? In that case, I do get involved in the plan design. I'm probably right in the middle. I might say, "These are some of the things we're looking at. How does it work?"

One of my clients is in our service center. I work very closely with the implementation team, which is the team that's actually setting up what Curt called his assembly line; it goes from the system down to the processes. When we have a plan design change, we'll look at what all of our systems need to look like and what all of our processes need to look like. We'll actually finetune the plan provisions to meet what the client is expecting and what the client needs versus how can we administer it. There might be things missing from the plan document that need administrative decisions or the plan document needs to be fine tuned a little bit. For instance, for a cash-balance client, what do you do with pay in the month of termination? Things like that aren't always addressed in the plan document, but a decision needs to be made. Ultimately, we'll get it written into the plan document so there's no if, ands, or buts about what happened.

MR. LIEBERMAN: You were talking about regression testing, and I wasn't quite sure what you meant by that versus any other testing. Does that mean that you have certain tolerance limits for errors? What does the word regression mean and why did you put that in?

MR. MORGAN: It definitely doesn't mean that. What regression testing means is that you have a fully embedded set of test results—test lives with specific calculations that hit every condition or every branch in your calculation system. You

have test results for those that have been manually checked and validated as correct and acceptable. I think the context that I used it in was comparing the system today to the system as it was yesterday. That's where you compare the results of one set of calculations for that entire population to another. Any differences between those two need to be fully explained and rationalized before you sign off.

It's parallel testing. It really comes into play and I used it most extensively when I was comparing a development environment to a production environment to make sure that what I had in development was better than what was in production. Here better means reflecting new plan provisions or new features that need to be added. In traditional parallel testing, you want to make sure that there is no difference. Sometimes there are going to be differences in regression testing. You'd better be able to rationalize them as this is an intended difference.

The other area is that our data is changing all the time. Our test lives or real lives get older every month. We need to constantly monitor that, because, as each day goes by, we're not shifting their date of birth forward. They're getting older and the results, by definition, are going to be changing periodically. We need to make sure that we're satisfied with that.

MS. LUALLEN: When we try to fix the things that we need to change or that were not working right, we want to make sure that we don't break anything that was working.

MR. LIEBERMAN: A comment on the recordkeeping. It seems like one other area where the traditional actuarial role overlaps into plan administration would be the process of getting the valuation data every year and the data checks you might have whether you have missing salaries, or missing birth dates, or whatever. That would seem to me to overlap quite a bit into the record keeping you'd have on the plan administration.

MS. LUALLEN: I would definitely agree with that. What generally ends up happening is once you set up an outsourcing situation, the data will no longer come as valuation data. You will use your outsourcing data as the valuation data. So one of the things I've found in traditional and nontraditional roles is that we can use our skills to determine what data is important and how it affects the calculation. As such, we can make sure that we have the right data coming into this new system that we're setting up. There's definitely a crossover there, especially when you're setting it up.

When the valuation comes in, if the day of the guy's birth is missing or something, we won't question something like that. There are certain data items that are really important for the valuation or not important at all for the valuation. It might be totally different on the administration side.

MR. LIEBERMAN: That prompts another question. What tests or procedures do you have to ensure that the data that you're getting from the plan sponsor is accurate? Do you go through annual checks to make sure all the salary data has been reported?

MS. LUALLEN: I think that varies by client. It depends on how much detail they want to check, and it depends on the client systems. We definitely check trustee type feeds. We have back feeds that we use on the trustee side. There are statistics based on the data that the client gives us that go back to the client.

MR. MORGAN: We try to lock into the most reliable source data in the outsourcing practices and draw it directly. When we think of valuation data, it's like a one-time annual extract. We're reacting to data daily, in some instances, and weekly in many instances. We're getting extracts from the HR and payroll systems. Because we're going directly to the source, one of the comments quite often made in implementation is that while benefits are 30% of pay, pay is 100% of pay. If we're relying on the payroll system directly, which is self-audited by participants every time they get a paycheck, we get a lot more current data going. We're linked up directly into HRIS and payroll systems for most of our clients, which keeps our data more current than you might think of in the traditional annual extract from an actuary.

MR. DAVID M. WELSH: Your presentation is very interesting. One thing struck me as I listened to you. It sounded very much like the project management work that an awful lot of actuaries do in product development at life insurance companies. We have to get buy in from the financial people, the computer people, the managers, the troops that are actually doing the work, the investment people, and the customer in terms of the plan sponsor. We need to get everybody to work together.

A frequent issue is whether the same system or an existing computer system can be tinkered with to do some work for this new product. Are some people that are trained to handle issues with one product trained to handle issues with another product? Do you all develop a brand new computer system in your production line and train new people, or do you try to use existing systems when a new client wants to outsource to all of you? How do you all handle that kind of thing in using people to support more than one plan sponsor's plans?

MS. LUALLEN: Basically, we have a system that actually has changed recently. We do have a system that we "start with." It has different modules that we can add in that are standard type modules, but no plan will fit into anything standard that I would ever dream of creating. What we have to do is customize that thing that's already out there to meet the client's needs to reflect their entire benefit formula. Some clients want their calculation to look a certain way, so a lot of that is customized. There is a system out there that has been developed that's kind of a base system. That gets customized and different modules get picked off to be used

for the client.

MR. MORGAN: Our firm operates in a similar fashion, and that's why our two firms are primarily in the large client market. When you look at some of the providers for the mid-sized clients, you'll see that there are a couple that are insurance company-based. They have taken the exact approach that you're talking about and used the discipline that was inherent in building insurance company products to try to standardize and offer similar services to smaller plan sponsors. They're doing it by trying to leverage systems across multiple clients more effectively than we can with very large complex clients that we tend to deal with.

MS. LUAllen: In those cases, we do start from scratch to develop whatever we're using to do the benefit calculations. We're not going to have this full blown, huge system. It might just be a little spreadsheet. It might be a very complex spreadsheet. Most of the time, we do start from scratch because there's really no way to have a standard product for that.