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Legal and Actuarial Considerations in Modifying a Retirement Program

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Summary: The panel provides an analysis of legal and actuarial issues that must be considered when modifying an existing retirement program with a particular focus on “nontraditional” plan designs.

Specific topics include:

- *Application of the accrual and lump sum rules*
- *Proper application of actuarial cost methods*
- *Legal considerations in Canada*

Mr. Bruce Anthony Cadenhead: This is the second in our five-part seminar on plan design topics. I’m with William Mercer in New York, and with me are Steve Gorell and Tim Davenport. Steve is with an attorney in New York. He was gracious enough to step in at very short notice for a colleague who couldn’t be here, unfortunately. Tim is an actuary in Seattle with Milliman & Robertson (M&R).

When most of us think about changing the design of a retirement programs, we probably think of changing a defined-benefit (DB) plan to a cash-balance plan. At least that’s probably the first thing that comes to mind. We’re certainly going to be covering that topic in some detail, but Steve is going to start off with some legal issues. He will go beyond just the U.S. DB area. Then Tim will follow with some big-picture issues on changing DBs. I will finish up talking about some of the more technical considerations in modifying a DB plan that is changing to a cash-balance or a pension equity plan (PEP).

Mr. Stephen G. Gorell: As Tim said, I’m benefits counsel in New York with Paul, Rifkin, Weiss, Wharton & Garrison. I want to talk about an overview of the

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†Mr. Gorell, not a member of the sponsoring organizations, is Counsel with Paul, Weiss, Rifkin, Wharton & Garrison in New York, NY.

Note: The chart referred to in the text can be found at the end of the manuscript.

significant legal issues involved in converting a traditional DB plan to a cash-balance plan. I also want to talk about a few of the recent cases to give you some idea of how the courts are responding to these conversions and then talk briefly about the state of the law in Canada.

The first point, which perhaps isn't always obvious in deciding to convert to a cash-balance plan and isn't even a qualification point, is, do you have the legal ability to do it? Where we've encountered issues is in the context of a merger or acquisition transaction where you've bought a company, and, for example, there's a requirement for two years after that you can't change benefits. I was actually down in South Carolina last week and the issue came up. I mentioned cash-balance plans. I wasn't tossed out of the room. The client got excited about it and somebody said, "We just bought this company; let's see if we can do it." It turned out that we have the right to do it, but it could have been a little bit embarrassing if we had gone way down the road and someone said, "We have to wait two years before this can be done."

Once you get beyond that point, the obvious next point is design considerations of the cash-balance plan. I'm not going to talk about those in great detail, because Bruce and Tim will. I just wanted to indicate a few high points. Point number one is obviously, you have to preserve the existing accrued benefits in the plan. You have to preserve existing early retirement features and retirement-type subsidies. For anyone who hasn't yet earned into those, you either have to give them outright, which can be expensive or you have to let people earn in over time.

The other point is trying to take away protected payout features. And the bad news is you really can't. There is a procedure under the Internal Revenue Code (IRC) regulations that is sometimes used to strip out protected features in a plan, but that involves transferring benefits from one plan to a second plan. The problem is you're permitted to do that only if the benefits would otherwise be distributable under other qualification rules. In the context of a DB plan, you cannot do an in-service withdrawal before attainment of retirement age unless you reset the retirement age down to something like 65 or five years of service. The fact that you could not make the transfer normally—absent plan termination—means you cannot use that technique to strip out any protected payout forms.

The other point real quickly is that even if that were available to you, you'd have to fully vest participants, which tends to make it somewhat expensive. The other bit of good news/bad news is, while the IRS has indicated in a notice last year that they're considering letting employers take away protected benefits, they're really talking solely about nonmoney-purchased defined-contribution (DC) plans, so on that score there isn't a heck of a lot that can be done. The other point which will be talked about later is Notice 98-6 which has its own constraints in terms of plan design.

What I'd like to talk about next is employee communication. I'm talking about more than just a 204(h) notice, although that's obviously an important factor. What I wanted to focus on first, and this is not something that has come up yet

under cash-balance plans, is an emerging body of law talking about a fiduciary obligation to communicate proposed benefit changes to employees or to at least respond truthfully when employees ask you, "Gee, are we changing benefits? I'm not going to talk in any great detail. I'll just mention the point that courts tend to be finding in favor of employees. The rules do tend to vary by circuit. At a minimum, if somebody asks you, you better not lie to them. You probably don't have to affirmatively announce something before you're ready, but you're going to want to control information flows so employees don't have a basis for saying, "Gee, I was relying upon the change you were making." Although that's really only an issue if, let's say, you have a plan that today does not permit lump sums or lets you take benefits prior to age 55, and you're considering going to cash balance and, for the old grandfathered benefit, letting a person take a lump sum immediately. That's the sort of situation where if the communication flow isn't handled properly, some day you're going to see a lawsuit where somebody says, "Gee, if only I had known, I would have waited two months and taken a lump sum. Instead of that I'm taking an annuity at age 65."

It's also not clear if a participant were to win what the official remedy would be, if and when the case law develops.

Here is a quick review of the 204(h) notice, which is a requirement that you have to give written notice whenever there is a significant reduction of any future benefit accrual. You do it after the plan is amended, but you do it at least 15 days before it becomes effective. The real quick answer there is just assume that any change to cash balance will trigger a significant reduction. You may be able to argue that to some employees it really doesn't have a significant change, but the penalty for failure to meet 204(h), especially draconian, assumes that everyone is entitled to the notice. In that connection again while there has not yet been any litigation, it's important to give sufficient information in the notice. There has been a lot of press recently in *The Wall Street Journal*, especially with plans that transition a cash balance, such as giving you an open and hypothetical account balance, where you may not earn any additional benefit for some number of years after you go to cash balance. The concern has been raised that employees have not been properly told about this.

One thing that we did with one of our clients was to go to cash balance. We did the interim step at first, having an absolute plan freeze. We told people that we were going to cash balance. The first step was to freeze all benefits, with no additional accruals. We then went to cash balance, under which you would get something, but less than what you had previously. That maybe isn't the best message to give to employees, but that certainly should work.

Again, there will be a lot more challenges to cash-balance plans, and someone will look at your 204(h) notices. The other point, and we'll move on, is the proposed legislation known as the Pension Right to Know Act. It's been recently sent to the Senate Finance Committee and the House Ways & Means Committee. Whether it's going to be enacted into law, I don't know. Again, that's just a response to people's unhappiness with cash-balance plans. Unlike the 204(h) notice, the

Pension Right to Know Act would require individualized statements to participants. Also, it would only be triggered if you had at least 1,000 participants in your pension plan.

There is one issue that I thought had been put to bed a couple of years ago, but possibly not. That involved the Curtiss Wright decision, which was a squirrely case where the third circuit said, "If your plan says it can be amended by the employer, that's not sufficient because we can't tell who the employer was." The Supreme Court in its wisdom said, "Anybody who can act for the employer is the employer full-stock and you have a plan amendment." But the cautionary point coming out of that is be sure that your clients comply with their plan amendment procedures that are set forth in the plan documents. That's an obvious point of attack if for some reason it has not been met—not in the cash-balance context, but I'm forever having clients who say, "We have ten years' worth of amendments and they've been adopted by a general consul who was never authorized by the board. What do we do?" You drop back five yards and you punt. We will restate your plan. We will include all the prior amendments. We will cross our fingers. And that's all you can tell somebody, so it's important to follow your fundamental procedures and just get them right.

As a side point, the second circuit, I guess in a case about a year ago, apparently had an asset flashback and didn't think Curtiss Wright had actually been decided by the Supreme Court. It was *Shepley v. New Coleman Holdings*, in which they said that action by the executive committee of the board was not a board action. The case was reversed on other grounds, but there were judges out there who were still living in the past, I suppose.

Another point, which is not really germane to cash balance, is Microsoft and the Microsoft case. The plan said that it would cover all employees. Microsoft thought that all these people working for them were actually leased employees. The court said no. The employees said, "Hey, if we're employees and the plan covers employees, we get benefits." The court said, "Hey, that sounds right." You can fix the problem prospectively by making clear in your document which classes of employees you, in fact, intend to cover, but at least one IRS office, not surprisingly, has said that you cannot make a clarifying change retroactively. If you have a client that's considering going to cash balance and hasn't yet amended for the Microsoft case and you're going to restate your plan as part of going to cash balance, this would be a useful time to also try to adopt the Microsoft clarifying amendments. Maybe you'll get a letter or maybe you won't, but you have a better shot that way.

In terms of potential litigation, there are two cases that I want to talk about. The reason I think they're important is while both cases held for the employer and for the plan, the cases are somewhat strained, which indicates that no one knows how the cases are going to go in the future. The first case was *Esden v. Bank of Boston, District Court of Vermont*, in 1998. It was essentially a cash-balance plan that provided for crediting of interest at, I guess, 5.25% if you kept working. But if you stopped working they projected interest forward at 4% to 65 and discounted back.

The plaintiff said, "Hey, wait a second, the plan says 5.25%," so I should get 5.25%." The employer said, "No, 4% to 65, discount back, which means that your 417 minimum lump sum is less than what you have in cash balance that we're paying you, so you're getting your full benefit. Go home, be happy, and let us alone." The court agreed with the employer; however, the case isn't well reasoned. It's interesting that the judge said that it was unfortunate that the employer had to go through actuarial gymnastics to reach its result. The court's point basically was, "The employer said your benefit is your cash balance. We paid you your cash balance; that's what you're entitled to." The case doesn't seem right, but it's out there and it held for the employer.

The more recent *Lyons v. Georgia-Pacific* case was decided this past March. Once again, the court held for the employer, but the way they got there was a qualification matter. To be tax-qualified your plan has to be at lump sums that comply with 417, but if the participant is suing under Title 1 of ERISA, the court said they were not going to read the IRS requirements into the ERISA provisions, giving participants a right to sue. The court was going to use the IRS regulations only for purposes of seeing whether a person's lump sum exceeded \$5,000 and was therefore subject to payout only upon consent. The court said that that was the only reason that you could read the IRS rules and beyond that the IRS regulations they held were invalid for purposes of participant litigation. This leads to a curious result where the employee got her full benefit, but the plan was disqualified. There has been no indication of what action the service has taken against the plan, if any. There has been no appeal yet in that case. I understand the time for appeal has not yet lapsed, so who knows where that's going to go.

The other point which you hear a lot about is age discrimination and that is another potential area where cash-balance plans, especially plans that are front-loaded, may be attacked in the future. I don't think that there's been enough talk out there that you can say that it's a civil point and the plans don't have any exposure. The obvious concern is if on a front-loaded plan I have higher accruals at younger ages and lower accruals at older ages (and, yes, there's a sentence in the preamble to some regulations back in 1991 that a lot of people look to); maybe that's support, maybe it's not. But just a cautionary point that age discrimination attacks against cash-balance plans are possible. The jury is out on whether or not that is going to work.

My last point, very quickly, is the state of the law in Canada as it applies to cash-balance plans. It's not clear whether you can have a cash-balance plan in Canada. We didn't say you couldn't. The reason for that is the law is not as well-developed. As yet, as I understand it, there are no cash-balance plans in Canada. Most DB plans are fairly straightforward and simple. They all follow the same basic model, so there's no real track record there. But there are a couple of points that are worth making. Lump-sum distributions are permissible under pension plans in Canada, so at least we're acknowledging, "Gee, maybe cash-balance plans might be viable." What tends to undercut that somewhat is that prior to normal retirement age in Canada if you receive a lump sum on termination, you have to

roll into their equivalent of an IRA. The IRA is required to pay out benefits periodically so that, again, unless you're going to reset your normal retirement age down to something low you can offer a lump sum, but you can't really give a person a lump sum to spend. Having said that you still get the advantage of the communication of the cash-balance plan. If you were to try to set a lower normal retirement, you would have a concern that Canadian authorities might say it's not really a retirement plan.

The other point where it would cause complications in Canada is that everyone in Canada is permitted to make an annual deductible contribution to their equivalent of an IRA, but the amount that you can contribute every year is reduced by the amount that you contribute to the DC plan and the amount of the actuarial increment year by year in a DB plan. There is no guidance yet as to how you would, if you want cash balance, convert into the required offset and calculate the annual IRA deductible contribution.

Canada, like the U.S., has the requirement that the lump sum must be the actuarial value of the normal retirement benefit using specified interest and mortality factors, so we don't know yet whether they would have the same concern in terms of whipsaws under cash-balance plans that we would have here. Canada also has a concept of back-loading, so we have most of the same concerns that we have in the U.S. Unfortunately, we don't have any real guidance yet as to how those will be resolved; it's really a matter of someone going first. You're going to see how revenue in Canada or the various provinces react to it and the level evolved from that basis.

Mr. Timothy John Davenport: I'm a consulting actuary with M&R in Seattle. I'm not sure about the rest of you, but I'm typically involved in designing plans so when I was invited to speak on the panel, even though I personally don't have any cash-balance plans that I could say I designed myself (I've been involved in plan redesign for the past 23 years) I jumped at the opportunity but then realized that we were going to need to talk about some of the more advanced hybrid-type plans. There's no time like the present to become an expert on something, but I'll defer to Bruce, who is a real expert on these PEPs and cash-balance plans.

What I wanted to do was identify some of the unique features that you need to watch out for in plan design so that they get addressed up-front rather than when you submit to the IRS and forget about something. I tried to identify some of those features and how they're unique for these types of plans. When we talk about PEPs and cash-balance plans, we're talking about a different animal than our typical DB plan. Remember that all of the DB rules were written in the environment of a plan that defined a pension at normal retirement age. Thereby, you have accrual rules and the like that fit real well with the types of plans that we typically had. When the accrued benefit isn't that pension, but it's really this hypothetical account, what do you really have? And how do you fit those new features into the existing framework? I think what we'll find as we go through here is, clearly, we need to have some clarification and additional options, plan-design-wise, to really make these things work. They tend not to be discriminatory. They're a whole lot

more beneficial to rank-and-file-type employees and high-paid, but the existing framework that we have has six hoops/plan redesign considerations that you still need to jump through.

First, timing relating to communication and actions needed by the plan sponsor. Do things need to be done prospectively or can you do them retroactively? Normally, for a large employer making a plan change, they'll want to do things prospectively. If they're going to do a cash-balance rollout, they want to be able to communicate what those initial cash balances are, so there's a whole lot of groundwork needed up-front. Similarly, if the plan is going to have some of the new features that are coming out now, the next generation types of cash-balance plans where you have employees electing the type of index for the interest credits and so on, you're going to need to have things done up-front prospectively so the employees can make appropriate elections on how their cash balances will be adjusted with investment experience and so forth. On the other hand, if the employer is thinking that they'll keep the existing plan formulas going for a period of time to allow employees close to retirement to make their plans and not really go through and shut off the old plan, keeping the new plan going for a period as the transition, then you may be able to do things more on a retroactive basis. You don't have any choice about how your hypothetical accounts are going to be invested per se but the pay credits are going to be occurring later in the year and you may be able to do something on a retroactive basis.

There's actually a very interesting article in the June issue of *Employee Benefits Journal* by Ira Kastrinsky. He talked about transitioning. His whole concept, which I thought was refreshing, was rather than go through all the transition setting up that special cash balance that tries to anticipate early retirement subsidies and things like that, start out the cash balance at zero and have some transition credits that will then roll that account over a period of five years. Then look ahead and, say, "Five years from now we'll go through all of the notice and shut down the existing formulas." I don't know. Steve already mentioned 15-day advance notice requirements and upcoming possible Pension Right to Know Act that would require some additional individual projections.

Second, protected accrued benefits: IRC 411(d)(6). When you come to the point of shutting down the existing plan, what are the types of benefits that you need to preserve? Basically, one of the 411(d)(6) rights is the nature of a DB plan versus a DC plan. Steve actually mentioned the situation of an employer wanting to turn its DB plan into a DC plan, but being unable to do so. The nature of a DB plan is distinct from a DC plan.

I had a situation where an employer merged with another employer. One had a DB plan and the other had a DC plan and they said, "You know, the employees in the DB plan, a lot of them are really young. Maybe they would like to be in the DC plan." Going forward maybe you want to give them that opportunity to switch. Obviously, employees could elect to stop their accruals in the DB plan and elect future contributions in the DC program. The employer wanted to go one step further. They said, "Well, we want to also let those employees elect to transfer the

417(e) lump-sum value of their DB benefit over to the DC plan; then they would have just one account. Wouldn't that be great?"

As Steve mentioned, you can't do that. For the employee to make an in-service distribution the plan has to allow one. An employee can't elect a transfer unless there is a distributable event—electing out of a DB plan is not a distributable event. There would actually have to be a termination of employment, which is what you would have in that situation, or an actual termination of the DB plan. But in their case they wanted to keep the DB plan going for all the older employees who wanted to stay in it, so there are some constraints there.

As Steve mentioned, too, the existing benefit you're protecting includes all of the various options. Keeping that in mind, suppose you switched to a cash-balance plan. A common feature is to take the existing accrued benefit and convert it to a lump sum for the hypothetical account to start out based on current 417(e) rates or whatever rates you want to use to convert that. Remember that down the road you definitely need to do another calculation based on that frozen accrued benefit and the 417(e) rate at the time of the annuity start date. With changes in interest rates, if you set up your cash-balance plans when rates are at 8%, somebody has an accrued benefit, but when rates drop down to 5%, where they were just a few months ago, you may have that existing accrued benefit overriding in terms of a lump-sum option to the participant.

Whether the benefit is going to be preserved with or without the decision of the plan sponsor, typically it's done on a wear-away basis, meaning you're just protecting the accrued benefit and you aren't getting this benefit plus this additional amount that's added on top of it.

Third, definitely determinable benefits: IRC 401(a)(25). Your new plan document is going to need to define all aspects of the benefits: the establishment of a hypothetical account balance, the various credits, actuarial assumptions, and methods of calculation in a way that will preclude employer discretion. Remember that, but getting it all nailed down is another thing. What are some of those definitely determinable features that need to be spelled out in the plan? For a cash-balance plan, you're going to have your pay credits, contributions, whether it's 5% of pay per year of service or an age-graded percentage that needs to be spelled out in the plan. You may have the rate specified with the employer having the opportunity from time to time to amend the plan for that particular year's pay credit if you wanted to increase it in a good year.

Also defined is the earnings or interest credit. That can be defined on a fixed basis. Everybody gets 8%. You have to be very careful about how you define that because I think if you set up the plan and specify 8% and don't say this is only for a certain period of time, you may be locking yourself in on a real whipsaw problem. More commonly, I've seen plans using variable indices whether it be 30-year Treasury or, with the new mixed generation plans; that is, the employees selecting their own index. The plan may have a floor or a ceiling, or it may have an annual cap on the changes in those rates. Oftentimes, there will be a 4% minimum. You

might have a 10% maximum if you have an index that might bounce around a lot and the employee wants to adjust that. Whether the interest credits are conditioned on employment, you have a different rate for actives versus term-vesteds.

Setting up that initial hypothetical account balance. Obviously, these need to be based on the existing accrued benefit with adjustments. This is typically how it's done, although theoretically you could go back and create this hypothetical cash-balance account based on past salaries and interest credits from the industries that you're talking about. You need to be cautious when you're dealing with some prior grandfathered benefits. What I'm thinking about are benefits such as accrued benefits prior to the \$200,000 cap on pay or the \$150,000 cap on pay because if it is a subsidized grandfather factor, when you convert to a cash balance, you may violate the provisions relating to maximum pay limits and essentially have an amendment to the plan that reflects compensation in excess of \$160,000. You apply a subsidized factor to an existing accrued benefit that used to not have that type of a factor. Those are things you don't tend to think about.

Also, looking ahead, after you've had your cash-balance plan maybe for a year or two you realize you have a bunch of term vesteds that are being rehired. How do we establish their account? You need to have procedures in place, whether those cash-balance accounts would be set up with or without a subsidy. And, as I mentioned before, if you're going to have some transition credits for a period of time to try to bring that cash-balance plan account maybe from zero up to something that approximates the current accrued benefit, you might be doing some things like that.

The plan will also need to spell out some of the basics since ERISA and the IRC define things in terms of the accrued benefit being a benefit expressed as an annual benefit at normal retirement age. How are the benefits going to be converted to pension benefits? The simplest approach is to do that on a 417(e) basis. Many plans, though that have existing factors, will want to try and grandfather early retirement subsidies and things like that, which may result then in a whipsaw effect.

For the conversion factors, for example, if you don't use 417(e) rates, you may want to use a rate that's roughly 6%, and if rates are below that you're going to definitely have a whipsaw problem—even if a person is at retirement age because you're giving away something.

Fourth, benefit accrual pattern: IRC 411(b)(1). I want to get to Bruce's examples in a second. Regarding PEPs, what are we talking about? Plan S to define the formula, typically based on "final average pay times points times a factor," which may vary by age and service or a combination of those two. One thing I was kind of surprised about was this question of PEPs. Do you adjust this lump sum so the benefit is defined as a lump sum based on final average pay and a formula? When the person terminates employment, do you adjust that beyond the termination of employment?

I would have assumed, of course, that you would. Basically, the plan would turn into a cash-balance plan from that point forward until the employee takes his or her distribution. Bruce said, "No, you don't have to give interest credits." How does all this fit into the rest of the framework of an accrued benefit? Somehow there's a reduction in an accrued benefit. If the lump-sum option at age X is the same as the lump-sum option 10 years from now at age 65, all you have is a larger annuity factor now. If you ask, "What's the early retirement pension?," it's actually going to be slightly smaller than the normal retirement pension. What you have is essentially a heavily subsidized early retirement benefit that ties into that lump-sum option as opposed to some sort of loss of accrued benefit by not giving interest credits on that pension equity formula. And then you'll have all the other conversion issues similar to a cash-balance plan of converting the lump-sum option on termination of employment to either a qualified joint survivor annuity immediately or at normal retirement age and so forth, deciding what types of optional payment forms and so on that you would like. Obviously, both with cash-balance plans and PEPs, the amount of the accrued benefit at age 65, for example, is not going to be necessarily defined at the time the person terminates employment because there's going to be an interest adjustment that may be based on a floating index. You're going to have the conversion that was based on 417(e) rates that will also be variable. I'm not sure how these plans fill out their Schedule SSA on the Form 5500. Are they going to define it as a lump sum or as an annual pension? How is it going to be defined? I'm not sure.

When it comes around to submitting the plan to the IRS, one bridge you're going to have to cross is proving that the formula is not back-loaded. Most of these plans are not back-loaded, especially when you look at how the benefit is defined at normal retirement age. You have a very front-loaded benefit, although when you start grading the benefit, instead of being, say, a 5% pay credit, you have 5% for one age band and then bump it up to 6–8% and so forth. You are going to be getting back closer to a typical DB accrual pattern, but one thing that will need to be demonstrated, and Bruce has some numerical examples that will actually make this a whole lot clearer, is the rate of accrual from one year to the next. You don't have unlimited flexibility in setting those ranges, because basically the rate of accrual is going to have to still fit within the 411(b)(1) options. Whether it's the 3% rule, the 133% rule, or the fractional rule, you're going to need to make some assumptions for the demonstration.

Although the IRS seemed to want and still wants a salary scale, what adjustment are you going to make for interest down the road? How are you going to show what the pattern of accruals might be in a manner where you're going to be able to prove it? You're going to satisfy the antiback-loading rules that may require that you set a minimum interest rate that's going to be guaranteed under the plan to be able to show that the pay credit, or whatever at age 35, will grow to at age 65 just in terms of comparing that with the benefit accrual that was earned, say, at age 64.

Fifth, nondiscrimination: IRC 401(a)(4) safe harbor. As Steve mentioned, there's a question out there. Is there an age discrimination issue? Because the pay credits

granted from one year to the next typically will go down unless they're weighted by age so the benefit that will be accrued—the pay credit earned at age 45 is worth a little bit more than the annual pension if you have that same pay credit at age 46—because it has one fewer year to grow, is that pattern of declining accrual rate really an issue with the prohibitive reduction—the DB accrual rate under 411(b)(1)(H)? Typically, and there was some IRS announcement on that with the 401(a)(4) regulations, whether that's really enough or that issue is really going to surface later remains to be seen.

We are submitting the plan to the service. We're going to need to prove that it's nondiscriminatory. There is a 401(a)(4) safe harbor. If you take a look at it you'll find that it's a plain vanilla safe harbor. It has very limited application. It requires a uniform pay credit and a front-loaded interest credit; basically meaning the interest credits are not conditioned on employment. Whatever you're going to do for your transition, essentially, is a recreation of what the cash-balance account would have been if that uniform formula had been in effect in prior years.

I did provide some helpful clarification just in terms of the IRS's feelings about cash-balance plans and whether they're even valid at all. We don't have any guidance that I'm aware of yet from the IRS on PEPs—at least no formal guidance.

In running your general test for hybrid plans, obviously you're going to need to express the allocations as equivalent accruals at the testing age, which is your normal retirement age. It's a little different from cross-testing a DC plan. This is important to keep in mind. With a DC plan you're going to have your normal and your most valuable rates be the same. I'm just expressing it as an equivalent pension, although with a cash balance or, in particular, a PEP, if you didn't have any post-termination of employment interest credit you're going to have a heavily subsidized early retirement benefit per se.

You may have this wide variation between your normal and your most valuable accrual rates when you actually go through the test, which may have some unusual results.

When we look at some of the next generation plans, I was thinking about a way to test a DC plan on an accrued-to-date basis. A lot of times the problem is the high-pays tend to have better investment performance and better investment choices than the nonhigh-pays. You have these enormous account balances for the high-pays relative to the nonhigh-pays. You have a real hard time proving things on an accrued-to-date basis just because those accounts are so large.

As we move in the direction of investment choice or index choice, we at least have to be aware that down the road we may come to the point where if we're doing our testing on our cash-balance plan and the high-pays have all been electing stock indices, they're going to have very large cash-balance accounts relative to nonhigh-pays. They may have to then go back and provide some minimum benefits for the nonhigh-pays to get enough nonhigh-pays up to that level. Typically, the transition adjustments are all tested on an accrued-to-date basis.

401(a)(4) experience. High-pays tend to be older than the nonhigh-pays, so if you have a uniform cash-balance formula they usually pass very easily. If this is heavily weighted by age or service, which would tend to favor the high-pays, you may not find that result. Just one thing also to keep in mind if you're maintaining the existing DB formulas for a period of time or for a limited group of employees—you need to be very careful with availability of benefits, rights, and features. If you have a heavy early retirement subsidy and you don't have enough nonhigh-pays in that group, you may come to the point in time where you're going to be discriminatory, which is what you always have when you're trying to waste away a DB plan. The high-pays tend to stick around and remain in the plan after a period of time. When you've frozen up the participation in the plan, at some point in time you need to shut things down.

Sixth, optional lump sums: IRC 417(e), the cash-balance loops effect. Bruce will help clarify that with some examples. As we all know, it occurs when the specified interest credits exceed your 417(e) rate where you're projecting it at a higher rate, converting it into a pension, and then discounting it back at a lower rate. There was some guidance in IRS Notice 96-8, which provides some leeway for those plans that use a standard index that's roughly 30-year Treasuries, but I think more and more plans are going to the esoteric-type situations or just at a higher interest rate. They have to live with the fact that they may have a whipsaw problem and may need to pay out more which from the employee's perspective is fine. You get at least your cash-balance account; you may get even more. But, in terms of setting those rates in the plan, I think 96-8 made it clear that if you don't define it in the right way you may be locked into keeping that rate as a guarantee for all future years. I was trying to think how do you get around that or how you undo that if you already have a plan that says we're crediting 8% and doesn't say it's only for a three-year period and will drop down to 4% after that? It seems to me that we have this old account that's going to grow at 8%, but no pay credits are going to go there. The rest of your account will have future contributions. It will be more complex to deal with this situation.

A final comment on lump sums. For the past couple of years where interest rates have been quite low, we haven't really had too much of a problem with IRC Section 415 on lump sums. As interest rates go back up, we may see some issues arising, but we'd like to give you your cash-balance account; unfortunately, it may exceed your 415 lump-sum option. So with that I'll turn things over to Bruce to give you some specific examples.

Mr. Cadenhead: Before I get started, Tim you left us with the question, is there any way to get rid of a high-interest credit? I was just thinking maybe you could do something like wear it away faster. In other words, you get the greater of your old account with 8% or your total account grown with something lower rather than having two separate accounts that you have to add together.

Mr. Davenport: That's exactly what I meant.

Mr. Cadenhead: On to technical issues. There are probably a lot of topics that we could fit under this heading, but in the interest of time I've decided to focus on three of the significant ones when you're designing these new lump-sum- based plans: (1) the accrual pattern and how that's affected by the 417(e) lump-sum rules and the accrual rules; (2) the application of cost methods, particularly the unit credit and projected unit-credit methods; and (3) some *Financial Accounting Standard (FAS) 88* accounting issues that are potentially important.

On the issue of accrual patterns for cash-balance plans, we have a little bit of guidance with Notice 96-8, which we've already mentioned. We have the 133 1/3% rule, which is generally the accrual rule that we applied to cash balance or to career-average-type plans. I'm also going to talk about a few other general considerations in designing these plans, and then talk about some of the similar issues on PEPs.

You have probably heard of Notice 96-8. It's kind of an interesting thing. It's a notice of proposed guidance in anticipation of regulations. From that point of view it sounds like it's kind of a weak guidance, but it does give you something that you can rely on. If anybody has submitted a cash-balance plan for determination you know that the IRS is treating that as the gospel right now and if you fall outside of those bounds, you have some explaining to do. It doesn't mean that you have to stay within those boundaries, but you have to convince the IRS why it's OK to go outside of them.

What it does is it balances the 417(e) lump-sum rules and the 411(b) accrual rules. It does that by providing safe-harbor interest rates, as long as your interest rate is no more than one of these safe-harbor rates and you convert between your account balance and your annuity based on 417(e) assumptions. You can be sure that you won't have a whipsaw problem—a lump sum greater than your account balance. And, as long as your pay-credit schedule is reasonable, you can also be sure that you won't have an accrual rule problem. But let's say you do, for some reason, want to have an interest credit that exceeds one of these safe-harbor rates. Very often plans will do that kind of thing on transition. Even if they don't do it on an ongoing basis, they might have a protected account that gets a higher interest rate. Well, then you have some potential problems. You have a lump sum that's bigger than your account balance. That would be the case if this higher interest credit was guaranteed to you whether you remained active or terminated. In that case, it's treated as part of the current accrued benefit. You would project to your normal retirement age based on that higher rate and then discount back or convert to a lump sum based on your General Agreement on Tariffs and Trade (GATT) assumptions and come up with something higher than the account balance.

If you want to get around that problem by taking the excess interest credit away from somebody who terminates, then you have a potential back-loading problem because the excess of the active interest credit rate over the vested terminated interest credit rate will be treated as an accrual when it occurs, and, as the account balance grows and grows, this excess interest-related accrual can become more and more significant.

Table 1 is a pretty straightforward example of what happens if your interest credit rate is higher than your GATT rate, projecting the account balance forward to age 65. If that’s our normal retirement date, converting to an annuity, and then converting to a deferred lump-sum, you get something that’s higher than your account balance. The simple way to fix that, of course, is to lower your interest credit rate—something that’s not higher than GATT rate—or to use a safe-harbor rate. Another way to fix it would be, as I mentioned, to take that excess interest credit away from the vested terms. If you do that, you come up with a minimum lump sum that in this case is less than the account balance. It’s less because we’re projecting to 65 with interest only. We’re converting it to a lump sum that effectively has a discount for both interest and mortality, so it gives us something a little bit less. As long as we pay off the account balance, then we’re fine.

**TABLE 1
EXAMPLE—417(E) PROBLEM**

Interest Credit	7.00%	Age 65 GATT	Conversion Factor	10.6463				
Pay Credit Rate	5.00%							
GATT Rate	6.00%							
Age (eoy)	Pay	Pay Credit	Interest Credit	Year-end Balance	With Interest to 65 at 7.00%	Converted to Annuity (Accrued Benefit)	Deferred to 65 GATT Factor at 6.00%	Minimum Lump Sum
25	30,000	1,500	-	1,500	22,462	2,110	0.9282	1,959
26	30,000	1,500	105	3,105	43,454	4,082	0.9842	4,018

Another way that you might correct this type of problem is to use a less generous annuity conversion at normal retirement age so that when you convert from annuity back to a lump sum, you get something that’s less generous and smaller than your account balance. One reason that you might not want to take that approach is that very often in converting to a cash-balance plan, there’s a concern on how this new plan stacks up against the old plan. One of the obvious points of comparison is going to be, how does the projected benefit of the old plan compare to my projected account balance converted to an annuity if the old plan only paid annuities? And the worse that you make the annuity conversion based under the cash-balance plan, the less favorable that comparison is going to look even if participants by and large take the lump sum.

The 133 1/3% rule, as I mentioned, is generally what cash-balance plans have to rely on. It essentially requires that in any given year your rate of accrual cannot be more than one third higher than it was in any earlier year. For a cash-balance plan we generally would define the rate of accrual as the excess of the year-end account balance growing with interest to normal retirement date and the beginning of year account balance, growing with interest to normal retirement date. We take that difference and convert it into an annuity. That step is really optional since the age 65, if that’s our normal retirement date, lump sum is always going to be proportional to the age 65 annuity. We can do the analysis on either basis. And for this purpose, again, we’d want to look at the interest credit that was guaranteed to

somebody who terminates vested, because that's what you currently earn the right to and that's how you determine the accrued benefit.

In Table 2 it's the same plan as the last example we looked at. We have an interest credit rate of 7%—let's say it's GATT plus 1%—so it's a variable rate and our GATT rate is 6%. Let's say we only credit 6% for a vested term. We're going to have a little bit of a back-loaded accrual—the kind of thing that the IRS doesn't really like. What we see here, however, is that if we look at how much of an age 65 annuity that first-year pay credit buys us, it still buys us a pretty significant annuity because we're giving it 40 years of interest before we convert it into an annuity. At age 65, the annuity accrual that our last year's increment buys us is much smaller even though it includes not only a \$1,500 pay credit, but also a 1% excess interest credit on the whole account balance. In this case, the whole account balance the prior year was only about \$300,000. The extra 1% interest credit is only worth \$3,000. We're in total giving you \$4,500 in additional value as an age 65 lump sum, whereas in the first year we gave you \$15,000 of age 65 lump sum. We have a declining pattern, and when we look at the accrual rule test we don't come close to 133 1/3% comparing current year accrual to any prior year accrual, so we're fine.

TABLE 2
EXAMPLE—ACCRUAL RULE TESTING (1% Less for VTs)

Active Interest Credit		7.00%				
VT Interest Credit		6.00%				
Pay Credit Rate		5.00%				
GATT Rate		6.00%				
Age	Year-end Balance	With Interest to 65 at 6.00%	Converted to Annuity (Accrued Benefit)	Accrual During Year	Accrual as % of Pay	Accrual Rate/smaller Prior Rate
25	1,500	15,429	1,449	1,449	4.83%	
26	3,105	30,129	2,830	1,381	4.60	95.31%
50	103,017	246,886	23,190	551	1.84	97.18
51	111,728	252,606	23,727	537	1.79	97.46
64	299,458	317,425	29,816	427	1.42	98.84
65	321,920	321,920	30,238	422	1.41	98.83

Now, if you actually had a plan like this and you submitted it for the IRS, and you didn't do a detailed accrual rule test, they would bounce it back to you and say, "Show me for sure under all possible scenarios this thing really works." You'd have to do some demonstration that, in fact, this 1% excess interest credit is not enough to blow the whole thing. And, of course, if you had a much wider spread, let's say a 4% guaranteed interest credit for vested terms compared to 7% for actives, then you have a much bigger GATT to overcome. In this case, shown in Table 3, for the sample employee you would have a bigger problem. The first year's pay credit now only gets 4% interest, so it only buy us a \$7,000 lump sum, whereas for the last year you were earning not only a \$1,500 pay credit, but also 3% of excess interest on a \$300,000 account balance or another \$9,000, which essentially gives us \$10,500 in additional value for that last year, which is about

150% of what you got in the first year. This type of thing is not going to work, and there's probably no way to demonstrate that it will.

TABLE 3
EXAMPLE—ACCRUAL RULE TESTING

Active Interest Credit	7.00%					
VT Interest Credit	4.00%					
Pay Credit Rate	5.00%					
GATT Rate	6.00%					
Age	Year-end Balance	With Interest to 65 at 4.00%	Converted to Annuity (Accrued Benefit)	Accrual During Year	Accrual as % of Pay	Accrual Rate/smaller Prior Rate
25	1,500	7,202	676	676	2.25%	
26	3,105	14,334	1,346	670	2.23	99.11%
50	103,017	185,528	17,427	736	2.45	113.93
51	111,728	193,477	18,173	746	2.49	115.48
64	299,458	311,436	29,253	963	3.21	149.07
65	321,920	321,920	30,238	985	3.28	152.48

For general considerations, as we see from these examples, unless you do something extreme, cash-balance plans are inherently front-loaded. If you do some things to change the benefit delivery pattern a little bit, a very typical approach would be to use age- and service-weighted pay credits. You do the same type of analysis, and, for a typical plan where the pay credit doesn't jump up too much, you have no problem passing the accrual rules.

One thing that some plans have done, and that a lot of plans or a lot of people are considering or at least thinking about, is to change the definition of normal retirement age. Steve talked about this a little bit. If you define your normal retirement age as five years of service, then the lump-sum and the accrual rule issues really only are a concern up to normal retirement age depending on what you want to get away with. (I shouldn't say get away with because now I'm going to get quoted, but not that you would want to do anything bad, but you wouldn't necessarily have to submit this kind of analysis.)

I know a lot of people have considered this approach and are not too comfortable with it. I'm not sure how mainstream it is at this point. It certainly smells a little funny, but so far it seems to comply with a literal reading of the law and the guidance that we have. As more people adopt this approach, we'll see whether or not there's any fallout from it.

Let's talk a little bit about comparing PEPS to cash-balance plans in terms of how they deliver benefits and the concept of accrued benefit and PEP and then look at how the accrual rule applies to setting limits on what you can do in a PEP.

Cash-balance plans and PEPs can be very similar in the way they deliver benefits as a lump sum and a very front-loaded accrual pattern. As a matter of fact, cash-balance plans and PEPs are equivalent under certain circumstances; that is, if your cash-balance pay credit is equal to your pension equity points, which is the percentage of pay that you earn each year. If your interest credit that's used to index your cash-balance account is the same as the participant's pay increase, that effectively indexes the pension equity lump sum. To make them strictly equivalent

to one another, your PEP would have to be a final average one. The point is not that they're going to be exactly equivalent, but that they will deliver benefits in a similar manner. PEPs are supposed to deliver higher benefits in a case where your pay increases are higher than the pay credit. Since pay increases tend to be higher earlier in a career than later in a career, a PEP can potentially deliver more front-loaded, lump-sum benefits than a cash-balance plan. That's if all other things are equal, but rarely is that the case.

What is the accrued benefit under a PEP? We know the lump sum is our points expressed as a percentage times our Final Average Earnings (FAE). The accrued benefit is going to be the pension equity lump sum somehow converted to an annuity at normal retirement age. We have a few things that we might consider in doing this conversion. One, we might just take the current pension equity lump sum, give it no interest to normal retirement, and divide it by an immediate annuity conversion factor. There's a potential problem with that approach. If you have back-loaded pension equity credits—let's just say you have a flat PEP—and you define the accrued benefit that way, then all you really have done is redefine a traditional final pay plan. Let's say that your pension equity formula is 5 points per year of service, age 65 is your normal retirement age, and your annuity conversion factor at 65 is 10, then all you have is a 0.5% per-year-of-service final pay plan. Also, it's going to be one with a heavily subsidized early retirement benefit, as Tim already explained.

Another thing that you could do is credit some interest either explicitly or implicitly. You could define your accrued benefit as your pension equity lump sum, accumulated with interest to normal retirement, and then divide it by an immediate factor or your lump sum divided by a deferred annuity factor. The thing that you have to be careful about if you take that approach is that if your interest credit is too good, it could overwhelm your accrual and you could wind up being better off leaving than if you stayed. For example, if your PEP is 5 points per year and you have an explicit interest credit of 5%, after 20 years of service if you leave, your account balance is going to go up 5%. If you stay and your final pay doesn't increase, those extra points are going to get you less than a 5% increase, so you could wind up in a situation that if you stay your benefit goes down, whereas if you leave it keeps going up. I think you would want to avoid that type of situation.

Ideally, you may want to do something in between these two extremes. One thing that you might want to consider, although it's certainly complicated to explain, is to define the accrued benefit under the plan as the fractional rule minimum-accrued benefit. That way you can be guaranteed that you're not going to have an accrual rule problem. If you define it as the minimum, then you're also not going to have a problem where your accrued benefit decreases as you continue to work. The way that would work is you would take your projected lump sum based on current pay, projected points and convert it to an annuity and then prorate that for service over service. That's what you get as your accrued benefit each year. It's difficult to explain, but it does work and it doesn't have to affect your current lump-sum definition. If that's what people are going to focus on, defining your accrued benefit this way doesn't really distract from the main highlight of the plan.

Now this effectively creates some type of interest credit as shown in Table 4, but it's not going to be a constant interest credit. We'll look at the same person. We have a PEP that somewhat back-loads the point schedule, getting 3, 4, 5, or 6 points with an increase at age 35, 45, and 55. We have somebody starting at age 24. If we add up all the points they're going to get over their career, it adds up to 186 points. If we look at the first year, let's say their FAE are \$50,000, and we take those 186 points, we take 186% of \$50,000 and get a projected age 65 lump sum of \$93,000. What the fractional rule does is it says that you've earned a pro rata share of that projected lump sum or its annuity equivalent right now so that if we look at the age 65 lump sum that you earn after your first year, which is just going to be 1/41st of that \$93,000, your current age 65 lump-sum entitlement will be \$2,268 compared to a current age 25 entitlement of \$1,500. In other words, if you leave with your lump sum and you decide not to take it, it will grow from \$1,500 to a whopping \$2,268 or the equivalent of an annual interest rate of 1.04%, which is more than zero. Thus, you need to give some interest in order to not have a problem with the fractional accrual rule, but you don't have to give a whole lot of interest.

TABLE 4
EXAMPLE—FRACTIONAL RULE PEP PLAN

Service at Age 65		41					
Points at Age 65		186					
Fractional rule benefit at 65 = Current Pay x Projected Points/100 x Current Service/Projected Service							
PEP Points = 3 / 4 / 5 / 6 (increase at 35, 45, and 55)							
Age	Service	Pay	Points Earned	Cumulative Points	Current Lump Sum	Lump Sum at 65 (Fractional Rule Benefit)	Average Annual Interest
25	1	50,000	3	3	1,500	2,268	1.04%
26	2	50,000	3	6	3,000	4,537	1.07
50	26	50,000	5	100	50,000	58,976	1.11
51	27	50,000	5	105	52,500	61,244	1.11
64	40	50,000	6	180	90,000	90,732	0.81
65	41	50,000	6	186	93,000	93,000	0.00

If you back-load the pay credits more, then you're going to be taking the pro rata portion of a bigger lump sum. You're going to create a bigger implicit interest rate to cover the more back-loaded schedule. If your schedule is not back-loaded at all, then you don't need any interest credit. That's one possible approach. It's not pretty, but it works.

On to cost methods. Again, focus just on the unit credit and projected unit credit methods, and talk also about how they might work in terms of a transition from a traditional plan to a cash-balance plan and talk a little bit about pension equity.

Unit credit methods are pretty straightforward. If you have the same interest credit for actives and terminated vesteds, the accrued benefit obligation (ABO), or

the unit credit accrued liability, will just be your account balance grown with interest to the decrement date and then discounted back to the current age. If, however, you have a plan where your active interest credit is more than your vested term interest credit, treat that excess interest credit as an accrual in the year in which it's credited so that it's not part of the current accrued liability. Another approach would be to argue that the excess interest credit really is part of the current accrued benefit. It's not something that has been vested yet. It vests later when you render the service.

As I said, I've seen either one. I'm comfortable with either approach. One thing that you might want to look at as to which approach is appropriate is if an employer has a group that's not covered by the cash-balance plan. What happens if somebody leaves the cash-balance plan and goes into this other group? Do they still get the higher interest credit rate? And if so, then I think it's a good argument that this excess interest credit is already part of your current entitlement and just vests as you continue to earn vesting service.

For the projected unit credit method, we need to do some type of project and prorate methodology. It could be a straight service prorate (SSP) or we might do something more complicated in line with a theoretically proper interpretation of FAS 87, which says that when we're coming up with our projected benefit obligation (PBO), we want to take the projected benefit and a prorated portion where the weighting of our pro rata calculation reflects the actual accrual rates over time so that if our accruals are front-loaded, we want to take a big portion of that projected benefit and reflect it in our current PBO. In any case, we want to make sure that it's not less than the unit credit accrued liability. And then there are also some additional complications you can get into on conversion.

Table 5 is an example of the various approaches. Let's look at a somewhat back-loaded pay credit schedule, 3-6%, with increases at age 35, 45, and 55. For somebody currently age 45 with 5 years of service—and we're doing the ABO calculation associated with decrement at normal retirement age of 65—the ABO benefit would be the current account balance, which is the \$7,600 amount, credited with interest, the plan's interest credit rate is 6% to normal retirement age. To come up with the ABO, we would just take that amount and discount it back to the current date.

TABLE 5
CASH-BALANCE EXAMPLES—AGE-WEIGHTED PLAN

Age	Pay Credit	Salary Scale	5.0%
Under 35	3.0%	Interest Credit Rate	6.0
35–44	4.0		
45–54	5.0		
55 and up	6.0		

	Data	(i) Current	(ii) at Decrement
a	Age	45	65
b	Service	5	25
c	Pay	38,288	101,591
d	Account balance	7,656	144,167
e	Account balance with interest to decrement	24,555	144,167
f	Sum of pay credits	20.0%	130.0%
g	Sum of pay credits with interest to decrement	76.7%	285.6%
h	ABO benefit = e.(i).		24,555
i	PBO benefit – project and prorate = d.ii. x b(i)/b(ii)		28,833
j	PBO benefit as percentage of ABO benefit = (i)/h.		117%
k	PBO benefit weighted by credit rate = d.ii. x f.(i)/f(ii)		22,180
l	PBO benefit as percentage of ABO benefit = k./h.		90%
m	PBO benefit weighted by DB equivalent accrual rate = d(ii) x g(i)/g.(i)(i)		38,696
n	PBO Benefit as percentage of ABO benefit = m/h		158%

For the PBO benefit, we look at the projected account balance with all future pay credits. Under the SSP approach we would just take one-fifth of that projected amount and come up with \$28,000 as the basis for our PBO calculation. It's bigger than the ABO number so that we're OK.

Now in terms of weighting and doing a more theoretically correct approach, there are two things that might occur to you. Number one might be, "We have kind of a back-loaded pattern here, why don't we do a proration reflecting that back-loaded pattern?" If we look at the sum of pay credits earned to date, 5 years at 4%, that gives us 20% pay credits earned so far. We then look at the total pay credits expected to be earned by the time you hit 65 and that adds up to 130%. We take a pro rata portion, 20/130, multiply it by that projected account balance of \$144,000, and get a PBO benefit of roughly \$22,000. Now that's a fairly small

number. In fact, it's smaller than our ABO benefit. I don't particularly like this approach because it ignores the inherent front-loaded nature of cash-balance plans. I think if you want to go down this theoretical path, you should probably go the other direction. That's a third option. What your accrual rate really is under a cash-balance plan is your pay credit accumulated with interest. So if we look at the sum of all the pay credits earned thus far, accumulated with interest to the decrement date (age 65), our 20% pay credits give them each 6% interest, which add up to a total of 76.7%. The total pay credits that we'll get over the career with interest will add up to 285.6%. If we take that ratio and multiply it by the projected benefit, we get a much bigger number, \$38,696, that is much more front-loaded. In fact, it's 158% of the ABO benefit.

Chart 1 shows how those various PBO measures change over time. Of course, by age 65, which is the decrement age in this example, they all have to converge at the same point, but the last method, the front-loaded method, produces a much higher PBO in the earlier years, whereas the back-loaded method produces something that will be less than the ABO. It has to be bumped up to the ABO in each year of our calculation. The SSP falls somewhere in between. This is probably somewhat of an academic exercise. It's nice to talk about what's theoretically proper, but I think we already have a commonly established practice here. Pretty much everybody does the SSP because it's a whole lot easier than any of these other approaches. And given that it's established practice and generally the auditors have signed off on it, why do something different? If you really wanted to have a front-loaded pattern, you could make a case for it, but I think everybody pretty much does just an SSP.

We have some additional issues to consider on transition, because now we don't have a cash balance going for the whole career. Instead, we're starting off by converting to a cash balance and then having a cash balance added on to that. Don't do anything complicated; straight projecting prorated is the easiest thing. Another thing that I've seen people do is, upon transition, set the PBO equal to the ABO and prorate the future cash balance over future service only. The reason that some people like that approach is that in context of a plan design where you're comparing various different potential future pay credit options, this second approach will keep the effect of those different pay credit schedules in the future. They will have no effect on the PBO. They will only affect your future service cost, and since they are only future service credits there's a nice theoretical feel to that, perhaps. However, any time you have a cash-balance plan or a career-average plan, and we're doing some projected prorated methodology, you're always going to have past and future service credits mixed together in both your PBO and your service costs. I think that this is probably more trouble than it's worth. In actual practice there's generally not very much difference, except for extreme circumstances. There's usually not much difference between the two approaches in terms of the liability and the service cost that they produce.

We could go really crazy and come up with a really nice theoretical approach reflecting the rates of the accrual that you had before the cash balance and the

rates of accrual that you would have after, but nobody does it. I wouldn't recommend it.

For PEPs, the challenge is to account for the interest, particularly if it's not explicitly expressed in the pension equity formula. I think when most people see PEPs for the first time, and I know I fell into this trap thinking about it the first time, what they think of doing is just taking current points, your FAE, and current FAE for an ABO calculation, projected final earnings for a PBO calculation, and valuing that lump-sum amount at every future decrement age. The problem with that approach is that it doesn't take any account of the interest that might be either implicitly or explicitly credited by the pension equity formula. Again, I think at the very least the theoretically correct approach would be to take the current points times the FAE with interest from current age to decrement age, whatever the inherent interest rate is. Now, that's going to give you liabilities that are a whole lot higher than the first approach. If you have, for example, an explicit 4–5%, good-sized interest credit, that's going to give you some pretty big liabilities early on.

One thing that you might consider as kind of an intermediate approach is what we did for a cash-balance plan—a straight-projecting prorate. Why consider that? Cash-balance plans and PEPs, as discussed earlier, very often provide benefits in a similar pattern, so if we're doing a plan design study where we're comparing cash-balance and pension equity, if we really want to put them on equal footing and an ongoing basis beyond the plan design context and we don't want a bias in our accounting towards cash balance and away from pension equity, there's an argument that a straight-projected prorate approach, just as we do for cash balance, is perhaps appropriate for pension equity as well.

Finally, some accounting issues, in particular curtailment on conversion to one of these types of plans and the settlement issue. Anytime you have a lump-sum plan, you have to be careful that you might have a settlement in any year where you have a lot of lump-sum payouts. If total lump sums are greater than the sum of your interest cost plus your service cost, then you have a settlement. You must make sure that you do settlement accounting.

On the curtailment side, *FAS 88* defines curtailment as an event that significantly reduces the future service of participants or reduces the accrual of DBs for some or all of future service for a significant number of participants. Now we tend to focus on situations like termination of a whole bunch of people or a plan freeze where very obviously either service is being terminated or DB accruals are being eliminated for all future service for a bunch of people, but there is that language in the definition of curtailment that says if you curtail benefits for some of the future service for a lot of people, then you have a curtailment. The trick is, first of all, measuring whether or not you have a cessation of accruals. You need, in the context of converting to a cash-balance plan, to come up with some assumptions to measure that, whereas in most context it's very clear. Either you have a cessation of accruals or you don't.

There's also the issue of materiality. We might have a one-year freeze in service for a whole bunch of people, but that might still be a very small fraction of the total

service. The question is, do we still do curtailment accounting and to what extent do we do that?

There’s really not a whole lot of guidance on this topic. I don’t think that a lot of people have given it a lot of thought as to exactly what the right way to do it is. I think if you come up on a situation like this, probably the best approach is to make a reasonable assessment as to whether or not there’s a curtailment. Next, come up with some reasonable approach for measuring the effects and present it to the auditors and see what they have to say.

One reason why you might want to avoid a curtailment is when you have a curtailment, you have to disclose that you have a cession of benefit accruals for a significant number of people. And, unless you’re being very clear in your communications that with this conversion to a new plan you are, in fact, slowing down or ceasing benefit accruals, you might not want to put that in writing. Be careful in designing your plan if you don’t want to create this result.

And it’s actually very easy to fall into this type of situation, as illustrated in Table 6. Let’s take a look at somebody currently age 45 with a \$12,000 accrued benefit. Let’s say that we start out their account balance with no bells and whistles—we just give them their GATT lump sum, which has a GATT rate of 6%. That gives them an opening balance of \$36,000. Now, if our interest credit rate were one-year T-bills and one-year T-bills are only, say, 5%, then the annuity benefit that their current account buys them is going to be less than their current accrued benefit. In fact, if all of our economic conditions remain the same, it’s going to take five years for this person to accrue another dollar of benefit. Is that a curtailment? Well, it depends. It depends on how many people this affects. For younger people, the period is going to be shorter; for people who you grandfather, there’s not going to be any cessation of accruals.

TABLE 6
EXAMPLE—CURTAILMENT?

Age	45						
Prior Plan Accrued Benefit	12,000						
GATT Rate	6.00%						
Deferred to age 65 Factor	3.0199						
Opening Balance	36,239						
Pay Credit Rate	5.00%						
Interest Credit Rate	1-yr T Bill						
Age	Pay	Pay Credit	Balance (eoy)	1-yr T	Projected to 65	GATT Rate	Annuitized
45	60,000	3,000	36,239	5.00%	96,152	6.00%	9,032
46	65,000	3,250	41,051	5.00	103,733	6.00	9,744
47	70,000	3,500	46,353	5.00	111,555	6.00	10,478
48	75,000	3,750	52,171	5.00	119,577	6.00	11,232
49	80,000	4,000	58,529	5.00	127,763	6.00	12,001

What if economic conditions change? (See Table 7). If interest rates drop, then it’s ten years before this person accrues another benefit. Is that a curtailment? Well, we didn’t know that economic conditions were going to change when we created

this plan, so when we would we determine that there is a curtailment? And what if interest rates go up? What if they go up and down? We could have a situation where in the very first year this participant accrues a benefit if interest rates just go up 2% to certainly not unreasonable levels. We've certainly seen them in the fairly recent past. What should we assume for our future economic conditions when we measure a curtailment? Those are all unresolved questions and I encourage you just to do something reasonable. Sorry I can't give you anything better. I don't have an answer.

**TABLE 7
EXAMPLE—CURTAILMENT?**

Age	45						
Prior Plan Accrued Benefit	12,000						
GATT Rate	6.00%						
Deferred to age 65 Factor	3.0199						
Opening Balance	36,239						
Pay Credit Rate	5.00						
Interest Credit Rate	1-yr T-Bill						
Age	Pay	Pay Credit	Balance (eoy)	1-yr T	Projected to 65	GATT Rate	Annuitized
45	60,000	3,000	36,239	5.00%	96,152	6.00%	9,032
46	65,000	3,250	41,051	4.00	86,488	5.00	7,499
47	70,000	3,500	45,943	4.00	93,072	5.00	8,069
48	75,000	3,750	51,280	4.00	99,899	5.00	8,660
49	80,000	4,000	57,082	4.00	106,913	5.00	9,269
50	85,000	4,250	63,375	4.00	114,117	5.00	9,894
51	90,000	4,500	70,150	4.00	121,476	5.00	10,532
52	95,000	4,750	77,456	4.00	128,969	5.00	11,182
53	100,000	5,000	85,304	4.00	136,574	5.00	11,841
54	105,000	5,250	93,715	4.00	144,271	5.00	12,508

Just to sum up, I talked about three technical concerns that are very important in this type of plan design change: looking out for the lump sum and accrual rules, applying the cost methods properly, and looking out for some accounting pitfalls. Playing this in combination with the material that Steve and Tim have presented and in combination with the subjects that are covered in the other sessions, we gave you the tool kit to approach plan design assignments. Now, each assignment is going to be different, and this is not something that we can just pull off the shelf and use for every situation. But understanding these issues, I think, gives us what we need to intelligently address these situations and come up with a good solution.

CHART 1
COMPARISON OF ATTRIBUTION PATTERN

