MINIMUM REQUIRED AND MAXIMUM DEDUCTIBLE CONTRIBUTIONS

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Recorder: JACK L. BEAM

o   Minimum required contributions
o   Section 412
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o   Maximum deductible contributions
o   Section 404
o   Current liability limitations
      --   What is current liability?
      --   Benefits and assumptions
o   Explicit assumptions

MR. JACK L. BEAM: I'll introduce the members of the panel. Paulette Tino is an actuary with the IRS, and as I was calling actuaries around the country to get assistance in this session, everyone told me the person to get was Paulette Tino. Paulette has graciously agreed to present the material that she's presented before at Enrolled Actuaries' meetings. If anyone has ever heard Paulette, you know what a great job she does. John Snygg is an actuary here with TPF&C, and John is doing this because he's a friend. Paulette will discuss mainly issues relating to minimum funding. John will discuss issues relating to maximum funding. Paulette will tie some of that together, and then we'll have just a brief comment on quarterly contributions.

MS. PAULETTE TINO: I'll first cover the current liability. I'll make some brief remarks on the benefits covered. I'll go to the actuarial assumptions, Revenue Procedure 90-11. I'll give an example of the calculation of current liability and an example of how the funding standard account is affected by those two full-funding limits. I'll speak briefly about the additional funding contribution, and I'll give an example of how those reconciliation accounts that you saw at the bottom of your Schedule B are working.

So, here we start with current liability and the benefits included. All liability to employees and beneficiaries under the plan has to be covered. Those benefits include the accrued benefit under Section 411(d)(6), the early retirement benefit and retirement-type subsidies, and the optional forms of benefits. I will soon give you some references where those benefits are covered.

In Section 401(a)(11)(A)(ii) there is the reference to the preretirement survivor annuity that you have to cover in your current liabilities. An old Revenue Ruling 85-6 states that you have to cover the early retirement subsidy even if the entitlement conditions are satisfied after the termination date. That was a termination of Plan Revenue Ruling. Revenue Ruling 86-48 states that for spinoff termination everything which has to do with

414(l), but also under the Section 401(a)2 of the code for the benefit to be satisfied on termination, all the benefits under 411(d)(6)(B) has to be covered. Then there is an interesting court case, *Shaw vs. International Association of Machinists and Aerospace Workers* where the cost of living increase has to be covered in the current liability.

We know what I said should be covered. The uncertainty about which I hope you will have some clarification very soon are all those other benefits, disability, death, Social Security supplement. Those benefits are not part of the accrued benefit. They are not subject to the 411(d)(6) protection. They may be eliminated upon amendment of the plan, and so the question is, are they covered under current liability? These are the questions not settled. So, I pass to the option that you have because you, yourself, know a lot about that because you have to calculate the current liability with this uncertainty. What is sure on the other consideration? What is sure is that when you compute the current liability all benefits have to be considered fully vested whether or not they are in the calculation of the current liability, and you have to get all optional forms and possible ages of receipt according to your actuarial assumptions. Of that, I'll give an example very soon so we don't have to ponder much.

The current liability is the present value of those benefits as accrued at the beginning of the plan year. You have to include the benefit for the purpose of the full-funding limitation. You have to include the benefits accruing during the year for the additional funding contribution. In all cases, what you use is the benefit accrued as of the beginning of the year.

I'll come back to the assumptions later on. When you are calculating the benefit accruing during the year, that is the only place where you can use the salary scale.

I made a brief summary of the Revenue Procedure 90-11 because there has been a lot of confusion about that because of the structure. It is organized in three sections. There is a general rule. There is an exception. And there is a transitional rule. The general rule is that the interest rate is the current liability rate for everything. That is the general rule for valuation purposes, for determining the present value, and also for determining the amount of optional forms. Otherwise, you would disregard under this rule the assumptions under the plan, and to determine an option under that rule you will use the current liability rate. Don't make note because that is not what you will do at all. That is what the Revenue procedure says and the way it is organized. The other assumptions, other than interest, are your valuation assumptions. They are the same. I noted that if you have a salary scale, you use the salary scale only to compute the benefit accrual. Now, here comes the exception. The exception tells you what is common sense, that in order to compute an optional form of payment, for a nondecreasing life annuity, that is the point, then you use the plan assumption which you would have guessed. For determining all the other optional forms, and it is aimed at the lump sum, you use the current liability interest rate. And, of course, there is a transition rule which is saying that if you used the assumption under the plan to determine the lump sum for the years beginning before January 1, 1990, well, you are all right. But from now on, January 1, 1990 and after, for a lump sum you use the current liability rate. But all that you have to retain is that your life optional forms are determined with the plan assumptions. For the lump sum, you cannot use your plan assumption; you use the current liability rate.

The interest rate for valuing the benefit is the current liability rate and all other assumptions are your valuation assumptions.

I promised an example to clarify some of my statements. The benefits accrue at the rate of 1% for each year's salary. It's kind of a career average plan. Normal retirement, 65. Early retirement, 55 and 10. The accrued benefit is reduced if the service is less than 20, and after 20 years of service there is no reduction. The early retirement reduction when it applies is 5% per year for each year early retirement precedes normal retirement age.

I have a participant, age 60, service, 18, accrued benefit, $3,000, and the salary is, in 1987, $18,868. In my assumptions, I assume that the people are exiting at the beginning of the plan year. One year of service will be earned in each future year, and salaries are assumed to increase at the rate of 6%, and this I'll use, of course, for one year.

So, when I compute the current liability (Table 1) I have set the possible ages of exit, 60, 61, etc. up to 65. For the service used to compute the accrued benefit, at the beginning of the year of valuation I have 18 years, I will use 18 years. At the end of the year, according to my assumptions, I have earned one more year of credit. I have 19, and to compute the accrued benefit I stop right there and never use more than 19 years. The service years are there only to determine what type of benefit the employee will receive when he will arrive at that age, and so at age 60 and 61, when the service is 18 and 19, respectively, for those ages the accrued benefit will be actuarially reduced, and once I have passed the 20 years of service which happened at 62, then my accrued benefit will be received immediately without reduction. So I compute the benefit that will be received if the employee retires at age 60 and it is $2,250. The employee retires five years before age 65, and the reduction is 5% per year. For retirement at age 61 the benefit is $2,560 because the reduction is only for four years, and at all other exits the full accrued benefit will be $3,200.

TABLE 1
Benefits for Current Liability

Age	60	61	62	63	64	65
Service - Accrued Benefit	18	19	19	19	19	19
Service - Early Retirement	18	19	20	21	22	23
Accrued Benefit	$3,000	$3,200*	$3,200	$3,200	$3,200	$3,200
Early Retirement	$2,250**	$2,560***	$3,200	$3,200	$3,200	$3,200

*	$3,000 + .01 * $18,868 * 1.06
**	(1- .05 X 5) ($3,000)
***	(1- .05 X 4) ($3,200)

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So, if, for example, I will value all those benefits, and let us take the benefit at 62 in order to evaluate, I will go with my service table, finding the probability of this person arriving to age 62 and discount for interest at the same time, so it's D62 over D60 with all the decrements. I multiply it by qx at age 62, the probability that this guy gets out at 62, and I compute the lump sum necessary to cover a benefit of $3200 with an immediate annuity, computed, with my valuation assumptions and the current liability interest rate. In the D62 over D60 as a matter of fact, the interest rate is the current liability rate.

This is something that you know. It's a very simple example of how the funding standard account is affected by the full-funding limitation on current liability. It is the simplest example that you can get. So, I can go directly to the valuation results. The normal cost is $50,000. The entity age normal accrued liability is $600,000; assets are $300,000. So, the unfunded is $300,000. It is assumed that there is a single base, and I give the amortization amount of $28,292, and I give also the current liability multiplied by 1.5, and at the end of the year, $349,541. So, the full-funding limitation is the lesser of the old full-funding limitation and the new current liability full-funding limitation. The accrued liability, $600,000 plus the normal cost, $50,000 minus the assets of $300,000 with interest at 8% equals $378,000. Computing the new full-funding limitation, the first figure, $349,541, is 150% of the current liability. This current liability apparently was beginning of year including the normal cost. So, I'll push it at the current liability rate of 9% to the end of the year, and from that I subtract the assets at the beginning of the year, pushed forward to the end of the year, at the valuation rate of 8%, and I get the figure of $57,000. The applicable full funding is obviously $57,000, and now I compute my special credit, and in order to compute the special credit I have to make some work here. In this funding standard account, normal cost is $50,000, amortization is $28,292, and interest is $6263. The total is $84,555. There was one single base here. So, I have everything I need to compare with the full-funding limitation of $57,000. The difference is my special credit which comes here. And now I can finish my funding standard account if the employer contributes $57,000. Now, the way the current liability has been projected to the end of the year, there is simplification here. To make it exactly you have to take the current liability with interest at the current liability rate to the end of the year and also subtract the expected pension payments from there, and that is the result of that, that you multiply by 1.5. So, there is a gain of sorts there. I don't know how many people do that.

So, now I have done my work for 1988, and 1989 comes, and the question is, what do I do with this special credit that I establish in 1988? And the answer is that the special credit of $27,555 is now the amount of change base in the funding standard account for 1989, and the amortization of this base will not be stated in a regulation or perhaps will be eventually, but now you know that it is 10 years by the Schedule B. In your new Schedule B, they tell you to amortize that base over 10 years. I make a note, it will be repeated later on, this base is not a 404 base. It's strictly a 412 base.

I want to tell you that everything has been taught perfectly and that I am in balance. In order to do that, I compute my expected unfunded liability. The unfunded liability as of January 1, 1988, $300,000, plus the normal cost, with interest, minus the contribution of $57,000 gives me $321,000, and now I have two bases. I have the old base of $300,000

that I amortized, minus the $28,292 with interest which equals $293,445. That is my old base. My new base is $27,555, and I'm perfectly in balance. That is a simple balance of Schedule B. As you know, as you have looked at your new Schedule B, balancing your Schedule B is not at all as simple as that anymore.

Well, I have an example of the interaction of the two full-funding limitations. I think perhaps we can walk through that example faster because it might tell you something. In that case, we simplified a lot. We took the interest rate and the current liability rate at the same level, 7%. So, this is the 1987 valuation. You have then the accrued liability of $100,000, normal cost is $15,000, and the market value is $95,000, which is the actuarial value of the assets. There is only one amortization base, and this amortization base is $20,000, and its amortization, is $1858. The unfunded liability is $5,000, credit balance is $15,000 and, of course, I am in perfect balance. The outstanding portion of the base, $20,000 minus the credit balance, $15,000 gives me the unfunded liability of $5,000. And from there the full-funding limitation of $37,450 is computed. [100,000 + 15,000 - (95,000 - 15,000] (1.07) = 37,450. It doesn't have any effect, and knowing that the contribution was $2500 on December 31, 1987, I can compute my funding standard account (Table 2) and I have a credit balance of $512.

TABLE 2

Normal Cost	15,000	
Amortization		
Payment	1,858	
Interest	1,180	= (.07) (15,000 + 1,858)
Total Changes	18,038	
Credit Balance	15,000	
Contribution	2,500	
Interest	1,050	= (.07) (15,000)
Total Credits	18,550	
Credit Balance	512	

FROM THE FLOOR: The full-funding limit calculation says $100,000 plus $15,000 minus, within parentheses, $95,000 minus $15,000. I don't understand that. Could you just go through that? What is the second 15,000 in that?

MS. TINO: $100,000 is the accrued liability and $15,000 is the normal cost.

FROM THE FLOOR: Yes.

MS. TINO: Minus the adjusted assets. The market value of the asset is $95,000. Minus the credit balance, $15,000. Credit balance was given somewhere here.

FROM THE FLOOR: This FFL is the old FFL or the current liability FFL?

MS. TINO: This is always true. This modification of the assets occurs in the accrued liability full funding and in the current liability full funding. It's always true.

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FROM THE FLOOR: Supposing, just for conceptual purposes, we're taking end-of-the-year valuation. The full-funding limit says that if you have assets equal to the accrued liability plus the normal cost, you are fully funded.

MS. TINO: In the proposed regulation, which was issued a long time ago, they were telling you to subtract the credit balance. The reason why it was there was to preserve the credit balance to the extent possible. That was the reason. That's why it is there.

MR. SNYGG: And there's a fundamental difference between the full-funding limit in Section 404 and in 412. In 412, the full-funding limit calculation is used to establish full-funding credit. You can calculate your full-funding limit and then compare that with your funding standard account charges to develop a credit. Whereas in 404, you just calculated your full-funding limit, and you can't contribute toward it.

FROM THE FLOOR: The effect of this full-funding limit is what, this $37,450? What's the significance of this $37,450? Does it mean that they have to make the contribution?

MS. TINO: No. It is a step in a calculation of a special credit. The calculation of a special credit is in three steps. You calculate full-funding limits that way. You calculate the funding requirement which is normal cost plus amortization charges minus amortization credits, and you compare those two things.

Now, this is 1988. That is the first year of improved full funding. So, in that year the accrued liability is $117,000, normal cost is $12,000, and market value is $120,000. I compute the expected unfunded liability $(5,000 + 15,000)(1.07) - 2,500 = 18,900$. I compute the outstanding portion of my base, $20,000 minus the amortization payment $1,858 with interest which equals $19,412. The credit balance is $512. And now the result of my valuation gives me a negative unfunded liability, a surplus of $3,000. So, according to Revenue Ruling 81-213, I put that to zero. I zero it out. I will have a gain of the actual unfunded zero minus the expected $18,900, which is $18,900 with an amortization which was taken at five years here, of $4,308.

AL	=	117,000
NC	=	12,000
FMV	=	120,000
AV	=	120,000
EUFL	=	$(5,000 + 15,000)(1.07) - 2,500 = 18,900$
OB_1	=	$(20,000 - 1,858)(1.07) = 19,412$
CB	=	512
UFL	=	$117,000 - 120,000 = -3,000 \ldots$ Convert to 0
		(Revenue Ruling 81-213)
L	=	$0 - 18,900 = -18,900 = OB_2$
AP_2	=	$-18,900 / \ddot{a}_{\overline{5}|} = -4,308$

So, my balance equation works, and that is the most interesting part. I compute the full-funding limitation, old, as you do old, and this is $10,178. I compute the new full-funding limitation which is the lesser of the one that you have above and the new which is computed as 150% of the current liability at the end of the year. And the new full

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funding is 150% of the current liability minus the assets. I subtract the credit balance from the assets, and I take 7% interest, and the result is $2688.

$$OB_1 + OB_2 - CB = UFL$$
$$19,412 - 18,900 - 512 = 0$$
$$150\% \text{ of expected CL at EOY} = 130,540$$
$$FFL{:}OLD = [117,000 + 12,000 - (120,000 - 512)] (1.07) = 10,178$$
$$FFL{:}NEW = MIN [10178, 130540 - (120,000 - 512) (1.07)]$$
$$= MIN [10178, 2668] = 2,688$$

The funding requirement was the normal cost $12,000 and the old amortization, $1858, and the new amortization of the gain, $4308, which is $10,219. So, in that case you will see that both full-funding limitations are effected by the old of $10,178 and the new of $2,688 because the funding requirement to which I compare the full-funding limitation is $10,219. In that case you have, so to speak, two types of credit. You have the old credit which is the funding requirement minus the old full-funding limit, that is $41, you have the new full funding limit which is the difference between the two limits. The funding standard account is worked out and in the new Schedule B this is broken down into two parts, the old and the new credits. What is interesting is that since you were affected by the old full-funding limit, all your bases will disappear, you are not able to contribute the amount which would prevent a deficiency. You have the current liability credit of $7,490, and this $7,490 is the current liability full-funding credit, which will become a base next year. I start my 1989 valuation now. In 1988 I am in full funding both ways. The old way, I wiped out all my bases. The new way, I wipe out all my old bases. Under the new way, I have a special credit which will become a 10-year base in 1989.

FFLC:
	AFD	$= (12,000 + 1,858 - 4,308) (1.07) = 10,219$
	Due to old FFL	$= 10,219 - 10,178 = \quad 41$
	Due to new FFL	$= 10,178 - 2,688 = \underline{7,490}$
	Total	$= 10,219 - 2,688 \quad \$7,531$

Now we are very efficient. Accrued liability, $140,000, normal cost, $16,000 market value, $139,000. I don't have all my old bases under there. I have this current liability amortization base, I have its amortization amount, $997. The credit balance is $548.

$$C = 2,688 \text{ ON } 12/31/88$$

1988 Funding Standard Account

NC	12,000	
AP	1,858	
INT	970	
TCH	14,828	
CB	512	
C	2,688	
AB	4,308	
INT	337	
FFLC	7,531	
TCR	15,376	
CB	548	(512) (1.07) = 548

Well, the true unfunded liability happens to be $1,000, right at the top here. Your expected unfunded liability is the outstanding portion of your bases minus your credit balance. I have only this new base, the current liability base, minus the credit balance of $548, so my expected unfunded liability is $6942. I compare that to my actual unfunded liability of $1000, and the difference gives me the gain for the year. So, in 1989, I establish a new base, a credit base, of $5942.

MR. JOHN K. SNYGG: Well, fortunately, not as much has happened to the maximum tax-deductible contribution as to the minimum. So, I guess we can be thankful for small favors. Maximum tax-deductible contributions are governed by Section 404 of the Internal Revenue Code which basically tells us that you can deduct one of two things. You can either deduct the minimum required contributions under 412(a) which basically is anything that you need to contribute to the plan to avoid a funding deficiency or you can contribute the normal cost plus a 10-year amortization of your unfunded past service liabilities. These deductions are limited to the full-funding limitation. The full-funding limits for this purpose are calculated without respect to the credit balance in the funding standard account and also do not take into account contributions that have been made but not yet deducted.

For plans with a hundred or more participants, a deductible limit is not less than the unfunded current liability. To determine whether or not you have a hundred participants you look at all the defined benefit plans in the control group.

Anything that you contribute to the plan during the plan year that's not deductible can be carried over to future plan years. However, if you do carry over contributions, you're now subject to a 10% excise tax, and that's payable by the employer.

Unlike the minimum contribution, the maximum contribution is made on a tax year basis, not a plan year basis, and the contributions that are claimed as deductions have to be made before the tax filing dates. If the plan year and the tax year don't happen to coincide, you can make your deductions based on the plan year beginning in the tax year, the plan year ending in the tax year, or some weighted average of the two. Deductible interest charges on the normal cost and the amortization bases can only be through the earlier of the end of the plan year or the end of the tax year. And this doesn't apply to the full-funding limit calculations. If you have a combination of defined benefit and defined contribution plans, there are further limits. You can't contribute more than 25% of compensation for beneficiaries of these plans. Contribution allowed is the larger of three things -- 25% of compensation, the minimum required contribution, or the unfunded current liability for plans with more than a hundred participants. So, we can always contribute that unfunded current liability.

I want to take a quick look at what's happened to maximum tax-deductible contributions since ERISA. In 1983, TEFRA came along and forbade the deduction of contributions for benefits in excess of the 415 limits. They also forbade us from assuming any increases in those limits. Tax reform three years later forbade contributions from benefits based on pay in excess of $200,000, and it similarly forbade us from assuming any increases in this $200,000 pay cap. The Tax Reform Act also imposed the 10% excise tax on carryovers which makes that much less attractive. The 1987 Budget

Reconciliation Act allowed for the deduction of current liability and placed a new limit on contributions at 150% of current liability. The 1989 Budget Reconciliation Act clarified that the preparticipation service can be excluded from your current liability calculation for purposes of your minimum calculation. If you exclude this service for 412 purposes, you also have to exclude it for 404 purposes.

I would like to discuss what these amortization bases are and how they're maintained, particularly in light of the full-funding limit. Amortization bases are established for gains and losses if you have an immediate gain funding method, any changes in actuarial assumptions, establishment and amendment of the plan, and changes in the funding method. You don't establish bases if the new current liability full-funding limit applies, and you don't establish new bases for funding waivers, shortfalls, any of the minimum requirement bases. All bases are amortized over 10 years. At any time you can reestablish your bases. You can either do a fresh start and just take your current unfunded liability and amortize that over 10 years or you can take a weighted average of your remaining periods.

Contributions to the plan are allocated based on the deductible limits, and the bases are considered fully amortized when your unamortized balance becomes zero or your plan becomes subject to the full-funding limitation based on your actuarial liability, not on the current liability calculation. If a plan is subject to the current liability full-funding limitation, the amortization bases are maintained and no new bases are established. If a plan is subject to the actuarial liability full-funding limitation, all bases are considered fully amortized. Basically, what happens here is that if your expected unfunded actuarial liability is zero, you wipe out all of your old bases. Otherwise, they're maintained.

I want to go through a few examples. Table 3 is the calculation of the contribution necessary to fund 100% of the current liability, and note that the current liability and the assets are both calculated as of the end of the plan year, and we project our current liability from the beginning of the plan year by adding the value of benefits accrued for the year. We subtract out our benefit payments, and then we project the whole liability at the current liability interest rate of 9%. On the asset side we do a similar projection, but we use the valuation interest rate.

Table 4 shows what happens if you're subject to the current liability full-funding limit. We start out with our 1990 valuation results, and then we see that we have a normal cost of $25,000. Our maximum, then, is the normal cost plus the amortization. However, our current liability full-funding limit is only $10,250. So, that's the amount that's actually paid. But what happens in 1991 is we go through and we calculate our expected unfunded liability as we would normally, and we see that we don't even contribute the normal cost to the plan, but we don't establish any new bases. The effect of all this is that our outstanding balances get bigger rather than smaller because we haven't made any payments toward these bases.

Table 5 is a situation where both full-funding limits apply, and our maximum contribution is limited to either the normal cost plus the amortization of the unfunded liability or the actuarial liability full-funding limit or the current liability full-funding limit. In the

TABLE 3

Calculation of Contribution Necessary
to Fund 100% of Current Liability

	Current Liability		Actuarial Value of Assets
A) As of Beginning of Year	$100,000	A) As of Beginning of Year	$110,000
B) Liability for Benefits Earned During Year	10,000	B) Liability for Benefits Earned During Year	N/A
C) Expected Benefit Payments During Year	(5,000)	C) Expected Benefit Payments During Year	(5,000)
D) Assumed Interest Rate	9%	D) Assumed Interest Rate	7%
E) Interest At D) on Items: A) B) C) TOTAL	 9,000 900 (225) 9,675	E) Interest At D) on Items: A) B) C) TOTAL	 7,700 0 (175) 7,525
F) As End of Year	$114,675	F) As End of Year	$112,525
Contribution Required to Fund 100% of Current Liability			$2,150
Interest Rate Assumptions Valuation Rate Current Liability Rate	 7% 9%		

TABLE 4

Funding Method   Entry Age Normal
Interest Rate   7%
No Benefits Currently Payable

1990 Valuation Results			
Actuarial Liability		$250,000	
Assets		200,000	
Unfunded Actuarial Liability		50,000	
Normal Cost		$25,000	
Amortization Bases			
	Initial Amount	10-Year Amortization	Outstanding Balance	Limit Adjustment
Base 1	$155,000	$20,625	$40,000	$20,625
Base 2	10,000	1,331	10,000	1,331
Total			$50,000	$21,965

Full-funding Limitation Based on
    Actuarial Liability $80,250
    Current Liability   10,250
Contribution Deducted for 1990 $10,250   (Paid at End of Year)

1991 Valuation Results			
Expected Unfunded Actuarial Liability			
Prior Year Unfunded		$50,000	
Prior Year Normal Cost		25,000	
Interest on Above		5,250	
Contribution for Prior Year		10,250	
Expected Unfunded		70,000	
Actuarial Liability		300,000	
Assets		230,000	
Unfunded Actuarial Liability		70,000	
Actuarial Loss		0	
Normal Cost		$30,000	
Amortization Bases			
	Initial Amount	10-Year Amortization	Outstanding Balance	Limit Adjustment
Base 1	$155,000	$20,625	$58,300	$20,625
Base 2	10,000	1,331	11,700	1,331
Total			$70,000	$21,956

TABLE 5

Funding Method   Entry Age Normal
Interest Rate   7%
No Benefits Currently Payable

1990 Valuation Results				
Actuarial Liability				$256,000
Assets				255,000
Unfunded Actuarial Liability				1,000
Normal Cost				$25,000
Amortization Bases				
	Initial Amount	10-Year Amortization	Outstanding Balance	Limit Adjustment
Base 1	$155,000	$20,625	$40,000	$20,625
Base 2	(39,000)	(5,189)	(39,000)	(5,189)
Total			1,000	15,436

Full-funding Limitation Based on
   Actuarial Liability $27,820
   Current Liability   10,250
Contribution Deducted for 1990 $10,250   (Paid at End of Year)

1991 Valuation Results				
Expected Unfunded Actuarial Liability				
Prior Year Unfunded				$ 1,000
Prior Year Normal Cost				25,000
Interest on Above				1,820
Contribution for Prior Year				10,250
Expected Unfunded				17,570
Actuarial Liability				300,670
Assets				283,100
Unfunded Actuarial Liability				17,570
Actuarial Loss				0
Normal Cost				$30,000
Amortization Bases				
	Initial Amount	10-Year Amortization	Outstanding Balance	Limit Adjustment
Base 1	$155,000	$20,625	$64,847	$20,625
Base 2	(39,000)	(5,189)	(47,277)	(5,189)
Total			$17,570	$15,436

past, if you were limited by the full-funding limit, and you paid the full-funding limit, you wiped out all your previous bases, but now we're limited by the current liability full-funding limit. We cannot pay off our entire unfunded actuarial accrued liability. So, we see that our expected unfunded liability is $17,570, and we maintain our bases.

Table 6 is something that is very familiar. This is a situation where our contributions are limited by the actuarial liability full-funding limit. It's very similar to the prior example.

In this case, we see that we have paid off all of our old amortization bases and our expected unfunded is zero. So, we wipe out all of our amortization bases.

Table 7 is a situation where we have a negative unfunded liability at the beginning of the year. So, in 1990 we have an unfunded liability of minus $5,000. However, we set that to zero because we're not allowed to have a negative unfunded liability. We establish our second amortization base, $40,000. We just force that to give us a total outstanding balance of zero but, without adjustment, Base 2 would be $45,000. Our full-funding limit, based on the actuarial liability is $21,400, which is our normal cost plus our unfunded (which is negative) adjusted with interest. The current liability full-funding limit is $10,250. The $10,250 (the lesser of the two amounts) is the amount that's actually paid, and we come down to 1991. We go through our normal calculations, and we see that we would have an expected unfunded liability of $16,500, and our actual unfunded liability turns out to be $11,150. Now, this example is sort of interesting because you'll find that the actuarial liability and the assets are really just straight projections at the beginning of the year of the 1990 values. So, you have a very predictable group. This actuarial gain is just our unadjusted 1990 unfunded carried forward, and we establish our third base in 1991 and find that by not wiping out our old amortization bases we allow ourselves a quite large deductible limit, especially in comparison to the unfunded liability.

FROM THE FLOOR: On Table 7 it looks like your full-funding limit on an actuarial liability is less than normal cost. Would you be fully funded on that basis?

MR. SNYGG: Yes, you would be, but you're not allowed to pay that, and you, in fact, don't pay it.

FROM THE FLOOR: You would not wipe out your bases because you are not allowed to pay it for maximum.

MR. SNYGG: That's right.

FROM THE FLOOR: For the maximum, do you wipe out the bases only if you pay the amount of the unfunded?

MR. SNYGG: That's right.

FROM THE FLOOR: The 412 balance equation doesn't work.

TABLE 6

Funding Method   Entry Age Normal
Interest Rate   7%
No Benefits Currently Payable

1990 Valuation Results	
Actuarial Liability	$256,000
Assets	255,000
Unfunded Actuarial Liability	1,000
Normal Cost	$25,000

Amortization Bases				
	Initial Amount	10-Year Amortization	Outstanding Balance	Limit Adjustment
Base 1	$155,000	$20,625	$40,000	$20,625
Base 2	(39,000)	(5,189)	(39,000)	(5,189)
Total			$1,000	$15,436

Full-funding Limitation Based on
    Actuarial Liability $27,820
    Current Liability   35,000
Contribution Deducted for 1990 $27,820   (Paid at End of Year)

1991 Valuation Results	
Expected Unfunded Actuarial Liability	
Prior Year Unfunded	$1,000
Prior Year Normal Cost	25,000
Interest on Above	1,820
Contribution for Prior Year	27,820
Expected Unfunded	0
Actuarial Liability	305,992
Assets	305,992
Unfunded Actuarial Liability	0
Actuarial Loss	0
Normal Cost	$30,000

Amortization Bases				
	Initial Amount	10-Year Amortization	Outstanding Balance	Limit Adjustment
Base 1	0	0	0	0
Total			0	0

TABLE 7

Funding Method   Entry Age Normal
Interest Rate   7%
No Benefits Currently Payable

1990 Valuation Results	
Actuarial Liability	$250,000
Assets	255,000
Unfunded Actuarial Liability	(5,000)
	set to zero per
	RR 81-213
Normal Cost	$25,000

Amortization Bases				
	Initial Amount	10-Year Amortization	Outstanding Balance	Limit Adjustment
Base 1	$155,000	$20,625	$40,000	$20,625
Base 2	(40,000)	(5,323)	(40,000)	(5,323)
Total			0	15,302

Full-funding Limitation Based on
  Actuarial Liability $21,400
  Current Liability   10,250
Contribution Deducted for 1990 $10,250

1991 Valuation Results	
Expected Unfunded Actuarial Liability	
Prior Year Unfunded	$ 0
Prior Year Normal Cost	25,000
Interest on Above	1,750
Contribution for Prior Year	10,250
Expected Unfunded	16,500
Actuarial Liability	294,250
Assets	283,100
Unfunded Actuarial Liability	11,150
Actuarial Loss	(5,350)
Normal Cost	$30,000

Amortization Bases				
	Initial Amount	10-Year Amortization	Outstanding Balance	Limit Adjustment
Base 1	$155,000	$20,625	$65,040	$20,625
Base 2	(40,000)	(5,323)	(48,540)	(5,323)
Base 3	(5,350)	(712)	(5,350)	(712)
Total			11,150	14,590

MR. SNYGG: For 412, you establish a new base that is the difference between the two full-funding limits, and you'd come back into balance.

MS. TINO: I'd like to show an example of how those reconciliation accounts work in the Schedule B. I want to remind you of what is at stake even though you have done it. The additional funding charge is deficient reduction contribution (DRC), minus some element of the funding standard account (this cannot be less than zero) plus the unpredictable contingent event amount.

Deficit reduction contribution is equal to the unfunded old liability amount plus the unfunded new liability amount. The unfunded old liability amount is amortized over 18 years. Here I have how you get your unfunded old liability amount on January 1, 1989.

Additional Funding Charge

1. Additional Funding Charge $= (DRC - mfc \nleq 0) + UCEA$, where

DRC	=	Deficit Reduction Contribution
mfc	=	minimum funding contribution
UCEA	=	Unpredictable Contingent Event Amount

2.
DRC	=	UOLA + UNLA, where
UOLA	=	Unfunded Old Liability Amount
UNLA	=	Unfunded New Liability Amount
UOLA	=	$UOL_{1/1/89} \div \ddot{a}_{\overline{18}}$

$UOL_{1/1/89}$	=	$(CL_{1/1/88} - AVA_{1/1/88}) (1 + i) = UCL_{1/1/88} (1 + i)$
UNLA	=	$UNL_{1/1/88 + n} \times [30\% - .25\% (FCL\% - 35\%)]$
$UNL_{1/1/88 + n}$	=	$UCL_{1/1/88 + n} - o/s\ UOL_{1/1/89}$ @ 1/1/88 + n (disregarding UCEL whether or not the event occurred)
o/sUOL	=	Outstanding balance of $UOL_{1/1/89}$
FCL%	=	$AVA \div CL$

3. mcf = (i) Sum of funding standard account charges for
   -- initial unfunded liability
   -- amendments
   -- waivers
   -- switch from ASA to FSA, minus
   (ii) Sum of credits for amendments.

4.
UCEA	=	Greater of: (i) Adjusted Table % x UCEB, or (ii) $UCEL \div \ddot{a}_{\overline{7}}$
UCEB	=	Unpredictable Contingent Event Benefit
UCEL	=	Unpredictable Contingent Event Liabilities
Adjusted Table %	=	(100% - FCL%) x (% from table for 1989-2001 phase-in period)

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But it has been said also in some meetings that this unfunded old liability amount as of January 1, 1989 was not necessarily the one of January 1, 1988 brought forward with interest to January 1, 1989 but could be computed as of January 1, 1989. So, it's very unclear how you compute this unfunded old liability.

The unfunded new liability is the unfunded current liability at any date which is the current liability as of the beginning of the year. There is no one-year addition in that. It's a snapshot of your current liability at the beginning of the year minus the assets, and from that you subtract the outstanding unfunded old liability amount. Now, the unfunded old liability amount is a transition amount. It will appear only on January 1, 1989. If you did not have one at that time, you will never have one. It will not come for a new plan. It is purely a transition amount. This outstanding amount is amortized like any base, the outstanding at the beginning of the year minus the amortization amount. All that's with the proper interest at the current liability rate. And the funding ratio, funded current liability (FCL)%, is the assets divided by the current liability.

Now, what are the bases that you use to offset the deficit reduction contribution? The amortizations that you take are selected. They are not all of them. They're only the amortization for the initial unfunded liability, amendment, waiver, switch from alternation funding standard account (AFSA) to funding standard account (FSA) and for the amendment credit, period.

Of course, if you have no bases in your funding standard account, like aggregate in general, you don't have any offset to your deficit reduction contribution. It is said on the Schedule B that if you have combined and offset your bases, you don't have any offset here either, even though this point is under consideration. I don't know what will happen. And I think I can pass the unpredictable contingent event amount. You can read that another day.

I'll give you the example of the reconciliation of the Schedule B. You will need a reconciliation account to balance your Schedule B each time you have used in your Schedule B an interest rate other than your valuation rate. So, this will happen obviously for the additional charge that you prepare, and it will happen again for the waivers, and it will happen again for the interest penalty on quarterly contribution, but if I illustrate this one, it's enough. While I'm talking of that, the question arises all the time, is the additional interest charge on quarterly contributions not made on time deductible? And the answer is yes. And where is it deductible? It is deductible as a minimum funding requirement, 404(i) of the code.

Table 8 is for the 1989 plan year. The accrued liability is $250,000. There is a credit balance of $1,000, and the actuarial value of assets is $50,000. The current liability is $210,000. The unfunded liability is $200,000, that is to say $250,000 minus the assets. You compute the unfunded current liability and subtract the credit balance. So, I use $49,000 of assets, $50,000 minus $1,000, and my unfunded current liability is $161,000. Ok? If you have a deficiency, you don't adjust your assets. Here I adjusted for a credit balance. You don't do the same if there is a deficiency. So, I compute the additional funding contribution. I assume that the unfunded old liability is equal to $161,000. It's generally not the case. There is unfunded new right there, but it's better to do this, it's

TABLE 8

Additional Funding Charge (AFC) and Schedule B
Example

I. 1989 Plan Year
    Assume that there is no Unfunded New Liability (UNL). There is only one base in
    the FSA: its amortization period is 25 years.

	Valuation Results	
	Basic	Current Liability
Interest Rate	8%	12%
(1) Accured Liability	250,000	---
(2) Current Liability	---	210,000
(3) Credit Balance	1,000	
(4) Actuarial Value of Assets	50,000	
(5) Actuarial Value of Assets - Credit Balance*		49,000
(6) Unfunded Liability: (1) - (4)	200,000	
(7) Unfunded Current Liability: (2) - (5)		161,000

*   No adjustment in the case of a deficiency

TABLE 8

(Continued)

	AFC Calculation
Unfunded Old Liability	$161,000$ = assumed to be equal to UCL on 1/1/89
Unfunded Old Liability Amount$_{1/1}$	$19,828 = 161,000 / \ddot{a}_{\overline{18}|}$ @ 12%
Minimum Funding Contribution$_{1/1}$	$17,435 = (200,000 + 1,000) / \ddot{a}_{\overline{25}|}$ @ 8%
AFC$_{12/31}$	$2,680 = (19,828 - 17,435) * (1.12)$

1989 Funding Standard Account		
Charges		
(1) Normal Cost$_{1/1}$	20,000	Outstanding
(2) Amortization$_{1/1}$	17,435	balance
(3) AFC$_{12/31}$	2,680	201,000
(4) Interest on (1) & (2)	2,995	N/A
(5) Total	43,110	

Credits	
(6) CB	1,000
(7) Contributions$_{12/31}$	35,000
(8) Interest	80
(9) Total	36,080
CB$_{12/31}$	(7,030)
AFA-AFC*$_{1/1}$	0

* Accumulated Reconciliation Account with respect to the AFC: This is the accumulation of all prior AFCs at the CL rate.

simpler. I amortize the $161,000 at 12%, the current liability rate, and the minimum funding contribution to which I will compare, that is the amortization that I have presently in the funding standard account. I have only one, and it is amortized over 25 years. So, that is the original base, and it counts. The amortization is unfunded plus credit balance divided by the remaining years. It gives me an amount of $17,435. So, since this is the original base in my plan, the additional funding contribution is the 18-year amortization of the unfunded old liability minus the amortization of the base I just described, and that gives me $2,680. Here is the Schedule B. I have only one base, the outstanding amount is $201,000, I'm in balance this year. My unfunded was $200,000 and my credit balance was $1,000, so I am in balance. The way that I compute the second part of the funding standard account with credits I will come up with a deficiency. Now, here is the accumulated reconciliation account with respect to the additional funding contribution (ARA, AFC) and by definition this is the accumulation of all prior additional funding contributions. Those in the prior Schedule B on January 1, 1989, I did not have any. This year it is zero. The amount that I put here is zero.

Table 9 shows the year after. This time the current liability interest rate has become 11%. The table here looks like the one I had before. You will notice that I take the same assets for the valuation as I do for the current liability calculation because now I have a deficit and not a credit balance, and I proceed to the calculation. I compute the outstanding portion of the unfunded old liability. This is pushed forward at 12% which was the current liability rate last year. Now, I have to reamortize the amount of the unfunded old liability remaining, since my current liability rate is 11%. So, the 18-year amortization of the unfunded old liability now will become the outstanding amount divided by a 17-year annuity factor at 11%. The unfunded new liability is the unfunded current liability of $212,000 minus the unfunded old liability of $158,112 that I just computed, and this gives me $53,888. I compute my funding ratio, assets divided by current liability, and I find the ratio to be 29.57%. And now it remains for me to amortize my unfunded new liability amount of $53,888, and thus you take the formula that you find in the law. You can be grateful for this amortization because instead of maintaining that, you take a fresh look at your unfunded new liability every year. You don't maintain that. At the beginning it was not certain. So, this is a big simplification.

In case you don't notice, I like to make you happy. And so as it is shown in the law, always very simple. Your amortization is a percentage of that which is 30% minus some adjustment (that we don't have here) because this 25% applies to 29.57% minus 35%. This adjustment cannot be negative. So, the amortization of the unfunded new liability amount is strictly 30% of the amount which is $16,166. We're almost at the end. Now, over there I assumed that there was an amendment. So, that's why you find out that now I have two bases because an amendment counts. So, to offset my deficit reduction contribution now I have the original base, and I have my amendment base. Finally, I have my additional funding contribution which is the sum of the unfunded old liability amount plus the unfunded new liability amount minus the offset, the old, the new and the offset. You multiply that to the value, one plus interest at the current liability rate, and that is what you charge your funding standard account in addition to other charges. And, of course, once you have done that you have destroyed your funding standard account except that you will have a reconciliation account to put everything straight. So, now we'll have the funding standard account, the normal cost, the amortization, old and

TABLE 9

II. 1990 Plan Year

There is a plan amendment causing a 50,000 increase in liability. There is no actuarial gain.

	Valuation Results	
	Basic	CL
Interest Rate	8%	11%
(1) AL	341,600	---
(2) CL	---	301,000
(3) CB	(7,030)	
(4) AVA	89,000	
(5) AVA - CB		89,000
(6) UL: (1) - (4)	252,600	
(7) UCL: (2) - (5)		212,000

	AFC Calculation
o/s UOL	$158{,}112 = (161{,}000 - 19{,}828) * (1.12)$
$UOLA_{1/1}$	$18{,}870 = 158{,}112 / \ddot{a}_{\overline{17}|} @ 11\%$
UNL	$53{,}888 = 212{,}000 - 158{,}112$
FCL%	$29.57\% = 89{,}000/301{,}000$
UNLA	$16{,}166 = 53{,}888 * (30\% - .25 *$ $(29.57\% - 35\% \not< 0))$
$mfc_{1/1}$	$21{,}547 =$ Amortization of original base + amendment base $= 17{,}435 + 50{,}000 / \ddot{a}_{\overline{30}|} @ 8\%$
$AFC_{12/31}$	$14{,}972 = (18{,}870 + 16{,}166 - 21{,}547) * (1.11)$

TABLE 9

(Continued)

1989 FSA		
Charges		
(1) $NC_{1/1}$	21,000	
(2) Amortization$_{1/1}$		o/s balance
(a) Original	17,435	198,250
(b) Amendment	4,112	50,000
(3) $AFC_{12/31}$	14,972	248,250
(4) Interest on (1) & (2)	3,404	
(5) Total	60,923	

Credits	
(6) CB	(7,030)
(7) Contributions$_{12/31}$	
(8) Interest	
(9) Total	
$CB_{12/31}$	
ARA-AFC$_{1/1}$ Equation of Balance 1/1/90 UL = o/s balance - CB - ARA-AFC	2,680 = (ARA-AFC$_{1/1/89}$) * 1.08 + AFC$_{12/31/89}$
252,600 = 248,250 + 7,030 - 2,680	OK

new, the additional amount that you owe, $14,972, the interest on the total, and the total is $60,923. What I want to show is how this reconciliation account will work. This reconciliation account is the reconciliation account of last year. This one, with interest, this year will give you zero. And plus the additional funding contribution in the last Schedule B which was $2680. And now you have your Schedule B balancing. My unfunded liability was $252,600.

Let me tell you briefly there is a kind of full funding with the current liability. If the unfunded current liability is negative, there is no additional funding charge. And the unfunded old liability ceases to exist. If the unfunded new liability is negative, unfunded new liability is unfunded current liability minus the outstanding portion of the unfunded old liability, there is no unfunded new liability amount. You don't amortize a negative amount. And you will ask me what happened with the unfunded old liability. In any event, you are limited by the unfunded current liability. You cannot put an amount

which will put your unfunded current liability negative. The reconciliation accounts are wiped out when the plan is in full funding on an accrued liability basis.

MR. DONALD S. GRUBBS, JR.: Going back to the gain and loss it seems to me that, like the old, gray mare, it ain't what it used to be. We have two items that make it different, one, that unfunded liabilities are treated as never being negative, and the other, that when we wipe out bases, that automatically throws out the gain and loss computation. Would I be correct in thinking that the simplest way that's a kind of failsafe is to say that if I take my Schedule B and put in what my amortization bases would be, assuming I've had no plan amendments and haven't changed my methods and assumptions, and assuming that there's no gain and loss, and then find out what change in those bases it would take to make things balance, that's going to be my gain and loss?

MS. TINO: That is about the approach that we took in the example. If you become negative, let us say, because of a change of assumption, you will recognize only a portion of the decreasing liabilities, yes. Your gain becomes a kind of balancing item. Of course, those are not the gains which are examined when we are challenging your actuarial assumptions.