

**EXERCISE 20-1 (5-10 minutes)**

(a)	Computation of pension expense:	
	Service cost	\$ 60,000
	Interest cost (\$500,000 X .10)	50,000
	Actual (expected) return on plan assets	(12,000)
	Unrecognized prior service cost amortization	<u>8,000</u>
	Pension expense for 2004	<u>\$106,000</u>
(b)	Pension Expense .....	106,000
	Cash.....	95,000
	Prepaid/Accrued Pension Cost.....	11,000

**EXERCISE 20-6 (10-15 minutes)**

Computation of Actual Return on Plan Assets

Fair value of plan assets at 12/31/05		\$2,725,000
Fair value of plan assets at 1/1/05		<u>2,300,000</u>
Increase in fair value of plan assets		425,000
Deduct: Contributions to plan during 2005	\$250,000	
Less benefits paid during 2005	<u>350,000</u>	<u>(100,000)</u>
Actual return on plan assets for 2005		<u>\$ 525,000</u>

**EXERCISE 20-8 (20-25 minutes)**

Corridor and Minimum Loss Amortization

Year	Projected Benefit Obligation (a)	Plan Asset Value (a)	10% Corridor	Cumulative Unrecognized Net Loss (a)	Minimum Amortization of Loss
2003	\$2,000,000	\$1,900,000	\$200,000	\$ 0	\$ 0
2004	2,400,000	2,500,000	250,000	280,000	3,000 (b)
2005	2,900,000	2,600,000	290,000	367,000 (c)	6,417 (d)
2006	3,600,000	3,000,000	360,000	370,583 (e)	882 (f)

- (a) As of the beginning of the year.
- (b)  $(\$280,000 - \$250,000) \div 10 \text{ years} = \$3,000$
- (c)  $\$280,000 - \$3,000 + \$90,000 = \$367,000$
- (d)  $(\$367,000 - \$290,000) \div 12 \text{ years} = \$6,417$
- (e)  $\$367,000 - \$6,417 + \$10,000 = \$370,583$
- (f)  $\$370,583 - \$360,000 \div 12 \text{ years} = \$882$

**EXERCISE 20-11 (10-15 minutes)**

## (a) Additional Liability Computations

	December 31	
	2004	2005
Accumulated benefit obligation	\$(260,000)	\$(370,000)
Fair value plan of assets	<u>255,000</u>	<u>300,000</u>
Minimum liability	(5,000)	(70,000)
Prepaid (accrued) pension cost	<u>30,000</u>	<u>(45,000)</u>
Additional liability to report	(35,000)	(25,000)
Less: Beginning additional liability	<u>—</u>	<u>(35,000)</u>
Additional liability to record	<u>\$ (35,000)</u>	<u>\$ 10,000</u>

(b) **2004**

Intangible Asset—Deferred Pension Cost	35,000	
Additional Pension Liability		35,000

**2005**

Additional Pension Liability	10,000	
Intangible Asset—Deferred Pension Cost		10,000

**EXERCISE 20-12 (20-30 minutes)**

## (a) Pension expense for 2004 composed of the following:

Service cost	\$ 56,000
Interest on projected benefit obligation (9% X \$1,000,000)	90,000
Actual and expected return on plan assets	(54,000)
Amortization of unrecognized gain or loss	0
Amortization of unrecognized prior service cost	<u>40,000</u>
Pension expense	<u>\$132,000</u>

(b) Pension Expense	132,000
Prepaid/Accrued Pension Cost	13,000*
Cash	145,000

(To record pension expense and employer's contribution)

\*\$145,000 – \$132,000

**EXERCISE 20-12 (Continued)**

(c) Income Statement:

Pension expense \$132,000

Balance Sheet:

Assets

Intangible asset—deferred pension cost \$44,000

Liabilities

Accrued pension cost \$31,000

Minimum liability computation:

12/31/04

Accumulated benefit obligation \$(830,000)

Plan assets at fair value 799,000<sup>a</sup>

Minimum liability \$ (31,000)

Prepaid/accrued pension cost (an asset) 13,000Additional liability (44,000)<sup>b</sup>Unrecognized prior service cost 360,000<sup>b</sup>Contra equity charge \$ 0<sup>a</sup>\$799,000 = \$600,000 + \$145,000 + \$54,000<sup>b</sup>\$360,000 = \$400,000 – \$40,000

**EXERCISE 20-14 (35-45 minutes)**

(a) Actual Return = (Ending – Beginning) – (Contributions – Benefits)

Fair value of plan assets, December 31, 2005		\$2,620
Deduct: Fair value of plan assets, January 1, 2005		<u>1,700</u>
Increase in fair value of plan assets		920
Deduct: Contributions	\$800	
Less benefits paid	<u>200</u>	<u>600</u>
Actual return on plan assets in 2005		<u>\$ 320</u>

(b) Computation of pension liability gains and losses and pension asset gains and losses.

1. Difference between 12/31/05 actuarially computed PBO and 12/31/05 recorded projected benefit obligation (PBO):

PBO at end of year		\$3,645
PBO per memo records:		
1/1/05 PBO	\$2,800	
Add interest (10%)	280	
Add service cost	400	
Less benefit payments	<u>(200)</u>	<u>3,280</u>
Liability loss		<u>\$365</u>

2. Difference between actual fair value of plan assets and expected fair value:

12/31/05 actual fair value of plan assets		2,620
Expected fair value		
1/1/05 fair value of plan assets	1,700	
Add expected return (\$1,700 X 10%)	170	
Add contribution	800	
Less benefits paid	<u>(200)</u>	<u>2,470</u>
Asset gain		<u>(150)</u>
Unrecognized net (gain) or loss		<u>\$215</u>

- (c) Because no unrecognized net gain or loss existed at the beginning of the period, no amortization occurs. Therefore, the corridor calculation is not needed. An example of how the corridor would have been computed is illustrated below, assuming an unrecognized net loss of \$240.

Beginning-of-the-Year

Year	PBO	Plan Assets (FV)	10% Corridor	Unrecognized Net Loss	Loss Amortization
2005	\$2,800	\$1,700	\$280	\$240	–0–

- (d) Prior service cost amortization:  $\$1,100 \times 1/20 = \underline{\$55}$  per year.

- (e) Minimum liability computation:

Accumulated benefit obligation, 12/31/05	\$(2,730)
Plan assets at fair value	<u>2,620</u>
Minimum liability	(110)
Prepaid pension cost, 12/31/05	
(\$800 – \$565)	<u>235</u>
Additional liability	<u>\$ (345)</u>

- (f) Pension expense for 2005:

Service cost	\$400
Interest cost (\$2,800 X 10%)	280
Actual return on plan assets [from (a)]	(320)
Unexpected gain [from (b)2.]	150
Amortization of prior service cost	<u>55</u>
Pension expense for 2005	<u>\$565</u>

- (g) Reconciliation schedule:

Projected benefit obligation	\$(3,645)
Fair value of plan assets	<u>2,620</u>
Funded status	(1,025)
Unrecognized prior service cost	
(\$1,100 – \$55)	1,045
Unrecognized net (gain) or loss	<u>215</u>
Prepaid/accrued pension cost	235
Adjustment required to recognize minimum liability	<u>(345)</u>
Accrued pension cost recognized in the balance sheet	<u>\$ (110)</u>

**EXERCISE 20-20 (25-35 minutes)**

The excess of the cumulative unrecognized net gain or loss over the corridor amount is amortized by dividing the excess by the average remaining service period of employees. The average remaining service period is computed as follows:

$$\frac{\text{Expected future years of service}}{\text{Number of employees}} = \text{Average remaining service life per employee}$$

$$\text{Average remaining service life per employee} = \frac{5,600}{400} = 14.$$

Amortization of Unrecognized Net (Gain) or Loss  
(Gain) or Loss For the Year Ended

December 31,	Amount
2004	300,000
2005	480,000
2006	(210,000)
2007	(290,000)

Year	Projected Benefit Obligation (a)	Plan Assets (a)	Corridor (b)	Cumulative Unrecognized (Gain) Loss (a)	Minimum Amortization of (Gain) Loss
2004	\$4,000,000	\$2,400,000	\$400,000	\$ 0	\$ 0
2005	4,520,000	2,200,000	452,000	300,000	0
2006	4,980,000	2,600,000	498,000	780,000	20,143 (c)
2007	4,250,000	3,040,000	425,000	549,857 (d)	8,918 (e)

- (a) As of the beginning of the year.
- (b) The corridor is 10 percent of the greater of projected benefit obligation or plan assets.
- (c)  $\$780,000 - \$498,000 = \$282,000$ ;  $\$282,000/14 = \$20,143$ .
- (d)  $\$780,000 - \$20,143 - \$210,000 = \$549,857$ .
- (e)  $\$549,857 - \$425,000 = \$124,857$ ;  $\$124,857/14 = \$8,918$ .

**EXERCISE 20-21 (30-40 minutes)**

(a)	Year	Unrecognized Prior Service Cost Amortized	Service Cost
	2004	\$110,000	(\$1,155,000 ÷ 10.5 years)
	2005	110,000	(\$1,155,000 ÷ 10.5 years)

- (b) The excess of the cumulative unrecognized net gain or loss over the corridor amount is amortized by dividing the excess by the average remaining service life per employee. The average service life is 10.5 years.

<u>Amortization of Unrecognized Net (Gain) or Loss</u>						
		(Gain) or Loss	For the	Amount		
		Year Ended December 31,				
		2004	2005	10% Corridor (b)	Cumulative Unrecognized (Gain) Loss (a)	Minimum Amortization of (Gain) Loss
Year	Projected Benefit Obligation (a)	Plan Assets (a)				
2004	\$2,800,000	\$1,700,000	\$280,000	\$ 0	\$ -0-	
2005	3,650,000	2,900,000	365,000	101,000	-0-	(c)

(a) As of the beginning of the year.

(b) The corridor is 10 percent of the greater of the projected benefit obligation or plan assets.

(c) \$365,000 is greater than \$101,000; therefore, no amortization.

- (c) Pension expense for 2004 composed of the following:

Service cost	\$400,000
Interest on projected benefit obligation ((\$2,800,000 X 11%))	308,000
Expected return on plan assets ((\$1,700,000 X 10%))	(170,000)
Amortization of unrecognized net gain or loss	0
Amortization of unrecognized prior service cost	<u>110,000</u>
Pension expense	<u>\$648,000</u>

- Pension expense for 2005 composed of the following:

Service cost	\$475,000
Interest on projected benefit obligation ((\$3,650,000 X 8%))	292,000
Expected return on plan assets ((\$2,900,000 X 10%))	(290,000)
Amortization of unrecognized prior service cost	<u>110,000</u>
Pension expense	<u>\$587,000</u>

**\*EXERCISE 20-23 (10-12 minutes)**

Service cost	\$ 90,000
Interest on accumulated postretirement benefit obligation (9% X \$810,000)	72,900
Expected return on plan assets	(62,000)
Amortization of prior service cost	3,000
Amortization of transition amount	<u>5,000</u>
Postretirement expense	<u>\$108,900</u>

**\*EXERCISE 20-25 (10-15 minutes)**

(a) Accumulated postretirement benefit obligation (Credit)	\$(950,000)
Plan assets at fair value (Debit)	<u>650,000</u>
Funded status (Credit)	(300,000)
Unrecognized prior service cost (Debit)	60,000
Unrecognized transition amount (Debit)	<u>100,000</u>
Accrued postretirement benefit cost (Credit)	<u>\$(140,000)</u>
(b) Accumulated postretirement benefit obligation (Credit)	\$(950,000)
Plan assets at fair value (Debit)	<u>650,000</u>
Funded status (Credit)	(300,000)
Unrecognized prior service cost (Debit)	60,000
Unrecognized transition amount (Debit)	100,000
Unrecognized loss (Debit)	<u>20,000</u>
Accrued postretirement benefit cost (Credit)	<u>\$(120,000)</u>

**Marvelous Marvin Co.  
Postretirement Benefits Work Sheet—2005**

Items	General Journal Entries			Memo Record			
	Annual Post- retirement Expense	Cash	Prepaid/ Accrued Cost	Accumulated Postretire- ment Benefit Obligation	Plan Assets	Unrecognized Transition Amount	Unrecognized Prior Service Cost
Balance, Jan. 1, 2005			0	810,000 Cr.	710,000 Dr.	80,000 Dr.	20,000 Dr.
(a) Service cost	90,000 Dr.			90,000 Cr.			
(b) Interest cost	*72,900 Dr.			72,900 Cr.			
(c) Actual return	62,000 Cr.				62,000 Dr.		
(d) Contributions		16,000 Cr.			16,000 Dr.		
(e) Benefits				40,000 Dr.	40,000 Cr.		
(f) Amortization:							
Transition	5,000 Dr.					5,000 Cr.	
Prior service cost	3,000 Dr.						3,000 Cr.
Journal entry for 2005	<u>108,900</u> Dr.	<u>16,000</u> Cr.	<u>92,900</u> Cr.	<u>932,900</u> Cr.	<u>748,000</u> Dr.	<u>75,000</u> Dr.	<u>17,000</u> Dr.
Balance, Dec. 31, 2005			<u>92,900</u> Cr.	<u>932,900</u> Cr.	<u>748,000</u> Dr.	<u>75,000</u> Dr.	<u>17,000</u> Dr.

\*( $\$710,000 \times 9\%$ )

## CASE 20-5

1. This situation can exist because companies vary as to whether they are using an implicit or explicit set of assumptions when interest rates are disclosed. In the implicit approach, two or more assumptions do not individually represent the best estimate of the plan's future experience with respect to these assumptions, but the aggregate effect of their combined use is presumed to be approximately the same as that of an explicit approach. In the explicit approach, each significant assumption reflecting the best estimate of the plan's future experience solely with respect to that assumption must be stated. As a result, some companies are presently using an implicit approach, others an explicit approach. FASB Statement No. 87 requires the use of explicit assumptions. As a result, this large variance in interest rates will probably disappear to some extent. However, it should be noted that companies will have some leeway in establishing settlement rates. In addition, the expected return on assets will also be different among companies.
2. This situation will occur because of the minimum liability required to be reported. That is, companies are required to report as a liability the excess of their accumulated benefit obligation over the fair value of plan assets. In the past, the basic liability companies reported was the excess of the amount expensed over the amount funded.
3. This statement is questionable. If a financial measure purports to represent a phenomenon that is volatile, the measure must show that volatility or it will not be representationally faithful. Nevertheless, many argue that volatility is inappropriate when dealing with such long-term measures as pensions. A good example of where dampening might be useful is the recognition of gains and losses. If assumptions prove to be accurate estimates of experience over a number of years, gains or losses in one year will be offset by losses or gains in subsequent periods, and amortization of unrecognized gains and losses would be unnecessary. The main point is that volatility per se should not be considered undesirable when establishing accounting principles. Although some managements may consider volatility bad, this belief should not influence standard-setting. However, it is clear from some of the compromises made in FASB Statement No. 87 that certain procedures were provided to dampen the volatility effect.
4. These pension plan assets in excess of the projected benefit obligation are not reported on the employer's books. However, the fair value of plan assets are required to be reported in the footnote, so that a reader of the financial statements can determine the funded status of the plan.
5. (a) In a defined contribution plan, the amount contributed is the amount expensed. No significant reporting problems exist here. On the other hand, defined benefit plans involve many difficult reporting issues which may lead to additional expense and liability recognition.

Significant amendments will generally increase prior service cost which may lead to significant adjustments to pension expense in the future.

- (b) Plan participants are of importance, because the expected future years of service computation can have an impact on the amortization of the transition amount, prior service cost, and gains and losses.
- (c) If the plan is underfunded, pension expense will generally increase (all other factors constant). If the plan is overfunded, pension expense will generally decrease (all

other factors constant). The reason is that the expected return on plan assets will be less if the plan is underfunded and vice versa.

- (d) If the company is using an actuarial funding method different than the one prescribed in FASB Statement No. 87 (benefits/years-of-service approach), some changes in the computation of pension expense will occur for the company.
- 6. The corridor method is an approach which requires that only gains and losses in excess of 10% of the greater of the projected benefit obligation or plan assets be allocated. This excess is then amortized over the average remaining service period of current employees expected to participate in the plan.

The corridor's purpose is to only recognize gains and losses above a certain amount, on the theory that gains and losses within the corridor will offset one another over time.

- 7. This intangible asset is established on the basis that the plan amendment may reduce employee turnover, improve productivity, reduce demands for increases in cash compensation, and improve prospects for attracting additional qualified employees. This intangible asset arises when the accumulated benefit obligation exceeds the fair value of plan assets and the company has unrecognized prior service cost. The asset is not amortized, but instead is adjusted upward, downward, or eliminated based on the facts at each year end.
- 8. This disclosure was eliminated because of cost/benefit considerations. Many companies complained that this disclosure was: (1) difficult to compute, (2) of limited benefit to users, and (3) costly to prepare. Apparently the Board was sympathetic with this view and eliminated this disclosure from the final pronouncement on pensions.

### **CASE 20-7**

While Selma may be correct in assuming that the termination of nonvested employees would decrease its pension-related liabilities and associated expenses, she is callous to suggest that firing employees is a reasonable approach to correcting the underfunding of College Electronix's pension plan. Arbitrarily dismissing productive employees on the basis of being vested or not vested in the pension plan in order to avoid capitalizing a liability and recognizing expenses is a capricious and unsound business decision.

Richard Nye should discuss the ethical, legal, and financial implications of the alternatives available as well as the accounting requirements relating to this situation. This obligation and its effect on the financial statements should have been known to Cardinal Technology when it performed its due diligence audit of CE at the time of merger negotiations. Cardinal Technology should capitalize the pension obligations of CE as required by GAAP.