

# Chapter 15

## Long-Term Liabilities

### Decision Guidelines – Excel

#### Solution

1. Plan 1 (borrowing) generates the higher earnings per share. Target will earn more in revenue (\$700,000) than it must pay in interest expense (\$400,000). By using leverage in this fashion, Target is able to boost its earnings per share. The interest expense is tax-deductible, also.
2. Debt financing is desirable when owners do not want to dilute their stock ownership or control of the corporation.
3. Equity financing is desirable when the company is risk-averse and wants to hold its debt ratio down. Equity financing reduces the risk of default in case the business encounters a downturn in sales and cannot pay its debt. Also, dividends may be skipped during a bad year. But borrowing creates a liability for interest expense that must be paid regardless of how well the business is doing.
4. It may be more desirable to issue common stock. This way the company's debt ratio is not increased, and it can avoid the interest expense that must be paid in bad years.

## T Questions

1.
  - a. \$9,300 ( $\$10,000 \times .93$ )
  - b. \$8,875 ( $\$10,000 \times .8875$ )
  - c. \$10,138 ( $\$10,000 \times 1.01375$ )
  - d. \$12,250 ( $\$10,000 \times 1.225$ )
  - e. \$10,000 ( $\$10,000 \times 1.00$ )
2.
  - a. 9% bonds sold when the market rate is 9%: *Par*
  - b. 9% bonds sold when the market rate is 10%: *Discount*
  - c. 9% bonds sold when the market rate is 8%: *Premium*
3. Bonds issued at par:
 

a. Cash.....	XXX	
Bonds Payable.....		XXX
To issue bonds payable at par.		
b. Interest Expense.....	XXX	
Cash.....		XXX
To pay interest expense.		
c. Interest Expense.....	XXX	
Interest Payable.....		XXX
To accrue interest expense at year end.		
d. Bonds Payable.....	XXX	
Cash.....		XXX
To pay bonds at maturity.		

4. Bonds issued at a discount:

a. Cash.....	XXX	
Discount on Bonds Payable.....	XXX	
Bonds Payable.....		XXX
To issue bonds payable at a discount.		
b. Interest Expense.....	XXX	
Cash.....		XXX
Discount on Bonds Payable.....		XXX
To pay interest expense and amortize discount.		
c. Interest Expense.....	XXX	
Interest Payable.....		XXX
Discount on Bonds Payable.....		XXX
To accrue interest expense and amortize discount at year end.		
d. Bonds Payable.....	XXX	
Cash.....		XXX
To pay bonds at maturity.		

5. Bonds issued at a premium:

a. Cash.....	XXX	
Bonds Payable.....		XXX
Premium on Bonds Payable.....		XXX
To issue bond payable at a premium.		
b. Interest Expense.....	XXX	
Premium on Bonds Payable.....	XXX	
Cash.....		XXX
To pay interest expense and amortize premium.		
c. Interest Expense.....	XXX	
Premium on Bonds Payable.....	XXX	
Interest Payable.....		XXX
To accrue interest expense and amortize premium at year end.		
d. Bonds Payable.....	XXX	
Cash.....		XXX
To pay bonds at maturity.		

6. Selling bonds for a price “plus accrued interest” simplifies bookkeeping. On each interest date, the corporation pays the bondholder the full semiannual interest amount, regardless of how long the person has held the bond.

An individual who buys bonds between interest dates will receive the interest earned by the seller since the last interest date. Therefore, when selling bonds, the seller collects the amount of accrued interest he or she has earned up to the date of the sale.

7. *Straight-line* amortization of bond discount (or premium) divides the discount into equal amounts, so the same dollar amount of discount is amortized each period.

*Effective-interest* amortization measures interest expense by multiplying the carrying amount of the bonds by the market interest rate that was in effect when the bonds were issued. The effective-interest method maintains a constant interest rate, and the dollar amount of interest expense changes each period. The dollar amount of contract (stated) interest to pay is the same each period. The amount of discount to amortize each period is the difference between the interest expense and the contract interest paid.

8. Retirement entry:

Bonds Payable.....	100,000	
Premium on Bonds Payable		
(\$4,000 × 5/10).....	2,000	
<i>Extraordinary Loss on</i>		
Retirement of Bonds.....	1,000	
Cash (\$100,000 × 1.03)...		103,000

The loss is reported as an *extraordinary* loss on the income statement.

9. Pay the \$101,250 ( $\$100,000 \times 1.0125$ ) market price, which is less than the call price of \$102,500 ( $\$100,000 \times 1.025$ ).



(5 min.) **DE 15-4**

- a. Discount
- b. Par value
- c. Premium
- d. Discount

(5-10 min.) **DE 15-5**

Journal				
DATE	ACCOUNTS AND EXPLANATIONS	POST. REF.	DEBIT	CREDIT
2000				
a. July 1	Cash		5,000	
	Bonds Payable			5,000
	Issued 6 1/2%, 10-year bond at par.			
2001				
b. Jan. 1	Interest Expense (\$5,000 × .065 × 1/2)		163	
	Cash			163
	Paid semiannual interest.			
2010				
c. July 1	Bonds Payable		5,000	
	Cash			5,000
	Paid off bonds payable at maturity.			

(10 min.) **DE 15-6**

Journal				
DATE	ACCOUNTS AND EXPLANATIONS	POST. REF.	DEBIT	CREDIT
2000				
a. Nov. 1	Cash		5,108.33	
	Bonds Payable			5,000.00
	Interest Payable			
	( $\$5,000 \times .065 \times 4/12$ )			108.33
	Issued bonds payable at par, four months after the date of the bonds.			
2001				
b. Jan. 1	Interest Expense			
	( $\$5,000 \times .065 \times 2/12$ )		54.17	
	Interest Payable		108.33	
	Cash ( $\$5,000 \times .065 \times 6/12$ )			162.50
	Paid semiannual interest.			

Journal					
DATE			ACCOUNTS AND EXPLANATIONS	POST. REF.	CREDIT
2000					
a.	July	1	Cash ( $\$5,000 \times .86$ )		4,300
			Discount on Bonds Payable		700
			Bonds Payable		5,000
			Issued bonds payable at a discount.		
2001					
b.	Jan.	1	Interest Expense		198
			Discount on Bonds Payable		
			( $\$700/10 \times 6/12$ )		35
			Cash ( $\$5,000 \times .065 \times 6/12$ )		163
			Paid semiannual interest and		
			amortized discount on bonds payable.		

Journal					
DATE			ACCOUNTS AND EXPLANATIONS	POST. REF.	CREDIT
2000					
a.	July	1	Cash ( $\$5,000 \times 1.04$ )		5,200
			Bonds Payable		5,000
			Premium on Bonds Payable		200
			Issued bonds payable at a premium.		
2001					
b.	Jan.	1	Interest Expense		153
			Premium on Bonds Payable		
			( $\$200/10 \times 6/12$ )		10
			Cash ( $\$5,000 \times .065 \times 6/12$ )		163
			Paid semiannual interest and		
			amortized premium on bonds payable.		

Journal						
DATE			ACCOUNTS AND EXPLANATIONS	POST. REF.	DEBIT	CREDIT
2000						
a.	July	1	Cash ( $\$5,000 \times .92$ )		4,600	
			Discount on Bonds Payable		400	
			Bonds Payable			5,000
			Issued bonds payable at a discount.			
b.	Dec.	31	Interest Expense		183	
			Discount on Bonds Payable			
			( $\$400/10 \times 6/12$ )			20
			Interest Payable ( $\$5,000 \times .065 \times 6/12$ )			163
			Accrued interest and amortized discount on bonds payable.			
2001						
c.	Jan.	1	Interest Payable		163	
			Cash			163
			Paid semiannual interest.			

Current liabilities:

Interest payable ( $\$5,000 \times .065 \times 6/12$ )..... \$ 163

Long-term liabilities:

Bonds payable, 6 1/2%, due 2010..... \$5,000  
 Less: Discount on bonds payable ( $\$400 - \$20$ )..... (380) 4,620

1. \$565,500 ( $\$650,000 \times .87$ )

2. Amortization Table

	A	B	C	D	E
End of Semiannual Interest Period	Interest Payment (3 1/2% of Maturity Value)	Interest Expense (4 1/2% of Preceding Bond Carrying Amount)	Discount Amortization (B - A)	Discount Balance (D - C)	Bond Carrying Amount ( $\$650,000 - D$ )
Issue Date				\$84,500	\$565,500
1	\$22,750	\$25,448	\$2,698	81,802	568,198
2	22,750	25,569	2,819	78,983	571,017
3	22,750	25,696	2,946	76,037	573,963

3.

<b>Journal</b>				
DATE	ACCOUNTS AND EXPLANATIONS	POST. REF.	DEBIT	CREDIT
20X3				
Mar. 31	Cash ( $\$650,000 \times .87$ )		565,500	
	Discount on Bonds Payable		84,500	
	Bonds Payable			650,000
Sep. 30	Interest Expense		25,448	
	Discount on Bonds Payable			2,698
	Cash			22,750

1. Amortization Table

	A	B	C	D	E
End of Annual Interest Period	Interest Payment (6% of Maturity Value)	Interest Expense (8% of Preceding Bond Carrying Amount)	Discount Amortization (B - A)	Discount Balance (D - C)	Bond Carrying Amount ( $\$400,000 - D$ )
Issue Date				\$31,942	\$368,058
1	\$24,000	\$29,445	\$5,445	26,497	373,503
2	24,000	29,880	5,880	20,617	379,383
3	24,000	30,351	6,351	14,266	385,734
4	24,000	30,859	6,859	7,407	392,593
5	24,000	31,407	7,407	- 0 -	400,000

2. a. Amount to report for the bonds payable at the end of:

Year 1 \$373,503

Year 3 \$385,734

b. Cash interest to pay for each year =  $\$24,000 (\$400,000 \times .06)$ 

c. Interest expense to record for:

Year 1 \$29,445

Year 5 \$31,407

1. \$220,000 ( $\$200,000 \times 1.10$ )

2. Amortization Table

	A	B	C	D	E
	Interest Payment (4% of Maturity Value)	Interest Expense (3% of Preceding Bond Carrying Amount)	Premium Amortization (A - B)	Premium Balance (D - C)	Bond Carrying Amount (\$200,000 + D)
Issue Date				\$20,000	\$220,000
1	\$8,000	\$6,600	\$1,400	18,600	218,600
2	8,000	6,558	1,442	17,158	217,158
3	8,000	6,515	1,485	15,673	215,673

3.

Journal				
DATE	ACCOUNTS AND EXPLANATIONS	POST. REF.	DEBIT	CREDIT
20X2				
May 31	Cash		220,000	
	Bonds Payable			200,000
	Premium on Bonds Payable			20,000
Nov. 30	Interest Expense		6,600	
	Premium on Bonds Payable		1,400	
	Cash			8,000

1. Carrying amount = \$102,281

2. Cash payment = \$ 95,000 ( $\$100,000 \times .95$ )

3. Carrying amount of bonds being retired..... \$102,281  
 Market price ( $\$100,000 \times .95$ )..... 95,000  
*Extraordinary gain on retirement of*  
*bonds payable*..... \$ 7,281

4.

Journal				
DATE	ACCOUNTS AND EXPLANATIONS	POST. REF.	DEBIT	CREDIT
	Bonds Payable		100,000	
	Premium on Bonds Payable		2,281	
	Cash			95,000
	Extraordinary Gain on Retirement of Bonds Payable			7,281

1. Carrying amount = \$1,060,000 (\$1,000,000 + \$60,000)

2.

<b>Journal</b>				
DATE	ACCOUNTS AND EXPLANATIONS	POST. REF.	DEBIT	CREDIT
	Bonds Payable		1,000,000	
	Premium on Bonds Payable		60,000	
	Common Stock (200,000 × \$1)			200,000
	Paid-in Capital in Excess of Par-Common			860,000

3. The conversion will *decrease* Blade's debt ratio:

$$\text{Debt ratio} \downarrow = \frac{\text{Total liabilities} \downarrow}{\text{Total assets}}$$

Total liabilities will decrease. Total assets are unaffected, so the debt ratio will decrease.

	Plan A Borrow \$1,000,000 at 8%	Plan B Issue \$1,000,000 of Common Stock
Net income before expansion.....	\$350,000	\$350,000
Expected income on the new project before interest and income tax.....	\$200,000	\$200,000
Less interest expense (\$1,000,000 × .08)	(80,000)	-0-
Project income before income tax.....	120,000	200,000
Less income tax expense (35%).....	(42,000)	(70,000)
Project net income.....	<u>78,000</u>	<u>130,000</u>
Total company net income.....	<u>\$428,000</u>	<u>\$480,000</u>
Earnings per share including expansion:		
Plan A (\$428,000 / 200,000 shares)...	<u>\$2.14</u>	
Plan B (\$480,000 / 300,000 shares)...		<u>\$1.60</u>

Recommendation: To increase earnings per share, Northern should borrow the money.

(5 min.) **DE 15-17**

Northern should also consider:

*Advantages of issuing stock:*

- a. Creates no liability or interest expense.
- b. Less risky to Northern.

*Advantages of issuing bonds:*

- a. Does not dilute stock ownership or control of the corporation.
- b. Usually results in higher earnings per share.

(10 min.) **DE 15-18**

**LIABILITIES**

Current:

Accounts payable.....		\$19,000
Current portion of bonds payable.....		65,000
Current obligation under capital lease.....		8,000
Interest payable.....		<u>7,000</u>
Total current liabilities.....		\$99,000

Long-term:

Notes payable, long-term.....		100,000
Bonds payable.....	\$350,000	
Less: Discount on bonds payable.....	<u>(6,000)</u>	344,000
Long-term capital lease liability.....		42,000

(5 min.) **DE 15-19**

a. Plan is *underfunded*.

NM should report a pension liability of \$600,000

(\$3,000,000 ! \$2,400,000) on its balance sheet.

b. Plan is *overfunded*.

NM should report no pension liability on its balance sheet.

## T Exercises

(10-15 min.) **E 15-1**

Journal					
DATE		ACCOUNTS AND EXPLANATIONS	POST. REF.	DEBIT	CREDIT
a.	Feb. 1	Cash ( $\$100,000 \times .98$ )		98,000	
		Discount on Bonds Payable		2,000	
		Bonds Payable			100,000
		Issued bonds payable at a discount.			
b.	July 31	Interest Expense		4,050	
		Cash ( $\$100,000 \times .08 \times 6/12$ )			4,000
		Discount on Bonds Payable			
		( $\$2,000/20 \times 6/12$ )			50
		Paid interest and amortized discount on bonds payable.			
c.	Dec. 31	Interest Expense		3,375	
		Interest Payable			
		( $\$100,000 \times .08 \times 5/12$ )			3,333
		Discount on Bonds Payable			
		( $\$2,000/20 \times 5/12$ )			42
		Accrued interest and amortized discount on bonds payable.			

(15-15 min.) **E 15-2**

<b>Journal</b>				
DATE	ACCOUNTS AND EXPLANATIONS	POST. REF.	DEBIT	CREDIT
a. Mar. 31	Cash ( $\$1,000,000 \times 1.035$ )		1,035,000	
	Bonds Payable			1,000,000
	Premium on Bonds Payable			35,000
	Issued bonds payable at a premium.			
b. Sep. 30	Interest Expense		39,125	
	Premium on Bonds Payable ( $\$35,000/20 \times 6/12$ )		875	
	Cash ( $\$1,000,000 \times .08 \times 6/12$ )			40,000
	Paid interest and amortized premium on bonds payable.			
c. Dec. 31	Interest Expense		19,562	
	Premium on Bonds Payable ( $\$35,000/20 \times 3/12$ )		438	
	Interest Payable ( $\$1,000,000 \times .08 \times 3/12$ )			20,000
	Accrued interest and amortized premium on bonds payable.			

(10-15 min.) **E 15-3**

Cash received from issuance of bonds payable ( $\$1,000,000 \times 1.035$ ).....	\$1,035,000
Cash received for accrued interest ( $\$1,000,000 \times .08 \times 3/12$ ).....	<u>20,000</u>
Total cash received.....	<u>\$1,055,000</u>

(5-10 min.) **E 15-4**

<b>Journal</b>				
DATE	ACCOUNTS AND EXPLANATIONS	POST. REF.	DEBIT	CREDIT
a. May 31	Cash		402,333	
	Bonds Payable			400,000
	Interest Payable ( $\$400,000 \times .07 \times 1/12$ )			2,333
	Issued bonds payable at par, one month after the date of the bonds.			
b. Oct. 31	Interest Expense			
	( $\$400,000 \times .07 \times 5/12$ )		11,667	
	Interest Payable		2,333	
	Cash ( $\$400,000 \times .07 \times 6/12$ )			14,000
	Paid interest on bonds payable.			

Req. 1 (amortization table)

	A	B	C	D	E
End of Semiannual Interest Period	Interest Payment (3 1/2% of Maturity Value)	Interest Expense (4% of Preceding Bond Carrying Amount)	Discount Amortization (B ! A)	Discount Balance (D ! C)	Bond Carrying Amount (\$300,000 ! D)
Issue Date				\$20,385	\$279,615
1	\$10,500	\$11,185	\$685	19,700	280,300
2	10,500	11,212	712	18,988	281,012
3	10,500	11,240	740	18,248	281,752
4	10,500	11,270	770	17,478	282,522

Req. 2

Journal				
DATE	ACCOUNTS AND EXPLANATIONS	POST. REF.	DEBIT	CREDIT
June 30	Interest Expense		11,185	
	Cash			10,500
	Discount on Bonds Payable			685
	Paid interest and amortized discount on bonds payable.			
Dec. 31	Interest Expense		11,212	
	Cash			10,500
	Discount on Bonds Payable			712
	Paid interest and amortized discount on bonds payable.			

Req. 1 (amortization table)

	A	B	C	D	E
End of Semiannual Interest Period	Interest Payment (4% of Maturity Value)	Interest Expense (3 1/2% of Preceding Bond Carrying Amount)	Premium Amortization (A ! B)	Premium Balance (D ! C)	Bond Carrying Amount (\$200,000 + D)
Issue Date				\$21,250	\$221,250 <sup>1</sup>
1	\$8,000	\$7,744	\$256	20,994	220,994
2	8,000	7,735	265	20,729	220,729
3	8,000	7,726	274	20,455	220,455
4	8,000	7,716	284	20,171	220,171

<sup>1</sup>\$200,000 × 1.10625 = \$221,250

Req. 2

<b>Journal</b>				
DATE	ACCOUNTS AND EXPLANATIONS	POST. REF.	DEBIT	CREDIT
20X2				
Sep. 30	Cash ( $\$200,000 \times 1.10625$ )		221,250	
	Bonds Payable			200,000
	Premium on Bonds Payable			21,250
	Issued bonds payable at a premium.			
Dec. 31	Interest Expense ( $\$7,744 \times 3/6$ )		3,872	
	Premium on Bonds Payable			
	( $\$256 \times 3/6$ )		128	
	Interest Payable ( $\$8,000 \times 3/6$ )			4,000
	Accrued interest and amortized premium on bonds payable.			
20X3				
Mar. 31	Interest Expense ( $\$7,744 \times 3/6$ )		3,872	
	Premium on Bonds Payable			
	( $\$256 \times 3/6$ )		128	
	Interest Payable		4,000	
	Cash			8,000
	Paid interest, part of which was accrued, and amortized bond premium.			

	A	B	C	D	E	F
1						Bond
2		Interest	Interest	Discount	Discount	Carrying
3	Date	Payment	Expense	Amortization	Balance	Amount
4						
5	1-1-X1				\$21,598	\$478,402
6	12-31-X1	\$41,875	\$45,448	\$3,573	18,025	481,975
7	12-31-X2	41,875	45,788	3,913	14,112	485,888
8	12-31-X3	41,875	46,159	4,284	9,828	490,172
9	12-31-X4	41,875	46,566	4,691	5,137	494,863
10	12-31-X5	41,875	47,012	5,137	- 0 -	500,000

Note: Computer-generated solutions may contain slight rounding error.

Journal					
DATE		ACCOUNTS AND EXPLANATIONS	POST. REF.	DEBIT	CREDIT
20X5					
Oct.	1	Interest Expense		25,125	
		Discount on Bonds Payable			
		(\$18,000* × 1/8 × 6/12)			1,125
		Cash (\$600,000 × .08 × 6/12)			24,000
		Paid interest and amortized discount on bonds payable.			
		* $(1.00 - .97) \times \$600,000$			
		= \$18,000			
	1	Bonds Payable		600,000	
		Extraordinary Loss on Retirement of Bonds Payable		12,750	
		Discount on Bonds Payable			
		(\$18,000 × 3/8)			6,750
		Cash (\$600,000 × 1.01)			606,000
		Retired bonds payable.			

*Req. 1*

Bondholders would convert their bonds into common stock when the market value of the stock exceeds the market value of the bonds they held.

*Req. 2*

Initial carrying amount of bonds (\$700,000 × .985).....	\$689,500
Plus: Amortization of discount July 31, 20X3 through July 31, 20X9 (\$10,500 × 6/15).....	4,200
Carrying amount of bonds at July 31, 20X9.....	<u>\$693,700</u>

*Req. 3*

Journal					
DATE		ACCOUNTS AND EXPLANATIONS	POST. REF.	DEBIT	CREDIT
20X9					
July	31	Bonds Payable		700,000	
		Discount on Bonds Payable			
		(\$700,000 - \$693,700)			6,300
		Common Stock (\$700,000/\$1,000 × 40 × \$20 par)			560,000
		Paid-in Capital in Excess of Par—Common			133,700

<b>Journal</b>					
DATE		ACCOUNTS AND EXPLANATIONS	POST. REF.	DEBIT	CREDIT
1.	Oct.	1		Bonds Payable (\$400,000 × 1/2)	200,000
				Extraordinary Loss on Retirement of Bonds Payable	10,000
				Discount on Bonds Payable (\$12,000 × 1/2)	6,000
				Cash (\$200,000 × 1.02)	204,000
				Retired bonds payable.	
2.	Oct.	1		Bonds Payable (\$400,000 × 1/2)	200,000
				Discount on Bonds Payable (\$12,000 × 1/2)	6,000
				Common Stock (4,000 × \$5)	20,000
				Paid-in Capital in Excess of Par—Common	174,000
				Recorded conversion of bonds payable.	

The bondholders would convert their bonds into stock when the market value of the stock to be received from conversion exceeds the market value of the bonds they held.

	PLAN A BORROW \$1,000,000 AT 9%	PLAN B ISSUE \$1,000,000 OF COMMON STOCK
Net income before expansion	\$600,000	\$600,000
Expected income on the new expansion before interest and income tax	\$420,000	\$420,000
Less interest expense (\$1,000,000 × .09)	(90,000)	-0-
Project income before income tax	330,000	420,000
Less income tax expense (35%)	(115,500)	(147,000)
Project net income	214,500	273,000
Total company net income	\$814,500	\$873,000
Earnings per share including new project:		
Plan A (\$814,500/100,000 shares)	\$8.15	
Plan B (\$873,000/200,000 shares)		\$4.37

1. Current liabilities:		
Current portion of long-term notes payable		\$ 33,000
Long-term notes payable (\$537,000 ! \$33,000)	\$504,000	
Less: Discount on long-term notes payable	(1,000)	503,000

2. \$65,000. Accumulated pension benefit obligation (\$865,000) minus the market value of pension plan assets (\$800,000).

Journal					
DATE		ACCOUNTS AND EXPLANATIONS	POST. REF.	DEBIT	CREDIT
1.		<i>Capital lease:</i>			
	20X5				
Jan.	2	Equipment (\$7,000 + \$40,313)		47,313	
		Cash			7,000
		Lease Liability			40,313
		Acquired equipment and made the first payment on a capital lease.			
Dec.	31	Depreciation Expense (\$47,313 / 10)		4,731	
		Accumulated Depreciation— Equipment			4,731
		Recorded depreciation on leased equipment.			
At December 31, Motorama will report lease liability of \$40,313.					
2.		<i>Operating lease:</i>			
	20X5				
Jan.	2	Lease Expense (or Rent Expense)		7,000	
		Cash			7,000
		Recorded lease payment.			
At December 31, Motorama will report no lease liability.					

1. Mark IV Industries, Inc., issued the bonds payable to investors in order to borrow \$295.5 million ( $\$300 \text{ million} \times .985$ ). Mark IV Industries received cash of \$295.5 million. The bondholders paid \$295.5 million to Mark IV Industries.

2. The contract interest rate is high because the bonds are *debentures*, which means there is no collateral. If Mark IV Industries defaults on the bond interest or principal, the bondholders can claim no assets as collateral. Furthermore, the debentures are *subordinated*, which means that these bondholders have rights that are more restricted than the rights of other bondholders. These factors combine to make the bonds rather risky, and risky bonds bear a high rate of interest.

3.  $\$40,125,000$  ( $\$300,000,000 \times .13375$ )

4. *Straight-line amortization method:*

Interest expense:  $\$40,575,000$  [cash interest of  $\$40,125,000$  + annual discount amortization of  $\$450,000$  ( $.015 \times \$300,000,000$ ) / 10 years]

5. Effective-interest amortization table (*thousands*):

End of Semiannual Interest Period	A Interest Payment .066875 × \$300,000,000	B Interest Expense .06825 × Preceding E	C Discount Amortization	D Discount Balance	E Bond Carrying Amount
Mar. 31, 2000				\$4,500	\$295,500
Sep. 30, 2000	\$20,063	\$20,168	\$105	4,395	295,605
Mar. 31, 2001	20,063	20,175	112	4,283	295,717

6. *Effective-interest amortization method:*

Interest expense for year 1:  $\$40,343,000$  ( $\$20,168,000 + \$20,175,000$ )

(20-30 min.) **E 15-15**

*Req. 1*

<i>(All Dollar Amounts in Thousands from E 15-14)</i>			
2000			
Mar.	31	Cash ( $\$300,000 \times .985$ )	295,500
		Discount on Bonds Payable ( $\$300,000 \times .015$ )	4,500
		Bonds Payable	300,000
Sep.	30	Interest Expense (see Exercise 15-14, <i>Req. 5</i> )	20,168
		Discount on Bonds Payable (E 15-14, <i>Req. 5</i> )	105
		Cash (E 15-14, <i>Req. 5</i> )	20,063
Dec.	31	Interest Expense ( $\$20,175 \times 3/6$ )	10,088
		Discount on Bonds Payable ( $\$112 \times 3/6$ )	56
		Interest Payable ( $\$20,063 \times 3/6$ )	10,032

*Req. 2*

Carrying amount of the bonds payable at (*thousands*):

- a. Sept. 30, 2000      \$295,605
- b. Dec. 31, 2000      \$295,661      ( $\$295,605 + \$56$ )
- c. Mar. 31, 2001      \$295,717