

Chapter 16

"How Well Am I Doing?"

Statement of Cash Flows

Solutions to Questions

16-1 The purpose of a statement of cash flows is to highlight the major activities that have provided cash and that have used cash during a period and to show the resulting effect on the overall cash balance.

16-2 Cash equivalents are short-term, highly liquid investments such as treasury bills, commercial paper, and money market funds. They are included with cash because investments of this type are made solely for the purpose of generating a return on funds that are temporarily idle and they can be easily converted to cash.

16-3 (1) Operating activities: Transactions that enter into the determination of net income are generally classified as operating activities. (2) Investing activities: Transactions that are involved in the acquisition or disposition of noncurrent assets are generally classified as investing activities. (3) Financing activities: Transactions (other than the payment of interest) involving borrowing from creditors, and any transactions (except for stock dividends and stock splits) involving the owners of a company, are generally classified as financing activities.

16-4 Interest is included as an operating activity since it is part of net income. Financing activities are narrowly defined to include only the principal amount borrowed or repaid.

16-5 The gain is deducted from net income to avoid double counting, since the entire proceeds from the sale will appear as a cash inflow from investing activities.

16-6 Transactions involving accounts payable are not considered to be financing activities

because such transactions relate to a company's day-to-day operating activities rather than to its financing activities.

16-7 Examples of direct exchanges include issuing capital stock in exchange for property or equipment, converting long-term debt into common stock, and acquiring property and equipment through a long-term lease. The effects of such exchanges are provided in a separate, accompanying schedule to the statement of cash flows.

16-8 The repayment of \$300,000 and the borrowing of \$500,000 must both be shown "gross" on the statement of cash flows. That is, the company would show \$500,000 of cash provided by financing activities and then show \$300,000 of cash used by financing activities.

16-9 The direct method reconstructs the income statement on a cash basis by restating sales, expenses, and all other income statement items in terms of cash inflows and outflows. The indirect method determines the cash provided by operating activities by starting with net income and adjusting it to a cash basis.

16-10 Depreciation is not a source of cash. Adding back depreciation charges to net income to compute the amount of cash provided by operating activities creates the *illusion* that depreciation is a source of cash. A company could double or triple its depreciation charges, and there would be no effect on the amount of cash provided by operating activities. Charges to the accumulated depreciation account are added back to net income since they are equivalent to a decrease in an asset account. [See Exhibit 16-2.]

16-11 If the Accounts Receivable account increases during a period, the increase must be deducted from net income under the indirect method since this is an increase in a noncash asset.

16-12 If the Accounts Payable account decreases during a period, the decrease must be added to cost of goods sold under the direct method. In other words, the cost of goods sold is increased by the amount of the decrease in accounts payable. Since the cost of goods sold is increased, the net cash flow provided by operating activities is decreased. Note that this is how a change in a liability should be handled according to Exhibit 16-2. The effect of a decrease in a liability is a decrease in cash.

16-13 The \$60,000 cash dividend will be a use of cash in the financing activities section of the statement. The stock dividend will not appear on the statement of cash flows, since a stock dividend involves no cash.

16-14 A sale of equipment for cash would be an investing activity. Any transaction involving the acquisition *or* disposition of noncurrent assets is classified as an investing activity.

16-15

Cost of goods sold	\$250,000
Decrease in inventory.....	-15,000
Decrease in accounts payable....	<u>+10,000</u>
Cost of goods sold adjusted to a cash basis.....	<u>\$245,000</u>

Exercise 16-1 (15 minutes)

<i>Transaction</i>	<i>Operating</i>	<i>Investing</i>	<i>Financing</i>	<i>Source</i>	<i>Use</i>
a. Short-term investment securities were purchased ...	X				X
b. Equipment was purchased		X			X
c. Accounts payable increased	X			X	
d. Deferred taxes decreased	X				X
e. Long-term bonds were issued			X	X	
f. Common stock was sold			X	X	
g. A cash dividend was declared and paid			X		X
h. Interest was paid to long-term creditors	X				X
i. A long-term mortgage was entirely paid off			X		X
j. Inventories decreased	X			X	
k. The company recorded net income of \$1 million for the year	X			X	
l. Depreciation charges totaled \$200,000 for the year	X			X	
m. Accounts receivable increased	X				X

Exercise 16-2 (10 minutes)

<i>Item</i>	<i>Amount</i>		<i>Add</i>	<i>Deduct</i>
Accounts Receivable.....	\$ 70,000	decrease	X	
Accrued Interest Receivable	6,000	increase		X
Inventory	110,000	increase		X
Prepaid Expenses.....	3,000	decrease	X	
Accounts Payable.....	40,000	decrease		X
Accrued Liabilities	9,000	increase	X	
Deferred Income Taxes	15,000	increase	X	
Sale of equipment.....	8,000	gain		X
Sale of long-term investments	12,000	loss	X	

Exercise 16-3 (15 minutes)

Net income.....	\$84,000
Adjustments to convert net income to a cash basis:	
Depreciation charges for the year.....	50,000
Increase in accounts receivable.....	(60,000)
Increase in inventory.....	(77,000)
Decrease in prepaid expenses.....	2,000
Increase in accounts payable	30,000
Decrease in accrued liabilities	(4,000)
Increase in deferred income taxes.....	<u>6,000</u>
Net cash provided by operating activities.....	<u>\$31,000</u>

Exercise 16-4 (15 minutes)

Sales.....	\$1,000,000	
Adjustments to a cash basis:		
Less increase in accounts receivable	<u>– 60,000</u>	\$940,000
Cost of goods sold	580,000	
Adjustments to a cash basis:		
Plus increase in inventory.....	+ 77,000	
Less increase in accounts payable.....	<u>– 30,000</u>	627,000
Operating expenses	300,000	
Adjustments to a cash basis:		
Less decrease in prepaid expenses	– 2,000	
Plus decrease in accrued liabilities	+ 4,000	
Less depreciation charges	<u>– 50,000</u>	252,000
Income taxes.....	36,000	
Adjustments to a cash basis:		
Less increase in deferred income taxes	<u>– 6,000</u>	<u>30,000</u>
Net cash provided by operating activities.....		<u>\$ 31,000</u>

Note that the \$31,000 agrees with the cash provided by operating activities figure under the indirect method in the previous exercise.

Exercise 16-5 (20 minutes)

HOLLY COMPANY
Statement of Cash Flows
For the Year Ended December 31, 2002

Operating activities:

Net income.....	\$20
Adjustments to convert net income to a cash basis:	
Depreciation charges for the year.....	10
Increase in accounts receivable.....	(7)
Increase in inventory	(14)
Increase in accounts payable	<u>6</u>
Net cash provided by operating activities.....	<u>15</u>

Investing activities:

Additions to plant and equipment	<u>(30)</u>
Net cash used for investing activities.....	<u>(30)</u>

Financing activities:

Increase in common stock.....	20
Cash dividends	<u>(8)</u>
Net cash provided by financing activities.....	<u>12</u>
Net decrease in cash.....	(3)
Cash, January 1, 2002	<u>7</u>
Cash, December 31, 2002	<u><u>\$ 4</u></u>

Exercise 16-5 (continued)

While not a requirement, a worksheet may be helpful.

	<i>Change</i>	<i>Source or Use?</i>	<i>Cash Flow Effect</i>	<i>Adjust- ments</i>	<i>Adjusted Effect</i>	<i>Classi- fication</i>
<i>Assets (except cash and cash equivalents)</i>						
Current assets:						
Accounts receivable.....	+7	Use	-7		-7	Operating
Inventory.....	+14	Use	-14		-14	Operating
Noncurrent assets:						
Plant and equipment	+30	Use	-30		-30	Investing
<i>Liabilities, Contra assets, and Stockholders' Equity</i>						
Contra assets:						
Accumulated depreciation....	+10	Source	+10		+10	Operating
Current liabilities:						
Accounts payable	+6	Source	+6		+6	Operating
Stockholders' equity:						
Common stock.....	+20	Source	+20		+20	Financing
Retained earnings:						
Net income	+20	Source	+20		+20	Operating
Dividends.....	-8	Use	-8		-8	Financing
<i>Additional entries</i>						
None.....						
Total			<u>-3</u>		<u>-3</u>	

Exercise 16-6 (15 minutes)

Sales.....	\$500	
Adjustments to a cash basis:		
Increase in accounts receivable	<u>-7</u>	\$493
Cost of goods sold	300	
Adjustments to a cash basis:		
Increase in inventory	+14	
Increase in accounts payable.....	<u>-6</u>	308
Operating expenses	180	
Adjustments to a cash basis:		
Depreciation charges for the year	<u>-10</u>	<u>170</u>
Net cash provided by operating activities.....		<u>\$ 15</u>

Exercise 16-7 (30 minutes)

1. Net income	\$75
Adjustments to convert net income to a cash basis:	
Depreciation charges	40
Decrease in accounts receivable	10
Increase in inventory	(30)
Decrease in prepaid expenses	5
Increase in accounts payable.....	20
Decrease in accrued liabilities	(10)
Increase in taxes payable	10
Increase in deferred taxes.....	5
Loss on sale of long-term investments	5
Gain on sale of land	(40)
Net cash provided by operating activities	<u>\$90</u>

2. HERALD COMPANY
Statement of Cash Flows

Operating activities:

Net cash provided by operating activities (see above)..... \$ 90

Investing activities:

Proceeds from sale of long-term investments	\$ 45	
Proceeds from sale of land	70	
Additions to long-term investments	(20)	
Additions to plant & equipment	(150)	
Net cash used for investing activities		(55)

Financing activities:

Decrease in bonds payable	(20)	
Increase in common stock	40	
Cash dividends	(35)	
Net cash used by financing activities		(15)
Net increase in cash (net cash flow)		20
Cash balance, beginning		<u>100</u>
Cash balance, ending		<u>\$120</u>

Exercise 16-7 (continued)

While not a requirement, a worksheet may be helpful.

	<i>Change</i>	<i>Source or Use?</i>	<i>Cash Flow Effect</i>	<i>Adjustments</i>	<i>Adjusted Effect</i>	<i>Classification</i>
<i>Assets (except cash and cash equivalents)</i>						
Current assets:						
Accounts receivable.....	-10	Source	+10		+10	Operating
Inventory.....	+30	Use	-30		-30	Operating
Prepaid expenses.....	-5	Source	+5		+5	Operating
Noncurrent assets:						
Long-term investments.....	-30	Source	+30	-50	-20	Investing
Plant and equipment.....	+150	Use	-150		-150	Investing
Land.....	-30	Source	+30	-30	0	Investing
<i>Liabilities, Contra assets, and Stockholders' Equity</i>						
Contra assets:						
Accumulated depreciation...	+40	Source	+40		+40	Operating
Current liabilities:						
Accounts payable.....	+20	Source	+20		+20	Operating
Accrued liabilities.....	-10	Use	-10		-10	Operating
Taxes payable.....	+10	Source	+10		+10	Operating

Exercise 16-7 (continued)

	<i>Change</i>	<i>Source or Use?</i>	<i>Cash Flow Effect</i>	<i>Adjustments</i>	<i>Adjusted Effect</i>	<i>Classification</i>
Noncurrent liabilities:						
Bonds payable	-20	Use	-20		-20	Financing
Deferred income taxes.....	+5	Source	+5		+5	Operating
Stockholders' equity:						
Common stock	+40	Source	+40		+40	Financing
Retained earnings:						
Net income	+75	Source	+75		+75	Operating
Dividends	-35	Use	-35		-35	Financing
<i>Additional entries</i>						
Proceeds from sale of investments				+45	+45	Investing
Loss on sale of investments...				+5	+5	Operating
Proceeds from sale of land				+70	+70	Investing
Gain on sale of land				<u>-40</u>	<u>-40</u>	Operating
Total			<u>+20</u>	<u>0</u>	<u>+20</u>	

Exercise 16-8 (15 minutes)

Sales.....	\$600	
Adjustments to a cash basis:		
Decrease in accounts receivable	<u>+10</u>	\$610
Cost of goods sold	250	
Adjustments to a cash basis:		
Increase in inventory	+30	
Increase in accounts payable.....	<u>-20</u>	260
Operating expenses	280	
Adjustments to a cash basis:		
Decrease in prepaid expenses	-5	
Decrease in accrued liabilities.....	+10	
Depreciation charges	<u>-40</u>	245
Income taxes.....	30	
Adjustments to a cash basis:		
Increase in taxes payable.....	-10	
Increase in deferred taxes.....	<u>-5</u>	<u>15</u>
Net cash provided by operating activities.....		<u>\$ 90</u>

Problem 16-9 (20 minutes)

<i>Transaction</i>	<i>Operating</i>	<i>Investing</i>	<i>Financing</i>	<i>Source, Use, or Neither</i>	<i>Reported in Separate Schedule?</i>
a. Bonds were retired by paying the principal amount due.....			X	Use	
b. Equipment was purchased by giving a long-term note to the seller				Neither	Yes
c. Interest was paid on a note, decreasing Interest Payable	X			Use	
d. Accrued taxes were paid	X			Use	
e. A long-term loan was made to a supplier...		X		Use	
f. Interest was received on the long-term loan in (e) above, reducing Interest Receivable	X			Source	
g. Cash dividends were declared and paid			X	Use	
h. A building was acquired in exchange for shares of the company's common stock..				Neither	Yes
i. Common stock was sold for cash to investors.....			X	Source	
j. Equipment was sold for cash		X		Source	
k. Equipment was sold in exchange for a long-term note.....				Neither	Yes
l. Convertible bonds were converted into common stock.....				Neither	Yes

Problem 16-10 (30 minutes)

1. and 2.

EATON COMPANY
Statement of Cash Flows
For the Year Ended December 31, 2002

Operating activities:

Net income	\$ 56
Adjustments to convert net income to cash basis:	
Depreciation charges	25
Increase in accounts receivable	(80)
Decrease in inventory	35
Increase in prepaid expenses	(2)
Increase in accounts payable	75
Decrease in accrued liabilities.....	(10)
Gain on sale of investments	(5)
Loss on sale of equipment	2
Increase in deferred income taxes	<u>8</u>
Net cash provided by operating activities	<u>104</u>

Investing activities:

Proceeds from sale of long-term investments	12
Proceeds from sale of equipment.....	18
Additions to plant and equipment	<u>(110)</u>
Net cash used for investing activities	<u>(80)</u>

Financing activities:

Increase in bonds payable.....	25
Decrease in common stock.....	(40)
Cash dividends	<u>(16)</u>
Net cash used for financing activities.....	<u>(31)</u>
Net decrease in cash	(7)
Cash balance, January 1, 2002.....	<u>11</u>
Cash balance, December 31, 2002.....	<u>\$ 4</u>

Problem 16-10 (continued)

While not a requirement, a worksheet may be helpful.

	<i>Change</i>	<i>Source or Use?</i>	<i>Cash Flow Effect</i>	<i>Adjust- ments</i>	<i>Adjusted Effect</i>	<i>Classi- fication</i>
<i>Assets (except cash and cash equivalents)</i>						
Current assets:						
Accounts receivable.....	+80	Use	-80		-80	Operating
Inventory.....	-35	Source	+35		+35	Operating
Prepaid expenses	+2	Use	-2		-2	Operating
Noncurrent assets:						
Plant and equipment	+80	Use	-80	-30	-110	Investing
Long-term investments.....	-7	Source	+7	-7	0	Investing
<i>Liabilities, Contra assets, and Stockholders' Equity</i>						
Contra assets:						
Accumulated depreciation..	+15	Source	+15	+10	+25	Operating
Current liabilities:						
Accounts payable	+75	Source	+75		+75	Operating
Accrued liabilities	-10	Use	-10		-10	Operating

Problem 16-10 (continued)

	<i>Change</i>	<i>Source or Use?</i>	<i>Cash Flow Effect</i>	<i>Adjustments</i>	<i>Adjusted Effect</i>	<i>Classification</i>
Noncurrent liabilities:						
Bonds payable	+25	Source	+25		+25	Financing
Deferred income taxes.....	+8	Source	+8		+8	Operating
Stockholders' equity:						
Common stock	-40	Use	-40		-40	Financing
Retained earnings:						
Net income	+56	Source	+56		+56	Operating
Dividends	-16	Use	-16		-16	Financing
<i>Additional entries</i>						
Proceeds from sale of equipment				+18	+18	Investing
Loss on sale of equipment....				+2	+2	Operating
Proceeds from sale of long-term investments				+12	+12	Investing
Gain on sale of long-term investments			—	-5	-5	Operating
Total			<u>-7</u>	<u>0</u>	<u>-7</u>	

Problem 16-11 (30 minutes)

1. Sales	\$750	
Adjustments to a cash basis:		
Increase in accounts receivable.....	<u>-80</u>	\$670
Cost of goods sold.....	450	
Adjustments to a cash basis:		
Decrease in inventory	-35	
Increase in accounts payable	<u>-75</u>	340
Operating expenses.....	223	
Adjustments to a cash basis:		
Increase in prepaid expenses.....	+2	
Decrease in accrued liabilities	+10	
Depreciation charges.....	<u>-25</u>	210
Income taxes	24	
Adjustments to a cash basis:		
Increase in deferred income taxes.....	<u>-8</u>	<u>16</u>
Net cash provided by operating activities		<u>\$104</u>

Problem 16-11 (continued)

2. EATON COMPANY
Statement of Cash Flows
For the Year ended December 31, 2002

Operating activities:

Cash received from customers.....		\$670
Less cash disbursements for:		
Cost of merchandise sold.....	\$340	
Operating expenses	210	
Income taxes.....	<u>16</u>	
Total cash disbursements		<u>566</u>
Net cash provided by operating activities		104

Investing activities:

Proceeds from sale of long-term investments	12	
Proceeds from sale of equipment.....	18	
Additions to plant and equipment	<u>(110)</u>	
Net cash used for investing activities		(80)

Financing activities:

Increase in bonds payable.....	25	
Decrease in common stock.....	(40)	
Cash dividends	<u>(16)</u>	
Net cash used for financing activities.....		<u>(31)</u>
Net decrease in cash		(7)
Cash balance, January 1, 2002.....		<u>11</u>
Cash balance, December 31, 2002.....		<u><u>\$ 4</u></u>

Problem 16-12 (45 minutes)

1. and 2.

FOXBORO COMPANY
Statement of Cash Flows
For Year 2

Operating activities:

Net income		\$ 63,000
Adjustments to convert net income to cash basis:		
Depreciation charges	\$ 45,000	
Increase in accounts receivable	(70,000)	
Increase in inventory	(48,000)	
Decrease in prepaid expenses	9,000	
Increase in accounts payable.....	50,000	
Decrease in accrued liabilities.....	(8,000)	
Gain on sale of equipment	(6,000)	
Increase in deferred income taxes	<u>4,000</u>	<u>(24,000)</u>
Net cash provided by operating activities		39,000

Investing activities:

Proceeds from sale of equipment	26,000	
Loan to Harker Company	(40,000)	
Additions to plant and equipment.....	<u>(150,000)</u>	
Net cash used for investing activities		(164,000)

Financing activities:

Increase in bonds payable	90,000	
Increase in common stock	60,000	
Cash dividends.....	<u>(33,000)</u>	
Net cash provided by financing activities		<u>117,000</u>
Net decrease in cash		(8,000)
Cash balance, beginning of year.....		<u>19,000</u>
Cash balance, end of year		<u><u>\$ 11,000</u></u>

Problem 16-12 (continued)

3. The relatively small amount of cash provided by operating activities during the year was largely the result of a large increase in accounts receivable. (The large increase in inventory was offset by a large increase in accounts payable.) Most of the cash that was provided by operating activities was paid out in dividends. The small amount that remained, combined with the cash provided by the issue of bonds and the issue of common stock, was insufficient to purchase a large amount of equipment and make a loan to another company. As a result, the cash on hand declined sharply during the year.

Problem 16-12 (continued)

While not a requirement, a worksheet may be helpful.

	<i>Change</i>	<i>Source or Use?</i>	<i>Cash Flow Effect</i>	<i>Adjust- ments</i>	<i>Adjusted Effect</i>	<i>Classi- fication</i>
<i>Assets (except cash and cash equivalents)</i>						
Current assets:						
Accounts receivable.....	+70	Use	-70		-70	Operating
Inventory.....	+48	Use	-48		-48	Operating
Prepaid expenses.....	-9	Source	+9		+9	Operating
Noncurrent assets:						
Loan to Harker Company	+40	Use	-40		-40	Investing
Plant and equipment	+120	Use	-120	-30	-150	Investing
<i>Liabilities, Contra assets, and Stockholders' Equity</i>						
Contra assets:						
Accumulated depreciation.....	+35	Source	+35	+10	+45	Operating
Current liabilities:						
Accounts payable	+50	Source	+50		+50	Operating
Accrued liabilities	-8	Use	-8		-8	Operating

Problem 16-12 (continued)

	<i>Change</i>	<i>Source or Use?</i>	<i>Cash Flow Effect</i>	<i>Adjust- ments</i>	<i>Adjusted Effect</i>	<i>Classi- fication</i>
Noncurrent liabilities:						
Bonds payable	+90	Source	+90		+90	Financing
Deferred income taxes.....	+4	Source	+4		+4	Operating
Stockholders' equity:						
Common stock	+60	Source	+60		+60	Financing
Retained earnings:						
Net income	+63	Source	+63		+63	Operating
Dividends	-33	Use	-33		-33	Financing
<i>Additional entries</i>						
Proceeds from sale of equipment				+26	+26	Investing
Gain on sale of equipment.....			_____	<u>-6</u>	<u>-6</u>	Operating
Total			<u>-8</u>	<u>0</u>	<u>-8</u>	

Problem 16-13 (45 minutes)

1. Sales	\$700,000	
Adjustments to a cash basis:		
Increase in accounts receivable.....	<u>-70,000</u>	\$630,000
Cost of goods sold.....	400,000	
Adjustments to a cash basis:		
Increase in inventory.....	+48,000	
Increase in accounts payable	<u>-50,000</u>	398,000
Operating expenses.....	216,000	
Adjustments to a cash basis:		
Decrease in prepaid expenses.....	- 9,000	
Decrease in accrued liabilities	+ 8,000	
Depreciation charges.....	<u>-45,000</u>	170,000
Income taxes	27,000	
Adjustments to a cash basis:		
Increase in deferred income taxes.....	<u>- 4,000</u>	<u>23,000</u>
Net cash provided by operating activities		<u>\$ 39,000</u>

Problem 16-13 (continued)

2. FOXBORO COMPANY
Statement of Cash Flows
For Year 2

Operating activities:

Cash received from customers.....		\$630,000
Less cash disbursements for:		
Cost of merchandise purchased	\$398,000	
Operating expenses	170,000	
Income taxes.....	<u>23,000</u>	
Total cash disbursements		<u>591,000</u>
Net cash provided by operating activities		39,000

Investing activities:

Proceeds from sale of equipment.....	26,000	
Loan to Harker Company	(40,000)	
Additions to plant and equipment	<u>(150,000)</u>	
Net cash used for investing activities		(164,000)

Financing activities:

Increase in bonds payable.....	90,000	
Increase in common stock	60,000	
Cash dividends	<u>(33,000)</u>	
Net cash provided by financing activities.....		<u>117,000</u>
Net decrease in cash		(8,000)
Cash balance, beginning of year		<u>19,000</u>
Cash balance, end of year.....		<u>\$ 11,000</u>

Problem 16-13 (continued)

3. The decline in cash is explainable largely by the company's inability to generate a significant amount of cash from operating activities. Note that the company generated only \$39,000 from operating activities, although net income was \$63,000 for the year. This small amount of cash generated is due primarily to the buildup of accounts receivable. Even though an additional \$150,000 was obtained from bonds and common stock ($\$90,000 + \$60,000 = \$150,000$), the cash available was not sufficient to expand the plant, make a substantial loan to another company, and pay a large cash dividend. As a result, cash declined during the year.

Problem 16-14 (45 minutes)

1. and 2.

ALLIED PRODUCTS
Statement of Cash Flows
For the Year Ended December 31, 2002

Operating activities:

Net income		\$ 70,000
Adjustments to convert net income to cash basis:		
Depreciation charges	60,000	
Increase in accounts receivable	(90,000)	
Increase in inventory	(54,000)	
Decrease in prepaid expenses	8,000	
Increase in accounts payable.....	45,000	
Decrease in accrued liabilities.....	(7,000)	
Gain on sale of investments.....	(20,000)	
Loss on sale of equipment.....	6,000	
Increase in deferred income taxes	<u>3,000</u>	<u>(49,000)</u>
Net cash provided by operating activities		21,000

Investing activities:

Proceeds from sale of long-term investments.....	\$ 50,000	
Proceeds from sale of equipment	44,000	
Additions to plant and equipment.....	<u>(200,000)</u>	
Net cash used for investing activities		<u>(106,000)</u>

Financing activities:

Increase in bonds payable	100,000	
Decrease in common stock	(5,000)	
Cash dividends.....	<u>(28,000)</u>	
Net cash provided by financing activities		<u>67,000</u>
Net decrease in cash		(18,000)
Cash balance, January 1, 2002.....		<u>33,000</u>
Cash balance, December 31, 2002		<u>\$ 15,000</u>

Problem 16-14 (continued)

3. Although the company reported a large net income for the year, a relatively small amount of cash was provided by operating activities due to increases in both accounts receivable and inventory. Note particularly that operations didn't generate enough cash to even pay the cash dividends for the year. Although the company obtained cash from sales of assets and an issue of bonds, this was not sufficient to cover the cost of a \$200,000 increase in plant and equipment for the year. More care should have been taken in planning this major investment in plant assets. Also, the company should probably get better control over its accounts receivable. (Although inventory also increased during the year, this increase was largely offset by the increase in accounts payable.)

Problem 16-14 (continued)

While not a requirement, a worksheet may be helpful.

	<i>Change</i>	<i>Source or Use?</i>	<i>Cash Flow Effect</i>	<i>Adjust- ments</i>	<i>Adjusted Effect</i>	<i>Classi- fication</i>
<i>Assets (except cash and cash equivalents)</i>						
Current assets:						
Accounts receivable.....	+90	Use	-90		-90	Operating
Inventory.....	+54	Use	-54		-54	Operating
Prepaid expenses.....	-8	Source	+8		+8	Operating
Noncurrent assets:						
Long-term investments.....	-30	Source	+30	-30	0	Investing
Plant and equipment.....	+110	Use	-110	-90	-200	Investing
<i>Liabilities, Contra assets, and Stockholders' Equity</i>						
Contra assets:						
Accumulated depreciation....	+20	Source	+20	+40	+60	Operating
Current liabilities:						
Accounts payable.....	+45	Source	+45		+45	Operating
Accrued liabilities.....	-7	Use	-7		-7	Operating

Problem 16-14 (continued)

	<i>Change</i>	<i>Source or Use?</i>	<i>Cash Flow Effect</i>	<i>Adjustments</i>	<i>Adjusted Effect</i>	<i>Classification</i>
Noncurrent liabilities:						
Bonds payable	+100	Source	+100		+100	Financing
Deferred income taxes.....	+3	Source	+3		+3	Operating
Stockholders' equity:						
Common stock	-5	Use	-5		-5	Financing
Retained earnings:						
Net income	+70	Source	+70		+70	Operating
Dividends	-28	Use	-28		-28	Financing
<i>Additional entries</i>						
Proceeds from sale of long-term investments				+50	+50	Investing
Gain from sale of investments				-20	-20	Operating
Proceeds from sale of equipment				+44	+44	Investing
Loss on sale of equipment.....				<u>+6</u>	<u>+6</u>	Operating
Total			<u>-18</u>	<u>0</u>	<u>-18</u>	

Problem 16-15 (30 minutes)

1. Sales	\$800,000	
Adjustments to a cash basis:		
Increase in accounts receivable.....	<u>-90,000</u>	\$710,000
Cost of goods sold.....	500,000	
Adjustments to a cash basis:		
Increase in inventory.....	+54,000	
Increase in accounts payable	<u>-45,000</u>	509,000
Operating expenses.....	214,000	
Adjustments to a cash basis:		
Decrease in prepaid expenses.....	- 8,000	
Decrease in accrued liabilities	+ 7,000	
Depreciation charges.....	<u>-60,000</u>	153,000
Income taxes	30,000	
Adjustments to a cash basis:		
Increase in deferred income taxes.....	<u>- 3,000</u>	<u>27,000</u>
Net cash provided by operating activities		<u>\$ 21,000</u>

Problem 16-15 (continued)

2. **ALLIED PRODUCTS**
Statement of Cash Flows
For the Year Ended December 31, 2002

Operating activities:

Cash received from customers.....		\$710,000
Less cash disbursements for:		
Cost of merchandise purchased	\$509,000	
Operating expenses	153,000	
Income taxes.....	<u>27,000</u>	
Total cash disbursements		<u>689,000</u>
Net cash provided by operating activities		21,000

Investing activities:

Proceeds from sale of long-term investments	50,000	
Proceeds from sale of equipment.....	44,000	
Additions to plant and equipment	<u>(200,000)</u>	
Net cash used for investing activities		(106,000)

Financing activities:

Increase in bonds payable.....	100,000	
Decrease in common stock.....	(5,000)	
Cash dividends	<u>(28,000)</u>	
Net cash provided by financing activities.....		<u>67,000</u>
Net decrease in cash		(18,000)
Cash balance, January 1, 2002		<u>33,000</u>
Cash balance, December 31, 2002.....		<u>\$ 15,000</u>

Problem 16-16 (45 minutes)

Before the statement of cash flows can be prepared, we must first determine the following amounts:

- The gain on sale of equipment.
- The cost of plant and equipment purchased during the year.
- The depreciation charges for the year.
- The net income for the year.

The computations follow:

Plant and Equipment				Accumulated Depreciation			
Bal.	2,850,000					975,000	Bal.
(2)	500,000	160,000	(1)	(1)	145,000	210,000	(3)
Bal.	3,190,000					1,040,000	Bal.

Explanation of entries:

- (1) The entry to record the sale of equipment:

Cash	35,000	
Accumulated Depreciation	145,000	
Plant and Equipment		160,000
Gain on Sale of Equipment		20,000

- (2) The balancing entry to record the plant and equipment purchased during the year (\$500,000).
- (3) The balancing entry to record the depreciation charges for the year (\$210,000).

The company's Retained Earnings account increased by \$75,000 and cash dividends totaled \$10,000 for the year. Therefore, the net income for the year must have been: $\$75,000 + \$10,000 = \$85,000$.

Problem 16-16 (continued)

Given the amounts above, the statement of cash flows would be as follows:

DAMOCLES COMPANY
Statement of Cash Flows
For the Year

Operating activities:

Net income.....		\$ 85,000
Adjustments to convert net income to cash basis:		
Depreciation charges.....	210,000	
Increase in accounts receivable.....	(170,000)	
Decrease in inventory	63,000	
Increase in prepaid expenses.....	(4,000)	
Increase in accounts payable	48,000	
Decrease in accrued liabilities	(5,000)	
Gain on sale of equipment.....	(20,000)	
Add increase in deferred income taxes.....	<u>9,000</u>	<u>131,000</u>
Net cash provided by operating activities.....		216,000

Investing activities:

Decrease in long-term loan to subsidiary.....	\$ 80,000	
Proceeds from sale of equipment.....	35,000	
Additions to long-term investments.....	(90,000)	
Additions to plant and equipment	<u>(500,000)</u>	
Net cash used for investing activities.....		(475,000)

Financing activities:

Increase in bonds payable.....	200,000	
Increase in common stock.....	300,000	
Decrease in preferred stock.....	(180,000)	
Cash dividends	<u>(10,000)</u>	
Net cash provided by financing activities.....		<u>310,000</u>
Net increase in cash.....		51,000
Cash balance, beginning		<u>109,000</u>
Cash balance, ending		<u><u>\$160,000</u></u>

Problem 16-16 (continued)

While not a requirement, a worksheet may be helpful.

	<i>Change</i>	<i>Source or Use?</i>	<i>Cash Flow Effect</i>	<i>Adjust- ments</i>	<i>Adjusted Effect</i>	<i>Classi- fication</i>
<i>Assets (except cash and cash equivalents)</i>						
Current assets:						
Accounts receivable.....	+170	Use	-170		-170	Operating
Inventory.....	-63	Source	+63		+63	Operating
Prepaid expenses.....	+4	Use	-4		-4	Operating
Noncurrent assets:						
Long-term loans.....	-80	Source	+80		+80	Investing
Long-term investments.....	+90	Use	-90		-90	Investing
Plant and equipment.....	+340	Use	-340	-160	-500	Investing
<i>Liabilities, Contra assets, and Stockholders' Equity</i>						
Contra assets:						
Accumulated depreciation...	+65	Source	+65	+145	+210	Operating
Current liabilities:						
Accounts payable.....	+48	Source	+48		+48	Operating
Accrued liabilities.....	-5	Use	-5		-5	Operating

Problem 16-16 (continued)

	<i>Change</i>	<i>Source or Use?</i>	<i>Cash Flow Effect</i>	<i>Adjust- ments</i>	<i>Adjusted Effect</i>	<i>Classi- fication</i>
Noncurrent liabilities:						
Bonds payable	+200	Source	+200		+200	Financing
Deferred income taxes.....	+9	Source	+9		+9	Operating
Stockholders' equity:						
Preferred stock.....	-180	Use	-180		-180	Financing
Common stock.....	+300	Source	+300		+300	Financing
Retained earnings:						
Net income	+85	Source	+85		+85	Operating
Dividends.....	-10	Use	-10		-10	Financing
<i>Additional entries</i>						
Proceeds from sale of equipment				+35	+35	Investing
Gain on sale of equipment.....			<u> </u>	<u>-20</u>	<u>-20</u>	Operating
Total			<u>+51</u>	<u>0</u>	<u>+51</u>	

Problem 16-17 (75 minutes)

1. See the worksheet at the end of the solution.

2. **ALCORN PRODUCTS**
Statement of Cash Flows
For the Year Ended December 31, 2002

Operating activities:

Net income		\$170,000
Adjustments to convert net income to cash basis:		
Depreciation charges.....	95,000	
Amortization of goodwill	6,000	
Increase in accounts receivable	(180,000)	
Decrease in inventory	12,000	
Increase in prepaid expenses.....	(5,000)	
Increase in accounts payable	300,000	
Decrease in accrued liabilities	(17,000)	
Gain on sale of long-term investments	(60,000)	
Loss on sale of equipment	20,000	
Increase in deferred income taxes	<u>15,000</u>	<u>186,000</u>
Net cash provided by operating activities		356,000

Investing activities:

Proceeds from sale of long-term investments	\$110,000	
Proceeds from sale of equipment.....	70,000	
Loans to subsidiaries	(50,000)	
Additions to plant and equipment	<u>(700,000)</u>	
Net cash used for investing activities		(570,000)

Problem 16-17 (continued)*Financing activities:*

Increase in long-term notes	600,000	
Increase in common stock	90,000	
Retire long-term notes	(380,000)	
Cash dividends to stockholders.....	<u>(75,000)</u>	
Net cash provided by financing activities.....		<u>235,000</u>
Net increase in cash and cash equivalents.....		21,000
Cash balance, January 1, 2002		<u>50,000</u>
Cash balance, December 31, 2002.....		<u>\$ 71,000</u>

Problem 16-17 (continued)

3. The large amount of cash provided by operating activities is traceable for the most part to the \$300,000 increase in accounts payable. If the accounts payable had remained basically unchanged, the same as inventory, then operating activities would have provided very little cash and the company might have experienced serious cash problems.

Note particularly that the cash provided by operating activities was used to purchase plant and equipment. Thus, the company is using cash derived from a short-term source (buildup of accounts payable) to finance long-term asset acquisitions. In short, although the company is generating substantial cash from operating activities, the *quality* of this source is open to question.

In the company's financing activities, it appears that long-term debt sources, rather than equity sources, are being used to provide for expansion. Although companies frequently use debt to finance expansion, the level of debt in this company is increasing rapidly. (See Chapter 17 for a discussion of the Debt-to-Equity ratio and other financial ratios.)

Problem 16-17 (continued)

	<i>Change</i>	<i>Source or Use?</i>	<i>Cash Flow Effect</i>	<i>Adjustments</i>	<i>Adjusted Effect</i>	<i>Classification</i>
<i>Assets (except cash and cash equivalents)</i>						
Current assets:						
Accounts receivable.....	+180	Use	-180		-180	Operating
Inventory.....	-12	Source	+12		+12	Operating
Prepaid expenses	+5	Use	-5		-5	Operating
Noncurrent assets:						
Long-term investments	-50	Source	+50	-50	0	
Loans to subsidiaries	+50	Use	-50		-50	Investing
Plant and equipment	+570	Use	-570	-130	-700	Investing
Goodwill	-6	Source	+6		+6	Operating
<i>Liabilities, Contra assets, and Stockholders' Equity</i>						
Contra assets:						
Accumulated depreciation...	+55	Source	+55	+40	+95	Operating
Current liabilities:						
Accounts payable	+300	Source	+300		+300	Operating
Accrued liabilities	-17	Use	-17		-17	Operating

Problem 16-17 (continued)

	<i>Change</i>	<i>Source or Use?</i>	<i>Cash Flow Effect</i>	<i>Adjust- ments</i>	<i>Adjusted Effect</i>	<i>Classi- fication</i>
Noncurrent liabilities:						
Long-term notes	+220	Source	+220	+380	+600	Financing
Deferred income taxes.....	+15	Source	+15		+15	Operating
Stockholders' equity:						
Common stock	+90	Source	+90		+90	Financing
Retained earnings:						
Net income	+170	Source	+170		+170	Operating
Dividends	-75	Use	-75		-75	Financing
<i>Additional entries</i>						
Retire long-term notes				-380	-380	Financing
Proceeds from sale of equipment				+70	+70	Investing
Loss on sale of equipment.....				+20	+20	Operating
Proceeds from sale of long- term investments				+110	+110	Investing
Gain on sale of long-term investments			<u> </u>	<u>-60</u>	<u>-60</u>	Operating
Total			<u>+21</u>	<u>0</u>	<u>+21</u>	

Problem 16-18 (30 minutes)

Sales.....	\$3,000,000	
Adjustments to a cash basis:		
Increase in accounts receivable	<u>-180,000</u>	\$2,820,000
Cost of goods sold	1,860,000	
Adjustments to a cash basis:		
Decrease in inventory	-12,000	
Increase in accounts payable.....	<u>-300,000</u>	1,548,000
Operating expenses	930,000	
Adjustments to a cash basis:		
Increase in prepaid expenses	+5,000	
Decrease in accrued liabilities	+17,000	
Depreciation charges	-95,000	
Goodwill amortization	<u>-6,000</u>	851,000
Income tax expense.....	80,000	
Adjustments to a cash basis:		
Increase in deferred income taxes	<u>-15,000</u>	<u>65,000</u>
Net cash provided by operating activities.....		<u>\$ 356,000</u>

Problem 16-19 (60 minutes)

Before the statement of cash flows can be prepared, we must first determine the following amounts:

- The gain or loss on sale of equipment.
- The cost of plant and equipment purchased during the year.
- The depreciation charges for the year.
- The gain or loss on sale of long-term investments.
- The net income for the year.

Computations for items a, b, and c:

Plant and Equipment				Accumulated Depreciation			
Bal.	500,000				200,000	Bal.	
(2)	240,000	120,000	(1)	(1)	70,000	110,000	(3)
Bal.	620,000					240,000	Bal.

Explanation of entries:

- (1) The entry to record the sale of equipment:

Cash	40,000	
Accumulated Depreciation	70,000	
Loss on Sale of Equipment	10,000	
Plant and Equipment		120,000

- (2) The balancing entry to record the plant and equipment purchased during the year (\$240,000).
- (3) The balancing entry to record the depreciation charges for the year (\$110,000).

Problem 16-19 (continued)*Computation for item d:*

The entry to record the sale of long-term investments:

Cash	80,000	
Long-Term Investments		60,000
Gain on Sale of Investments		20,000

Computation for item e:

For the net income figure, the company's Retained Earnings account increased by \$45,000 during the year and cash dividends totaled \$35,000 for the year. Therefore, net income must have been: \$45,000 + \$35,000 = \$80,000.

Problem 16-19 (continued)

Given the amounts above, the statement of cash flows for last year follows:

LUANG CORP.
Statement of Cash Flows
For the Past Year

Operating activities:

Net income.....		\$ 80,000
Adjustments to convert net income to cash basis:		
Depreciation charges	110,000	
Increase in accounts receivable	(20,000)	
Decrease in inventory	60,000	
Increase in prepaid expenses	(10,000)	
Increase in accounts payable	30,000	
Increase in taxes payable	10,000	
Increase in accrued liabilities	10,000	
Loss on sale of equipment	10,000	
Gain on sale of long-term investments.....	(20,000)	
Decrease in deferred income taxes	<u>(5,000)</u>	<u>175,000</u>
Net cash provided by operating activities.....		255,000

Investing activities:

Proceeds from sale of equipment.....	\$ 40,000	
Proceeds from sale of long-term investments	80,000	
Additions to long-term investments.....	(110,000)	
Additions to plant and equipment	<u>(240,000)</u>	
Net cash used for investing activities.....		(230,000)

Financing activities:

Decrease in bonds payable	(40,000)	
Increase in common stock.....	20,000	
Cash dividends	<u>(35,000)</u>	
Net cash used for financing activities		<u>(55,000)</u>
Net decrease in cash.....		(30,000)
Cash balance, beginning of the year		<u>100,000</u>
Cash balance, end of the year		<u>\$ 70,000</u>

Problem 16-19 (continued)

While not a requirement, a worksheet may be helpful.

	<i>Change</i>	<i>Source or Use?</i>	<i>Cash Flow Effect</i>	<i>Adjust- ments</i>	<i>Adjusted Effect</i>	<i>Classi- fication</i>
<i>Assets (except cash and cash equivalents)</i>						
Current assets:						
Accounts receivable.....	+20	Use	-20		-20	Operating
Inventory.....	-60	Source	+60		+60	Operating
Prepaid expenses.....	+10	Use	-10		-10	Operating
Noncurrent assets:						
Long-term investments.....	+50	Use	-50	-60	-110	Investing
Plant and equipment.....	+120	Use	-120	-120	-240	Investing
<i>Liabilities, Contra assets, and Stockholders' Equity</i>						
Contra assets:						
Accumulated depreciation...	+40	Source	+40	+70	+110	Operating
Current liabilities:						
Accounts payable.....	+30	Source	+30		+30	Operating
Accrued liabilities.....	+10	Source	+10		+10	Operating
Taxes payable.....	+10	Source	+10		+10	Operating

Problem 16-19 (continued)

	<i>Change</i>	<i>Source or Use?</i>	<i>Cash Flow Effect</i>	<i>Adjust- ments</i>	<i>Adjusted Effect</i>	<i>Classi- fication</i>
Noncurrent liabilities:						
Bonds payable	-40	Use	-40		-40	Financing
Deferred income taxes.....	-5	Use	-5		-5	Operating
Stockholders' equity:						
Common stock	+20	Source	+20		+20	Financing
Retained earnings:						
Net income	+80	Source	+80		+80	Operating
Dividends	-35	Use	-35		-35	Financing
<i>Additional entries</i>						
Proceeds from sale of equipment				+40	+40	Investing
Loss on sale of equipment.....				+10	+10	Operating
Proceeds from sale of long- term investments				+80	+80	Investing
Gain on sale of long-term investments				<u>-20</u>	<u>-20</u>	Operating
Total			<u>-30</u>	<u>0</u>	<u>-30</u>	

Group Exercise 16-20

The answer to this group exercise depends on the particular annual report the students select.

Warning: This assignment is very difficult and should be assigned only to the most capable students who are resourceful, analytical, and not easily frustrated.