12. Direct Approach to the Statement of Cash Flows

Earlier in this chapter, you studied the income statement, statement of retained earnings, and balance sheet for Emerson Corporation. Before proceeding, spend just a few moments reviewing those financial statements. Then, examine the following statement of cash flows for Emerson Corporation. Everything within this cash flow statement is derived from the data and additional comments presented earlier for Emerson. At first, some of the cash flow statement will seem a bit mysterious, but a "line by line" explanation will follow. The tan bar at the left is not part of the statement; it is to facilitate the "line by line" discussion" (e.g. line F4 will refer to the 4th line in the financing activities section).

	EMERSON CORPORATION Statement of Cash Flows (Direct Approach) For the Year Ending December 31, 20X5		
O1	Cash flows from operating activities:		
O2	Cash received from customers		$ 3,000,000
O3	Less cash paid for:		
O4	Merchandise inventory	$ 1,050,000	
O5	Wages	480,000	
O6	Interest	100,000	
O7	Other operating expenses	270,000	
O8	Income taxes	300,000	(2,200,000)
O9	Net cash provided by operating activities		$ 800,000
I1	Cash flows from investing activities:		
I2	Sale of land	$ 750,000	
I3	Purchase of equipment	(150,000)	
I4	Net cash provided by investing activities		600,000
F1	Cash flows from financing activities:		
F2	Proceeds from issuing stock	$ 80,000	
F3	Dividends on common	(50,000)	
F4	Repayment of long-term loans	(900,000)	
F5	Net cash used in financing activities		(870,000)
C1	Net increase in cash		$ 530,000
C2	Cash balance at January 1, 20X5		170,000
C3	Cash balance at December 31, 20X5		$ 700,000
N1	Noncash investing/financing activities:		
N2	Issued preferred stock for building		$ 300,000

12.1 Methods to Prepare a Statement of Cash Flows

There are several ways to go about preparing a statement of cash flows. You may hear about a "T" account approach or a "worksheet" approach for organizing data to present the statement. But, trying to learn the statement of cash flows by focusing on the specific method for its preparation can

actually obscure your understanding of the statement. Let's first focus on our "line by line" understanding of how the content for Emerson's statement is derived. As you proceed, try to focus on understanding not memorization. The statement of cash flows draws on your complete understanding of accounting, and it is quite common for students to initially struggle with the statement; do not despair, and do not give up!

12.2 Operating Activities

LINE O1 -- CASH FLOWS FROM OPERATING ACTIVITIES: This line merely identifies the section:

O1	Cash flows from operating activities:	

LINE O2 -- CASH RECEIVED FROM CUSTOMERS: Emerson's customers paid $3,000,000 in cash:

O2	Cash received from customers	$ 3,000,000

How do we know this? Emerson's information system could be sufficiently robust that a "database query" could produce this number for us. On the other hand, we can also infer this by reference to sales and receivables data found within the income statement and balance sheet:

Cash Received From Customers
=
Total Sales Minus the Increase in Net Receivables
(or, plus a decrease in net receivables)
Cash Received From Customers
=
$3,250,000 - ($850,000 - $600,000)
Cash Received From Customers = $3,000,000

Thinking about this calculation, we note that accounts receivable increased by $250,000 during the year ($850,000 - $600,000). This means that of the total sales of $3,250,000, a net $250,000 went uncollected during the year. Thus, cash received from customers only came to $3,000,000. If net receivables had decreased instead, cash collected would have actually exceeded sales.

LINE O3 -- CASH PAID FOR: This line identifies the items relating to operating cash outflows:

O3	Less cash paid for:	

LINE O4 -- CASH PAID FOR INVENTORY: Emerson's paid $1,050,000 of cash for inventory:

O4	Merchandise inventory	$ 1,050,000

Determining the cash paid for inventory is perhaps one of the trickier calculations. Bear in mind that cost of goods sold is the dollar amount of inventory sold during the year. But, the amount of inventory actually purchased will be less than this amount if inventory on the balance sheet decreased during the year. This would mean that some of the cost of goods sold came from existing stock on hand rather than having all been purchased during the year. On the other hand, purchases would be greater than cost of goods sold if inventory increased:

Inventory Purchased
=
Cost of Goods Sold Minus the Decrease in Inventory
(or, plus an increase in inventory)
Inventory Purchased
=
$1,160,000 - ($220,000 - $180,000)
Inventory Purchased = $1,120,000

Now, the inventory purchased is only the starting point for determining cash paid for inventory. Inventory purchased must be adjusted for the portion that was purchased on credit. Notice that Emerson's accounts payable increased by $70,000 ($270,000 - $200,000). This means that cash paid for inventory purchases was $70,000 less than total inventory purchased:

Cash Paid for Inventory
=
Inventory Purchases Minus the Increase in Accounts Payable (or, plus a decrease in accounts payable)
Cash Paid for Inventory = $1,120,000 - ($270,000 - $200,000)
Cash Paid for Inventory = $1,050,000

LINE O5 -- CASH PAID FOR WAGES: Emerson's paid $480,000 of cash for wages during the year:

O5	Wages	480,000

Emerson's payroll records would indicate the amount of cash paid for wages, but this number can also be determined by reference to wages expense in the income statement and wages payable on the balance sheet:

Cash Paid for Wages
=
Wages Expense Plus the Decrease in Wages Payable
(or, minus an increase in wages payable)
Cash Paid for Wages
=
$450,000 + ($50,000 - $20,000)
Cash Paid for Wages = $480,000

Emerson not only paid out enough cash to cover wages expense, but an additional $30,000 as reflected by the overall decrease in wages payable. If wages payable had increased, the cash paid would have been less than wages expense.

LINE O6, O7, O8 -- CASH PAID FOR INTEREST, OTHER OPERATING EXPENSES AND INCOME TAXES:

O6	Interest	100,000
O7	Other operating expenses	270,000
O8	Income taxes	300,000

Emerson's cash payments for these items equaled the amount of expense in the income statement. Had there been related balance sheet accounts (e.g., interest payable, taxes payable, etc.), then the expense amounts would need to be adjusted in a manner similar to that illustrated for wages.

LINE O9 -- NET CASH PROVIDED BY OPERATING ACTIVITIES: This line merely provides a recap of the net effect of all operating activities. Overall, operations generated net positive cash flows of $800,000:

O9	Net cash provided by operating activities	$ 800,000

You may have noticed that two items within the income statement were not listed in the operating activities section of the cash flow statement. Specifically:

- Depreciation expense is in the income statement, but it is not an operating cash flow item. The reason is very simple; it is a noncash expense. Remember that depreciation is recorded via a debit to Deprecation Expense and a credit to Accumulated Depreciation. No cash is impacted by this expense entry (the "investing" cash outflow occurred when the asset was purchased), and

- The gain on sale of land in the income statement does not appear in the operating cash flows section. While the land sale may have produced cash, the entire proceeds will be listed in the investing activities section; it is a "nonoperating" item, and its full cash effect is listed elsewhere.

12.3 Investing Activities

LINE I1 -- CASH FLOWS FROM INVESTING ACTIVITIES: This line merely identifies the section:

I1	Cash flows from investing activities:

LINE I2 -- CASH FLOWS FROM SALE OF LAND: Emerson sold land for $750,000 during the year:

I2	Sale of land	$ 750,000

In actuality, it would be pretty easy to look up this transaction in the journal. The entry would look like this:

XX-XX-X5	Cash		750,000	
	Gain			150,000
	Land			600,000
	Sold land costing $600,000 for $750,000			

But, it is not necessary to refer to the journal. Notice that land on the balance sheet decreased by $600,000 ($1,400,000 - $800,000), and that the income statement included a $150,000 gain. Applying a little "forensic" accounting allows you to deduce that $600,000 in land was sold for $750,000, to produce the $150,000 gain.

LINE I3 -- CASH FLOWS FROM PURCHASE OF EQUIPMENT: Emerson purchased equipment for $150,000 during the year:

I3	Purchase of equipment	(150,000)

LINE I4 -- NET CASH PROVIDED BY INVESTING ACTIVITIES: Emerson's overall investing activities generated $600,000 in cash during the year. This resulted from the net effects of disposing of land and purchasing equipment.

I4	Net cash provided by investing activities	600,000

12.4 Financing Activities

LINE F1 -- CASH FLOWS FROM FINANCING ACTIVITIES: This line merely identifies the section:

F1	Cash flows from financing activities:

LINE F2 -- CASH PROCEEDS FROM ISSUING COMMON STOCK: This line reveals that $80,000 was received from issuing common stock.

F2	Proceeds from issuing stock	$ 80,000

This cash inflow is suggested by the $10,000 increase in common stock ($910,000 - $900,000) and $70,000 increase in additional paid-in capital ($370,000 - $300,000).

LINE F3 -- CASH OUTFLOW FOR DIVIDENDS: The statement of retained earnings reveals that Emerson declared $50,000 in dividends. Since there is no dividend payable on the balance sheet, one can assume that all of the dividends were paid during the year:

F3	Dividends on common	(50,000)

LINE F4 -- CASH OUTFLOW FOR REPAYMENT OF LONG-TERM LOAN: The balance sheet reveals a $900,000 decrease in long-term debt ($1,800,000 - $900,000). This represented a significant use of cash during the year:

F4	Repayment of long-term loans	(900,000)

This line item reveals that Emerson has used much of the cash flow generated from operations and asset disposals to reduce the outstanding debt of the company.

LINE F5 -- NET CASH USED IN FINANCING ACTIVITIES: Emerson's overall financing activities used $870,000 in cash during the year. The bulk of this outflow was attributable to debt repayment.

F5	Net cash used in financing activities	(870,000)

12.5 Cash Flow Recap

LINE C1, C2, C3 -- THE CHANGE IN CASH: Emerson's cash flow statement reveals a $530,000 increase in cash during the year ($800,000 from positive operating cash flow, $600,000 from positive investing cash flow, and $870,000 from negative financing cash flow). This change in cash is confirmed by reference to the beginning and ending cash balances on the balance sheet:

C1	Net increase in cash	$ 530,000
C2	Cash balance at January 1, 20X5	170,000
C3	Cash balance at December 31, 20X5	$ 700,000

12.6 Noncash Investing/Financing Activities

LINE N1, N2 -- NONCASH INVESTING AND FINANCING ACTIVITIES: Emerson issued $300,000 of preferred stock for a building. This falls into the special section for revealing the noncash investing and financing events:

N1	Noncash investing/financing activities:	
N2	Issued preferred stock for building	$ 300,000

12.7 Reconciliation of Income to Operating Cash Flows

The statement of cash flows just presented is specifically known as the "direct approach." The direct approach is the preferred approach. It is so named because the cash items entering into the determination of operating cash flow are specifically identified. In many respects, this presentation of operating cash flows resembles a cash basis income statement. An alternative "indirect" approach will be presented shortly. But first, be aware that companies who choose to use the direct approach must supplement the cash flow statement with a reconciliation of income to cash from operations:

Net income		$ 1,000,000
Add (deduct) noncash effects on operating income		
Depreciation expense	$ 120,000	
Gain on sale of land	(150,000)	
Increase in accounts receivable	(250,000)	
Decrease in inventory	40,000	
Increase in accounts payable	70,000	
Decrease in wages payable	(30,000)	(200,000)
Net cash provided by operating activities		$ 800,000

Notice that this reconciliation starts with the net income, and adjusts to the $800,000 net cash from operations. Some explanation may prove helpful:

- Depreciation is added back to net income, because it reduced income but did not consume any cash.
- Gain on sale of land is subtracted, because it increased income, but is not related to operations (remember, it is an investing item and the "gain" is not the sales price).
- Increase in accounts receivable is subtracted, because it represents uncollected sales included in income.
- Decrease in inventory is added, because it represents cost of sales from existing inventory (not a new cash purchase). Increase in accounts payable is added, because it represents expenses not paid.
- Decrease in wages payable is subtracted, because it represents a cash payment for something expensed in an earlier period.

Now, this can get rather confusing. Let's try to simplify it a bit. First, you can probably see why depreciation is added back.

But, the gain is likely fuzzy. It must be subtracted because you are trying to remove it from the operating number; it increased net income, but it is viewed as something other than operating, and that is why it is backed out. Conversely, a loss on such a transaction would be added.

The increase in accounts receivable represents sales that increased income but not cash. That is why it is subtracted. If you can relate to the receivables, a pattern will develop for the other items:

Increases in current assets related to operations will be subtracted, but decreases will be added and, vice versa:
Increases in current liabilities related to operations will be added, but decreases will be subtracted

Examine this pattern, to satisfy yourself that it works for the inventory, accounts payable, and wages payable. Now, you can logically extend the pattern to most any other operating adjustment that pertains to a current asset or current liability.

As a reminder, this reconciliation of income to operating cash is intended to supplement the direct approach to the statement of cash flows. You will likely find the reconciliation in notes to the financial statements.