

Case 38

BAY INDUSTRIES

As he listened in January 1990 to a presentation by Ben Robinson, one of his three division managers, Jim Quick, president of Bay Industries, was beginning to draw some conclusions. Within a week, he would have to guide a series of decisions on divisional and corporate strategy and, somewhere along the way, determine each division manager's bonus. About half the bonus was fairly automatically computed from profits and performance to budget, but the other half would depend on his evaluation. He was glad of the opportunity to apply his own judgment in the bonus-setting process, for he had never quite trusted the numbers to give a reliable reading on a manager's performance. On the other hand, he knew his unsupported judgments could be perceived as being arbitrary.

CONTROL DEVICES DIVISION

Robinson had managed the Control Devices Division for three years and had done reasonably well, although profit in 1989 was down a bit from the previous year. At the moment, he was talking about some guy in the South Pacific named Ona, a mystic, Robinson called him, who he said had made life difficult for Robinson's division. Robinson said Ona had caused Papua New Guinea's Bougainville copper mine, one of the world's largest mines, to shut down in mid-1989, thereby pushing up the price of copper just when he needed to buy. Quick remembered an article about it in the *Wall Street Journal* a few days before, with the headline "An Audacious Rebel in Papua New Guinea Shakes Copper Market."

The Control Devices Division made machine controllers for large specialized installations, as well as numerous smaller installations, in the chemical, paper, and petroleum industries. In the middle 1970s, the division had developed and patented an electro-mechanical thrust transmission device that had allowed the division to achieve a large market share. In the last decade, electronic components had been added to maintain the company's competitive position.

Earlier in his presentation, Robinson had noted that competition came from unexpected sources. Two months earlier, the division had lost a large customer in Denmark. His European representative said the division's price should have been low enough to get the business and hinted darkly at some under-the-table deal by the winning German company. Because about one-third of the division's sales were in Europe, Quick

wondered what the implications of this event might be. Robinson had said little about it except that it had clobbered his bottom line.

COOKWARE DIVISION

Colin Wood's report on the Cookware Division had shown remarkably consistent profits and a high return on investment during the two years he had been manager. The division made ceramic cookware that could go in the oven and on the table. Most sales were through mass merchandisers like K Mart. The item was not branded and depended on good design and wide distribution to maintain its sales volume.

The business was competitive, but Wood had shown a good sense of what would sell in each distribution channel and geographical area. He had previously been division director of marketing and had been promoted when his predecessor left to head a larger operation in another company.

While listening to Wood, Quick remembered that the division's Christmas sales had benefited when a major competitor was shut down for two months to work on compliance with environmental-protection standards. Quick was glad that Bay Industries had installed the necessary screening devices three years earlier.

Wood noted in his report that two of the division's three melting tanks and most of the forming machines were ten years old and in need of replacement. In his long-term capital forecast, submitted in both 1988 and 1989, he had estimated that \$30 to \$40 million would be needed to provide the new equipment.

ELECTRONICS DIVISION

Martha Hadley's report on the Electronics Division showed a disturbingly consistent low rate of profit. Hadley had taken over the moderately profitable division three years earlier. The division's main product had been an automatic-frequency-control (AFC) component that went into many radios and television sets. After joining the division, Hadley had designed a similar component that could be effectively used in cordless and cellular telephones. Sometimes it was built into the telephone, and sometimes it was part of the installation. The division's competition was mostly from larger companies, but Hadley had been able to break into the phone market by having a six-month lead with a superior product.

Hadley said that the only way to succeed in the business was to keep a jump ahead of everyone else. An example of that, she said, was when she had recognized earlier in the year that fast delivery was key to getting the order in about a third of the phone-component business. Not only was speed important in some orders, but precise delivery time was required by almost all customers to keep their inventory down; many customers used just-in-time manufacturing systems. Hadley's competition had regional warehouses, which allowed them to deliver overnight to most places. So she had arranged with an express-service firm to deliver fast and reliably, usually by air. Sometimes, when delivery was a week or more away, air freight was not used, but the carrier's delivery could still be timed to within three hours. Hadley believed the key was reliability and that the higher direct cost per shipment would be less than the cost of warehousing. Her volume was rising, but her costs had not gone up as much.

Hadley estimated that her share of the radio AFC market was about 10%, and that her share of the newer telephone-frequency-control market was nearly 25% and holding steady as the market continued to grow. She had invested in new equipment in 1989 to be able to service the growing phone market and capture economies of scale.

BONUS

Jim Quick reviewed the financial results of each division (see Exhibits 38-1, 38-2, and 38-3) to see how the division managers' bonuses would come out. The 1989 bonus pool for these three managers amounted to \$50,000, which was based on overall corporate profit. The bonus plan currently in force said that half of the pool would be distributed on the basis of points and half on the basis of the president's judgment.

Points were awarded in two ways, both based on the percentage return on capital employed (ROCE). The first way gave one point for each percentage point that actual ROCE was above planned ROCE minus 5%. This method allowed a manager to receive a bonus even if the division did not quite achieve the planned results. (The plan figure was the result of a budgeting process that started in the divisions and ended with a discussion—sometimes like a negotiation—between Quick and each division manager.) The second way in which points were awarded gave one point for each 1% that actual ROCE was above the average of the previous two years.

Following those rules Quick computed these bonuses:

	<i>First Method</i>	<i>Second Method</i>	<i>Total Points</i>	<i>Bonus</i>
Ben Robinson, Control Devices	1	0	1	\$ 1,020
Colin Wood, Cookware	12	7	19	19,380
Martha Hadley, Electronics	2	2½	4½	<u>4,590</u>
				\$24,990

As he pondered these results, Quick wondered whether they represented proper rewards for the results achieved. He also wondered whether the form of this part of the bonus system was as good as it could be.

Because Quick was to use his own judgment in the second part of the bonus system, if he did not like the way the first \$25,000 was divided, he could remedy the situation—at least partially—in dividing up the remaining \$25,000.

INVESTMENT PROPOSALS

Each division had submitted a proposal for capital expenditures in 1990 and after, brief summaries of which follow.

Control Devices

In submitting his proposal, Robinson noted that he had unused capacity. Normally, using that capacity would not require new investment, but in this case, he said he had an opportunity to pursue a special contract, which would be worth about \$5 million in sales in 1990, if he could purchase two pieces of automatic equipment for a total \$1 million. Although the machines would require some unique programming, he was intrigued because one of the machines used a control device produced by the division. They were, of course, accustomed to programming their own devices, but they had not worked with this application and he hoped to learn from it.

Noting that the investment would produce a high rate of return, Robinson submitted the following pro forma for the contract:

Revenue	\$5,000,000	
Costs:		
Material	2,600,000	
Labor	800,000	
Overhead	700,000	(includes only variable overhead)
Distribution	<u>100,000</u>	
Total cost	<u>4,200,000</u>	
Profit	\$ 800,000	

Cookware Division

Wood submitted a proposal for replacement of the two aging melting tanks and the forming equipment. The tanks had been installed ten years before at a cost of about \$7 million; replacement would cost about \$15 million. The repair cycle for the tanks had started at 18 months but had shortened to 10 months. He noted that, although the technology had not changed much, the new tanks would be more flexible and somewhat more efficient in the use of energy. He also noted some concern about the safety of the aging tanks.

The forming machines were also about 10 years old and were requiring increasing amounts of maintenance. New forming machines would cost about \$15-\$20 million. Again, the technology had not altered, but the new machines could be changed over faster, accommodated a greater variety of molds, and included a quick replacement system for molds that wore out with regularity. Quality would be more consistent with the new machines, and overall capacity would increase about 20%, half from the expected decline in rejects.

Wood advised replacing the tanks within a year and the forming machines within two years. If the two replacements were done together, however, about \$5 million could be saved.

Electronics Division

Hadley's investment proposal was for additional capacity to enable an increase in output of 25%. She expected to continue serving the expanding telephone market, with its continual demand to refine product designs. She requested \$8 million for equipment and facilities and \$2 million for net working capital, for a total of \$10 million. She submitted the following pro forma showing projected increases in revenue and expenses:

Revenue	\$20.0 million
Material	10.5
Labor	2.5
Other conversion	<u>2.1</u>
Total	<u>15.1</u>
Margin	4.9
New-product development	1.4
Marketing	.7
Distribution	1.0
Administration	.2
Corporate	<u>-</u>
Total, other costs	3.3
Net profit	\$ 1.6

EXHIBIT 38-1*

BAY INDUSTRIES

Control Devices Division (\$000,000)

	1987		1988		1989	
	<u>Plan</u>	<u>Actual</u>	<u>Plan</u>	<u>Actual</u>	<u>Plan</u>	<u>Actual</u>
Income Statement						
Sales	77.0	77.2	80.0	81.8	83.0	76.0
Manufacturing cost		40.0		42.2		38.7
Material cost						8.8
Conversion cost:		10.1		9.8		13.8
Labor		11.6		13.8		61.3
Overhead		61.7		65.8		14.7
Total cost		15.5		16.0		
Margin						1.9
Other costs		2.1		2.3		2.0
New-product development		2.2		2.3		1.5
Marketing		1.3		1.5		1.4
Packing and distribution		.9		1.1		.9
Administration		.6		.7		.7
Corp. for divisions		7.1		7.9		7.0
Total other		8.4	8.2	8.1	8.4	
Net division profit	8.0					
Balance Sheet		12.9		13.7		12.7
Accounts receivable		10.0		10.5		11.9
Inventory		36.4		38.3		42.0
Plant and equipment cost		19.1		22.1		25.6
Accumulated depreciation		17.3		16.2		16.4
Net plant and equipment		40.2		40.4		41.0
Total assets				11.5		12.2
Current liabilities	30.0	11.2	30.0	28.9	30.0	28.8
Capital employed		29.0				
Return on capital employed	27%	29%	27%	28%	28%	24%

*Notes on p. 309

EXHIBIT 38-1 (continued)

Notes on the divisional financial statements:

1. The expense labeled "Corp. for divisions" represented an allocation of corporate expenses that were believed to benefit the divisions directly. Other corporate expenses, totalling about \$5 million, were not allocated to the divisions. The three divisions represented substantially the whole of Bay Industries' business.
2. The division balance sheets were somewhat abbreviated. Cash was not allocated to divisions. Also, other corporate assets, amounting to about \$7 million, were not represented on the divisional balance sheets.
3. Divisional current liabilities were mostly trade payables.
4. Corporate income taxes were not allocated to the divisions.

EXHIBIT 38-2
BAY INDUSTRIES

Cookware Division
(\$000,000)

	1987		1988		1989	
	<u>Plan</u>	<u>Actual</u>	<u>Plan</u>	<u>Actual</u>	<u>Plan</u>	<u>Actual</u>
<i>Income Statement</i>						
Sales	55.0	55.1	58.0	60.2	63.0	70.3
Manufacturing cost		10.0		11.3		14.4
Material cost						19.7
Conversion cost:				15.9		18.9
Labor		14.1		18.6		18.9
Overhead		18.0		45.8		53.0
Total cost		42.1		14.4		17.3
Margin		13.0				
Other costs		.5		.6		.6
New-product development		3.1		3.3		3.6
Marketing		3.9		4.1		4.9
Packing and distribution		.5		.7		.8
Administration		.4		.5		.8
Corp. for divisions		8.4		9.2		10.7
Total other						
Net division profit	4.0	4.6	4.9	5.2	5.5	6.6
Balance Sheet						
Accounts receivable		6.6		7.5		8.5
Inventory		.8		.9		1.2
Plant and equipment cost		19.7		21.8		24.0
Accumulated depreciation		14.3		16.2		18.3
Net plant and equipment		5.4		5.6		5.7
Total assets		12.8		14.0		15.4
Current liabilities		1.1		1.2		1.5
Capital employed	11.4	11.7	12.9	12.8	13.7	13.9
Return on capital employed	35%	39%	38%	41%	40%	47%

EXHIBIT 38-3
BAY INDUSTRIES
 Electronics Division
 (\$000,000)

<i>Income Statement</i>	<i>1987</i>		<i>1988</i>		<i>1989</i>	
	<i>Plan</i>	<i>Actual</i>	<i>Plan</i>	<i>Actual</i>	<i>Plan</i>	<i>Actual</i>
Sales	43.0	45.2	58.0	55.9	70.0	73.3
Manufacturing cost						
Material cost		26.1		30.5		37.7
Conversion cost:						
Labor		5.4		7.4		9.4
Overhead		<u>4.5</u>		<u>7.2</u>		<u>8.6</u>
Total cost		<u>36.0</u>		<u>45.1</u>		<u>55.7</u>
Margin		9.2		10.8		17.6
Other costs						
New-product development		3.0		3.2		4.9
Marketing		1.2		1.5		2.3
Packing and distribution		1.5		2.0		4.1
Administration		.8		.8		1.1
Corp. for divisions		<u>.4</u>		<u>.5</u>		<u>.9</u>
Total other		<u>6.9</u>		<u>8.0</u>		<u>13.3</u>
Net division profit	2.0	2.3	3.0	2.8	4.0	4.3
Balance Sheet						
Accounts receivable		6.3		7.6		9.9
Inventory		5.3		6.1		7.1
Plant and equipment cost		22.9		26.1		34.3
Accumulated depreciation		<u>9.8</u>		<u>12.2</u>		<u>14.8</u>
Net plant and equipment		<u>13.1</u>		<u>13.9</u>		<u>19.5</u>
Total assets		24.7		27.6		36.5
Current liabilities		<u>7.2</u>		<u>9.7</u>		<u>11.2</u>
Capital employed	13.3	17.5	17.6	17.9	20.0	25.3
Return on capital employed	15%	13%	17%	16%	20%	17%