

STAR ENGINEERING COMPANY

Star Engineering Company (SEC) produces electrical accessories like meters, transformers, switchgears, and automobile accessories like taximeters and speedometers.

SEC buys the electrical components, but manufactures all mechanical parts within its factory which is divided into four production departments—Machining, Fabrication, Assembly, and Painting and three service departments—Stores, Maintenance, and Works Office.

Though the company prepared annual budgets and monthly financial statements, it had no formal cost accounting system. Prices were fixed on the basis of what the market can bear. Inventory of finished stocks was valued at 90 per cent of the market price assuming a profit margin of 10 per cent.

In March, the company received a trial order from a government department for a sample transformer on a cost-plus-fixed-fee basis. They took up the job (numbered by the company as Job No. 879) in early April and completed all manufacturing operations before the end of the month.

Since Job No. 879 was very different from the type of transformers they had manufactured in the past, the company did not have a comparable market price for the product. The purchasing officer of the government department asked SEC to submit a detailed cost sheet for the job giving as much details as possible regarding material, labour and overhead costs.

SEC, as part of its routine financial accounting system, had collected the actual expenses for the month of April, by 5th of May. Some of the relevant data are given in Exhibit I.

The company tried to assign directly, as many expenses as possible to the production departments. However, it was not possible in all cases. In many cases, an overhead cost, which was common to all departments had to be allocated to the various departments using some rational basis. Some of the possible bases were collected by SEC's accountant. These are presented in Exhibit II.

He also designed a format to allocate the overhead to all the production and service departments. It was realized that the expenses of the service departments on some rational basis. The accountant thought of distributing the service departments' costs on the following basis:

- a. Works office costs on the basis of direct labour hours.
- b. Maintenance costs on the basis of book value of plant and machinery.

c. Stores department costs on the basis of direct and indirect materials used.

The accountant who had to visit the company's banker, passed on the papers to you for the required analysis and cost computations.

DISCUSSION QUESTIONS

1. Complete the attached "overhead cost distribution sheet" (Exhibit III). (Wherever possible, identify the overhead costs directly to the producing and service departments. If such direct identification is not possible, distribute the costs on some "rational" basis).
2. Calculate the overhead cost (per direct labour hour) for each of the four producing departments. This should include share of the service departments' costs.
3. Do you agree with: (a) The procedures adopted by the company for the distribution of overhead costs? (b) The choice of the base for overhead absorption, i.e. labour hour rate?
4. Job No 879 was expected to be cleared by the Inspection Department in the first week of May. The actual materials cost applicable to job No 879 was Rs 487.92. Labour time spent on the job was estimated to be 50 hours in Machining; 40 hours in Fabrication and 20 hours each in Assembly and Painting Departments, totaling Rs. 460.10. Calculate the total cost of this job including overhead costs.
5. If Job No 879 is a cost-plus-fixed fee (CPFF) contract with the Government, fixed fee being Rs 200, what would be the total charges recoverable from the client?
6. Evaluate the cost accounting system adopted by the accountant and suggest improvements.

Exhibit I

STAR ENGINEERING COMPANY
Actual Expenses (Manufacturing Overheads) for April

	Rs.	Rs.
<i>Indirect Labour and Supervisions:</i>		
Machining	33,000	
Fabrication	22,000	
Assembly	11,000	
Painting	7,000	
Stores	44,000	
Maintenance	32,700	1,49,700
<i>Indirect Materials and Supplies:</i>		
Machining	2,200	
Fabrication	1,100	
Assembly	3,300	
Painting	3,400	
Maintenance	2,800	12,800
<i>Others</i>		
Factory Rent	1,68,000	
Depreciation of Plant and Machinery	44,000	
Building Rates and Taxes	2,400	
Welfare Expenses	19,494	
(At 2 per cent of direct labour wages and Indirect labour and supervision)		
<i>Power</i>	68,586	
(Maintenance—Rs. 366; Works Office Rs. 2,220, Balance to Producing Departments)		
Works Office Salaries and Expenses	1,30,260	
Miscellaneous Stores Department Expenses	1,190	4,33,930
Total		<u>5,96,430</u>

Exhibit II

STAR ENGINEERING COMPANY
Projected Operation Data for the Year

Department	Area (sq. m)	Original Book value of Plant and Machinery Rs.	Direct Materials		Horse Power Rating	Direct Labour		Direct Labour Budget* Rs.
			Budget*	Rs.		Hours	Budget*	
Machining	13,000	26,40,000	62,40,000		20,000	14,40,000	52,80,000	
Fabrication	11,000	13,20,000	21,60,000		10,000	5,28,000	26,40,000	
Assembly	8,800	6,60,000		1,000		7,20,000	13,20,000	
Painting	6,400	2,64,000	10,80,000		2,000	3,30,000	6,60,000	
Stores	4,400	1,32,000						
Maintenance	2,200	1,98,000						
Works Office	2,200	66,000						
Total	48,000	52,80,000	94,80,000		33,000	30,18,000	99,00,000	

Note*:

The estimates given in this exhibit are for the budgeted year January to December whereas the actuals given in Exhibit I are for just one month—April of the budgeted year.

Exhibit III

STAR ENGINEERING COMPANY

Actual Overhead Distribution Sheet for April

Departments Overhead Costs	Production Departments				Service Departments			Total Amount Actuals for April (Rs.)	Basis for Distribution
	Machining	Fabrication	Assembly	Painting	Stores	Maintenance	Works office		
A. Allocation of Overhead to all departments									
A.1 Indirect Labour and Supervision								1,49,700	
A.2 Indirect Materials and Supplies								12,800	
A.3 Factory Rent								1,68,000	
A.4 Depreciation of Plant and Machinery								44,000	
A.5 Building Rates and Taxes								2,400	
A.6 Welfare Expenses								19,494	
A.7 Power								68,586	
A.8 Works Office Salaries and Expenses								1,30,260	
A.9 Miscellaneous Stores Expenses								1,190	
A. Total (A.1 to A.9)								5,96,430	

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Exhibit III Contd. . . .

Departments Overhead Costs	Production Departments				Service Departments			Total Amount Actuals for April (Rs.)	Basis for Distribution
	Machining	Fabrication	Assembly	Painting	Stores	Maintenance	Works office		
B. Reallocation of Service Departments Costs to Production Departments	Original Book Value of Plant and Machinery	Direct Material Budget				Horse Power Rating	Labour	1,180	Direct Labour Budget *
B.1 Distribution of Works Office Costs	Rs.	Rs.	Rs.	Rs.				28,280	Rs.
B.2 Distribution of Maintenance Department's Costs	15,20,000	21,60,000				20,000		5,28,000	400
	6,60,000					1,000		7,40,000	8,20,000
B.3 Distribution of Stores Department's Costs	1,34,000							44,000	
Total Charged to Producing Departments (A + B)	52,80,000	94,80,000				33,000		1,28,000	
D. Labour Hours Actuals for April	1,20,000	44,000	60,000	27,500				5,96,430	9,00,000
E. Overhead Rate/Per Hour (D)								1,48,100	
	Exhibit are for the budgeted year January to December whereas the actuals given in Exhibit I are for the actual year.							Exhibit I are for the actual year.	
Overhead Costs	Machining	Fabrication	Assembly	Painting	Stores	Maintenance	Works office	April (Rs.)	Distribution for
Departments	Production Departments				Service Departments			Total Amount	Basis
	Production Departments				Service Departments				

Actual Overhead Distribution Sheet for April
 СТАВ РАСПРЕДЕЛЕНИЯ СТОИМОСТИ

Exhibit III