

## Step-Down Method versus Direct Method

"I can't understand what's happening here," said Mike Holt, president of Severson Products, Inc. "We always seem to bid too high on jobs that require a lot of labor time in the Finishing Department, and we always seem to get every job we bid on that requires a lot of machine time in the Milling Department. Yet we don't seem to be making much money on those Milling Department jobs. I wonder if the problem is in our overhead rates."



Severson Products manufactures high-quality wood products to customers' specifications. Some jobs take a large amount of machine work in the Milling Department, and other jobs take a large amount of hand finishing work in the Finishing Department. In addition to the Milling and Finishing departments, the company has three service departments. The costs of these service departments are allocated to other departments *in the order listed below*. (For each service department, use the most appropriate allocation base.)

|                             | Total<br>Labor-<br>Hours | Square Feet<br>of Space<br>Occupied | Number of<br>Employees | Machine-<br>Hours | Direct<br>Labor-<br>Hours |
|-----------------------------|--------------------------|-------------------------------------|------------------------|-------------------|---------------------------|
| Cafeteria .....             | 16,000                   | 12,000                              | 25                     |                   |                           |
| Custodial Services .....    | 9,000                    | 3,000                               | 40                     |                   |                           |
| Machinery Maintenance ..... | 15,000                   | 10,000                              | 60                     |                   |                           |
| Milling .....               | 30,000                   | 40,000                              | 100                    | 160,000           | 20,000                    |
| Finishing .....             | 100,000                  | 20,000                              | 300                    | 40,000            | 70,000                    |
|                             | <u>170,000</u>           | <u>85,000</u>                       | <u>525</u>             | <u>200,000</u>    | <u>90,000</u>             |

Budgeted overhead costs in each department for the current year are as follows:

|  |                    |
|--|--------------------|
| Cafeteria .....  | \$ 320,000*        |
| Custodial Services .....                                       | 65,400             |
| Machinery Maintenance .....                                    | 93,600             |
| Milling .....  | 416,000            |
| Finishing .....  | 166,000            |
| Total budgeted cost .....                                      | <u>\$1,061,000</u> |
| *This represents the amount of cost subsidized by the company. |                    |

The company has always allocated service department costs to the operating departments (Milling and Finishing) using the direct method of allocation, because of its simplicity.

*Required:*

1. Allocate service department costs to operating departments by the step-down method. Then compute predetermined overhead rates in the operating departments for the current year, using machine-hours as the allocation base in the Milling Department and direct labor-hours as the allocation base in the Finishing Department.
2. Repeat (1) above, this time using the direct method. Again compute predetermined overhead rates in the Milling and Finishing Departments.
3. Assume that during the current year the company bids on a job that requires machine and labor time as follows:

|                                | Machine-<br>Hours   | Direct<br>Labor-Hours |
|--------------------------------|---------------------|-----------------------|
| Milling Department . . . . .   | 2,000               | 1,600                 |
| Finishing Department . . . . . | <u>800</u>          | <u>13,000</u>         |
| Total hours . . . . .          | <u><u>2,800</u></u> | <u><u>14,600</u></u>  |

- a. Determine the amount of overhead that would be assigned to the job if the company used the overhead rates developed in (1) above. Then determine the amount of overhead that would be assigned to the job if the company used the overhead rates developed in (2) above.
- b. Explain to the president why the step-down method provides a better basis for computing predetermined overhead rates than the direct method.