

ACCOUNTING FOR OVERHEADS



MS.PRIYANKA
ASSISTANT PROF. IN
COMMERCE DEPT.

OVERHEADS



Cost pertaining to a cost Centre or cost unit may be divided into two portions direct and indirect. The indirect portion of the total cost constitutes the overhead cost which is the aggregate of indirect material cost, indirect wages and indirect expenses. CIMA defines indirect cost as “expenditure on labour, materials or services which cannot be conveniently identified with a specific saleable cost per unit.”

Indirect costs are those costs which are incurred for the benefit of a number of cost centers or costs units. Indirect cost, therefore, cannot be conveniently identified with a particular cost centre or cost unit but it can be apportioned to or absorbed by cost centres or cost units.

Classification of Overhead Cost



- (i) Functional classification,
- (ii) Classification with regard to behaviour of the expenditure,
- (iii) Element-wise classification,
- (iv) Classification according to nature of expenditure.

I. Functional Classification of Overhead:



When overhead expenses are classified with reference to major activity divisions of a concern, it is called functional classification of overhead. This classification is necessary for the segregation of the cost of each of the principal functional division of the concern and for having separate methods of accounting and control for the diverse nature of expenses in each division.

- (a) Manufacturing Overhead,
- (b) Administration Overhead,
- (c) Selling Overhead,
- (d) Distribution Overhead, and
- (e) Research and Development Expenses

II. Classification with Regard to Behaviour of Expenditure:



(a) Fixed Overhead:

Fixed overhead cost (also called period cost and policy cost) is the cost which accrues in relation to the passage of time and which, within certain limits tends to be unaffected by fluctuations in the level of activity. These expenses remain fixed in total amount with increases or decreases in the volume of output or productive activity for a given period of time.

Examples of fixed expenses are rent of building, depreciation of plant and machinery, depreciation of buildings, pay and allowances of directors, managers, secretaries, accountants etc., office expenses, like stationery and postage etc., bank charges, legal expenses, salaries of the works manager, interest on capital, if included in costs.



(b) Variable Overhead:

It is a cost which tends to follow (in the short-term) the level of activity. Variable overheads costs vary in total in direct proportion to the volume of output. These costs per unit remain relatively constant with changes in production. Thus variable costs fluctuate in total amount in direct proportion to the volume of output but tend to remain constant per unit as production activity changes.

Examples are indirect material, indirect labour, spoilage, tools, defective work loss, lubricants, idle time, lighting and heating expenses and commission to salesmen.



(c) Semi variable cost:

Semi-variable Cost (also called mixed cost or semi fixed cost) is a cost, containing both fixed and variable elements and which is thus partly affected by fluctuation in the level of activity. These costs are partly fixed and partly variable. For example, telephone expenses include a fixed portion of annual charge plus variable charge according to calls, thus the total telephone expenses are semi-variable.

Similarly if the salesmen are entitled for a fixed salary plus a commission beyond a certain level of sales, salesmen compensation is a semi-variable overhead having a fixed element constant at all the levels and a variable element which comes into operation after a specified level of sales is achieved.

III. Element-wise Classification:



This classification of overhead is done according to the nature and source of expenditure and follows naturally from the definition of overhead.

According to this classification, the total expenses are broken up into:

- (i) Indirect Materials
- (ii) Indirect Labour
- (iii) Indirect Expenses

IV. Classification of Overhead According to Nature of Expenses:



In order to have effective analysis of the expenses in detail, each of the manufacturing, administration, selling and distribution overhead cost is classified into smaller subdivisions so that expenses of similar nature can be grouped together under one head. This is achieved through Standing Order Numbers or Syllabus of Work Order Numbers and Cost Account Numbers. It may be made clear that standing order numbers are conventionally applied to factory overheads headings whereas cost account numbers are customarily applied to administration, selling and distribution and research development expenses.

Allocation of Overhead Expenses:



Allocation is the process of identification of overheads with cost centres. An expense which is directly identifiable with a specific cost centre is allocated to that centre. So it is the allotment of whole item of cost to a cost centre or cost unit or refers to the charging of expenses which can be identified wholly with a particular department. For example, the whole of overtime wages paid to the workers relating to a particular department should be charged to that department.

Similarly, the cost of repairs and maintenance of a particular machine should be charged to that particular department wherein the machine is located. Power, if separate meters are provided at each cost centre and fuel oil for boilers are other examples of allocation. So, the term allocation means the allotment of the whole item without division to a particular department or cost centre.

Apportionment of Overhead Expenses:



Cost apportionment is the allotment of proportions of items to cost centres or cost units on an equitable basis. The term refers to the allotment of expenses which cannot identify wholly with a particular department. Such expenses require division and apportionment over two or more cost centres or units.

So cost apportionment will arise in case of expenses common to more than one cost centre or unit. It is defined as the allotment to two or more cost centres of proportions of the common items of cost on the estimated basis of benefit received. Common items of overheads are rent and rates, depreciation, repairs and maintenance, lighting, works manager's salary etc.

Bases of Apportionment:



(i) Direct Allocation:

Overheads are directly allocated to various departments on the basis of expenses for each department respectively. Examples are: overtime premium of workers engaged in a particular department, power (when separate meters are available), jobbing repairs etc.

(ii) Direct Labour/Machine Hours:

Under this basis, the overhead expenses are distributed to various departments in the ratio of total number of labour or machine hours worked in each department. Majority of general overhead items are apportioned on this basis.

(iii) Value of Materials Passing through Cost Centres:

This basis is adopted for expenses associated with material such as material handling expenses.

(iv) Direct Wages:

According to this basis, expenses are distributed amongst the departments in the ratio of direct wages bills of the various departments. This method is used only for those items of expenses which are booked with the amounts of wages, e.g., workers' insurance, their contribution to provident fund, workers' compensation etc.

(v) Number of Workers:

The total number of workers working in each department is taken as a basis for apportioning overhead expenses amongst departments. This method is used for the apportionment of certain expenses as welfare and recreation expenses, medical expenses, time keeping, supervision etc.

(vi) Floor Area of Departments:

This basis is adopted for the apportionment of certain expenses like lighting and heating, rent, rates, taxes, maintenance on building, air conditioning, fire precaution services etc.

(vii) Capital Values:

In this method, the capital values of certain assets like machinery and building are used as basis for the apportionment of certain expenses.

Examples are:

Rates, taxes, depreciation, maintenance, insurance charges of the building etc.

(viii) Light Points:

This is used for apportioning lighting expenses.



(ix) Kilowatt Hours:

This basis is used for the apportionment of power expenses.

(x) Technical Estimates:

This basis of apportionment is used for the apportionment of those expenses for which it is difficult, to find out any other basis of apportionment. An assessment of the equitable proportion is carried out by technical experts. This is used for distributing lighting, electric power, works manager's salary, internal transport, steam, water charges etc. when these are used for processes.

EXAMPLE:



SOLUTION

<i>Expenses</i>	<i>Basis of apportionment</i>
(a) Store Service Expenses	Value of materials consumed
(b) E.S.I.	Wages of each department
(c) Factory Rent	Floor area
(d) Municipal Rent, Rates and Taxes	Floor area
(e) Insurance on Building and Machinery	Insurable value
(f) Welfare Department Expenses	Number of employees
(g) Creche Expenses	Number of female employees
(h) Steam	Potential demand
(i) Electric Light	Calculated units
(j) Fire Insurance	(i) For capital items—value of capital items (ii) For stores—Average value of goods in stock.

Following illustration will indicate how allocation and apportionment of expenses are done in practice and finally the total overhead of each department is obtained from the Departmental Distribution Summary.

Meaning of Absorption:



The method of apportionment of overhead expenses to the cost centres or cost units is known as overhead absorption.

It is necessary to charge each unit of production with its share of overhead expenses to ascertain the total cost of each unit.

The charge made to each job, order, process, unit or product to recover indirect cost is known as absorption of overhead.

Absorption actually means the distribution of the overhead expenses allotted to a particular department over the units produced in that department. Overhead absorption is accomplished by overhead rates.

Overhead Absorption Rates:



(1) Actual Overhead Rate:

This rate is obtained by dividing the overhead expenses incurred during the accounting period by the actual quantum (quantity or value) of the base selected.

Monthly rates can be calculated on the basis of the following formula:

Overhead Rate (Actual) = Actual expenditure during the month/Actual quantity or value of the base related to the total production in the month

(2) Predetermined Overhead Rate:

Predetermined rate is determined in advance of the actual production and is computed by dividing the budgeted overhead expenses for the accounting period by the budgeted base for the period i.e.

Overhead Rate (Pre-determined) = Budgeted overhead expenses for the period/Budgeted base of the period

(3) Blanket or Single Overhead Rate:

When a single overhead rate is computed for the factory as a whole it is known as single or blanket or plant wide rate.

It is calculated as under:

Blanket Rate = Overhead cost for the entire factory/Total quantum of the base selected

(4) Multiple Overhead Rates:

When different rates are computed for each producing department, service department, cost centre, each product or product line, each production factor and for fixed overhead, and variable overhead, then they are known as multiple rates.

It is calculated as under:

Overhead Rate = Overhead cost allocated and apportioned to each cost centre/department/Corresponding base

(5) Normal Overhead Rate:

Under this method overhead rate is a predetermined rate calculated with reference to normal capacity.

It is determined by the following formula:

$$\text{Normal Overhead Rate} = \frac{\text{Normal Overhead}}{\text{Base at Normal Capacity}}$$

(6) Supplementary Overhead Rates:

These rates are used to carry out adjustment between overhead absorbed and overhead incurred.

$$\text{Supplementary Overhead Rate} = \frac{\text{Actual overhead incurred} - \text{absorbed overhead}}{\text{Base (hours or units etc.)}}$$

METHODS OF ABSORPTION OF MANUFACTURING OVERHEADS



(a) Percentage on Direct Wages:

Under this method, a rate is calculated by dividing the budgeted or estimated overhead cost attributable to a cost centre by the amount of direct labour cost expected to be incurred, or which would relate to working at normal capacity and expressing the result as a percentage.

$$\text{Overhead Absorption Rate} = \frac{\text{Estimated/Budgeted Overhead Cost}}{\text{Estimated/Expected Direct Wages}} \times 100$$

Example

Direct wages incurred amounted to Rs. 50,000

Production overhead to be absorbed amounted to Rs. 40,000

$$\begin{aligned} \therefore \text{Direct wages percentage will be} &= \frac{\text{Rs. 40,000}}{\text{Rs. 50,000}} \times 100 \\ &= 80\% \end{aligned}$$

(b) Percentage on Direct Material Cost:

Under this method, cost of direct materials is used instead of cost of direct labour as we have seen in above paragraph. Thus, the cost of direct material is used as a basis of charging overhead to units. So, it is calculated by dividing the total factory overhead cost by the total cost of direct materials used. The rate is also expressed as a percentage.

$$\text{Overhead Absorption Rate} = \frac{\text{Total Overhead Cost}}{\text{Total Cost of Direct Materials}} \times 100$$

Example

Let, Direct Material Cost amounts to Rs. 80,000

Production Overhead amounts to Rs. 40,000

So, Overhead absorption rate will be = $\frac{\text{Rs. 40,000}}{\text{Rs. 80,000}} \times 100 = 50\%$

Thus, if cost of direct material for a job is Rs. 100, production overhead to be absorbed will be Rs. $100 \times 50\% = \text{Rs. 50}$.

(c) Percentage of Prime Cost Method:

Under this method, overhead absorption rate is found out by dividing the total overhead by the total Prime Cost.

$$\text{Overhead Absorption Rate} = \frac{\text{Production Overhead}}{\text{Prime Cost}} \times 100$$

Example

Let, Production Overhead to be absorbed is Rs. 15,000

Prime Cost is Rs. 60,000

$$\text{Then, Overhead Absorption Rate will be} = \frac{\text{Rs. 15,000}}{\text{Rs. 60,000}} \times 100 = 25\%$$

So, if prime cost amounts to Rs. 80 for job x, production overhead to be absorbed will be 25% of Rs. 80 = Rs. 20.

(d) Direct Labour Hour Rate:

Under this method, a rate is calculated by dividing the budgeted/estimated overhead cost attributable to a cost centre by the appropriate number of direct labour hours. Hours may be either the number of hours expected to be worked, or the number of hours which would relate to working at normal capacity.

$$\text{Direct Labour Hours Rate} = \frac{\text{Overhead for a period}}{\text{Direct Labour Hours for the period}}$$

Example

Let, the total overhead amounts to Rs. 50,000

the total number of direct labour hours 1,00,000

$$\begin{aligned}\text{Direct Labour Hour rate will be} &= \frac{\text{Rs. 50,000}}{1,00,000 \text{ hours}} \\ &= \text{Re 0.50 paise}\end{aligned}$$

If, the number of hours for Job X, is 400 hours

$$\begin{aligned}\text{the overhead will be} &= 400 \times \text{Re. 0.50} \\ &= \text{Rs. 200.}\end{aligned}$$

(e) Machine Hour Rate:



Machinery hour rate means the expenses incurred while running a machine for one hour. A machine hour rate is a rate calculated by dividing the budgeted or estimated overhead or labour and overhead cost attributable to a machine or group of similar machines by the appropriate number of machine hours.

$$\text{Machine Hour Rate} = \frac{\text{Actual or Estimated Overhead}}{\text{Actual or Anticipated Machine Hours}}$$