# CAS-3 : "Overheads"

## 1. Introduction

In Cost Accounting the analysis and collection overheads, their allocation and apportionment to different cost centres and absorption to products or services plays an important role in determination of cost well as control purposes. A system of better distribution of overheads can only ensure greater accuracy in determination of cost of products or services. It is, therefore necessary to follow standard practices for allocation; apportionment and absorption of overheads for preparation of cost statements.

## 2. Object

2.1 The standard is prescribe the method of collection, allocation, apportionment of overhead and absorption there of to products an absorption thereof to products or services on a consistent and uniform basis in the preparation of cost statements and to facilitate inter-firm comparison.

2.2 The standardization of collection, allocation, apportionment and absorption of overheads is to provide a scientific basis for determination of cost of different activities products, services, assets etc.

2.3 The standard is to facilitate in taking commercial and strategic management decisions such as resource allocation product mix optimization, make or buy decision, price fixation, etc.

2.4 The standard aims at ensuring **better disclosure requirement** and transparency in the **cost statement.**

## 3. Scope

3.1. **The standard should be followed for treatment of overheads by all enterprises including companies covered under Cost Accounting Record Rules issued in pursuant to Sec. 209 (1) (d) of the Companies Act, 1956 or under the provision of any other Act, Rules and Regulations.**

3.2 The standard shall be **applied** in Cost and Management Accounting practices relating to
(a) Cost of products, services or activities
(b) Valuation of stock
(c) Transfer pricing
(d) Segment performance
(e) Excise & Custom duty, VAT, Income Tax, Service Tax and other levies, duties and abatement fixation
(f) Cost statements for any other purpose.

## 4. Definitions ;

**4.1 Overheads --- Overheads comprise of indirect materials, indirect employee costs and indirect expenses which are not direct expenses which are not directly identifiable or allocable to a cost object in a economically feasible way.**

Overheads are to be classified *on the basis of functions* to which overheads are related (Refer to 'classification of cost' – CAS –I) viz

-- Production overheads
-- Administrative overheads
-- Selling overheads
-- Distribution overheads

**Overheads may also be classified** *on the basis of behaviour* **such as**

**--**Variable overheads,
--Semi-variable overheads
--Fixed overheads.

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**Variable overheads** comprise of expenses which vary in proportion to the changes of volume of production. For example, cost of utilities etc.

**Fixed overheads** comprise of expenses whose value do not change with the change in volume of production such as salaries, rent etc.,

**Semi-variable overhead** partly affected by change ion the production volume. They are further segregated into variable overheads and fixed overheads.

**Items not to be treated as overheads:**

- Overheads **arising out of abnormal situation** in business activity (charged to **Costing P/L A/c)**
- Items *not related to business activities* such as **donation**, **loss / profit on sales of assets** etc. are also not be treated as overheads.
- **Borrowing cost** and **other financial charges** including *foreign exchange fluctuations* will not from the part of overheads.

**4.2 Collection of overhead --- Collection of overheads means the pooling of indirect items of expenses from books of account and supportive / corroborative records in logical groups business regards to their nature and purpose.**

Overheads are collected on the basis of pre-planned groupings, called **COST POOLS**. Homogeneity, of the cost components in respect of their behaviour and character is to be considered in developing the cost pool. Variable and fixed overheads should be collected in separate cost pools under cost centre. A great degree of homogeneity in the cost pools are to be maintained to make the apportionment of overheads more rational and scientific. A cost pool for maintenance expenses will help in apportioning them to different cost centres which use the maintenance service.

**4.3 Allocation of overheads --- allocation of overheads is assigning a whole items of cost directly to a cost centre.**

An items of expenses which can be directly related to a **cost centre** is to be allocation to the **cost centre**. For example , depreciation of a particular machine should be allocated to a particular cost centre if the machine is directly attached to the cost centre.

**4.4 Apportionment of overhead : Apportionment of overheads to more than one cost centre on some equitable basis.**

When the indirect costs are common to different cost centres. These are to be apportioned to the cost centres on an **equitable basis**. For example, the expenditure on general repair and maintenance pertaining to a department but has to be apportioned to various machines (Cost Centres in the department. If the department is involved in the production of a single product. The whole repair & maintenance of the department may be allocated to the product.

**4.5 Primary and Secondary Distribution of Overheads:**

In case of multi-product environment, there are common service cost centres which are providing services to the various production cost centres and other service cost centres. The costs of services are required to be apportioned to the relevant cost centres.

- **First step** to be followed is to apportion the overheads to different cost centres**-- Primary Distribution.**
- **Second step** is to apportion the costs of service cost centres to production cost centres on an equitable basis. **--Secondary Distribution.**

**4.6** **<u>Absorption of overheads</u> --- Absorption of overheads is charging of overheads from cost centres to products or services by means of absorption rates for each cost center which is calculated as follows:**

$$\text{Overhead absorption rate} = \frac{\text{Total overheads of the cost centre absorption}}{\text{Total quantum of base}}$$

**The base (denominator) is selected on the basis of type of the cost centre and its contribution to the products or services, for example, machine hours, labour hours, quantity produced, etc.**

**Overhead absorbed = Overhead absorption rate × units of base in product or service**

**4.7** **Normal Capacity is the production achieved or achievable on an average over a period or season under normal circumstances taking into account the loss of capacity resulting from planned maintenance. (CAS -2)**

## 5. Apportionment and absorption of Production Overheads

**5.1** **Overheads are to be apportionment to different cost centres based on following 2 principles:**

**i)** **<u>Cause and Effect</u> – Cause is the process or operation or activity and effect is the incurrence of cost. Apportionment of overhead based on this criterion guided by the relationship between cost object and cost.**

**ii)** **<u>Benefits received</u> – overheads are to be apportioned to the various cost centres in proportion to the benefits received by them.**

### 5.2 Primary Distribution of overheads:

**Basis of primary apportionment of items of production overheads is to be selected to distribute them among the cost centres following the above two principle as given above in 5.1**

Basis of apportionment must be rational to distribute overheads. Once the base is selected. The same is to be followed consistently and uniformly. However, change in basis for apportionment can be adopted only when it is considered necessary due to change in circumstances like change in technology, degree of mechanization product mix. Etc. In case of such changes, proper disclosure in cost records is essential.

Examples of basis of primary distribution of some items of production overheads

| Items of Cost | Basis of Apportionment |
|---|---|
| Power | (H.P rating of Machines X hours x L.F*) |
| Fuel | Consumption rate X hours |
| Jigs, tools & fixtures | Machine hours or Man hours |
| Crane hire charge | Crane hours or weight of materials handled |
| Supervisors salary & fringe benefit | Number of employees |
| Labour welfare cost | Number of employees |
| Rent & rates | Floor or Space area |
| Insurance | Value of fixed asset |
| Depreciation | Value of fixed asset |

*L.F = Motor Load Factor

### 5.3 Secondary Distribution of Overheads:

**Secondary distribution of overheads may be done by following either Reciprocal basis or Non-Reciprocal basis. While reciprocal bass considers the exchange of service among the service departments, non-reciprocal basis considers only one directional service flow from a service cost centre to other production cost centres(s).**

## 5.4 Secondary Apportionment of Overheads on Reciprocal Basis.

The service rendered by certain service cost centres are also by other service cost centres. In reciprocal secondary distribution, the cost of service cost centres are apportioned to production cost centres as well as other service cost centres. In such case, anyone of the following three methods may be followed:

**I. Repeated Distribution Method**

**II. Trial & Error Method**

**III. Simultaneous Equation Method**

### 5.4.1. Repeated Distribution Method

**i) The proportion at which the costs of a service cost centres are to be distributed to the production cost centres and other service cost centres are determined.**

**ii) Costs of first service cost centres are to be apportioned to production cost centres and service cost centres in the proportion as determined in steps (i).**

**iii) Similarly, the cost of other service cost centres are to be apportioned.**

**iv) This process as stated in (ii) and (iii) are to be continued toll the figures remaining un-distributed in the services cost centres are negligibly small. The negligible small amount left with service centre may be distributed to production cost centres.**

### 5.4.2 Trial and Error Method

**Steps to be followed under this method are :**

**(i) The proportion at which the costs of a service cost centres are to be distributed to production cost centres and other service cost centres are determined.**

**(ii) Cost of first service cost centre is distributed to the other service centres in the proportion of service they received from the first as assessed in step (i).**

**(iii) In the next step, total cost of second service cost centre so arrived has to be distributed to the other service centres in the proportion of service they received from the second as assessed in step (i).**

**(iv) Similarly, the cost of other service cost centres are to be apportioned to the service cost centres.**

**(v) This process as described in (iii) and (iv) is to be continued till the figures remaining undistributed in the service cost centres are negligibly small.**

**(vi) At the least, total cost of service cost centres to be distribution to production cost centres.**

### 5.4.3 Simultaneous Equation Method

**The simultaneous equation method is to be adopted to take care of secondary distribution of cost of service cost centres to production cost centres with the help of mathematical formulation and solution. Step to be followed :**

**i) Proportion of service benefits received by different cost centres from a cost centres are assessed on the basis of records.**

**ii) The same rations are used as coefficient in the equations framed for apportionment of cost of service cost centres to production cost centres.**

**iii) Solution of the equation gives the cost of service cost centres.**

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**iv) Cost of service cost centres to be distributed to production cost centres.**

**5.5 <u>In non-reciprocal secondary distribution</u>, the costs of service cost centres are apportioned to the production cost centres. Steps involved are:**

**i) The cost of first service cost centre is apportioned on a suitable is apportioned on a suitable basis to production cost centres.**

**ii) The next steps is to apportion the cost of second service centre to the production cost centres as indicated in stage (i).**

**iii) The process is to be continued till the costs of all service cost centres are apportioned.**

**5.6 <u>Common bases for absorption of production overheads from, production centres to products or services</u>**

| **<u>Base of denominator</u>** | **<u>Applicability</u>** |
|---|---|
| ❖ Unit of production → | When single product is produced or various products are similar in specification. |
| ❖ Direct labour cost → | When conversion process is labour intensive and wage rates are substantially uniform |
| ❖ Direct labour hour → | When conversion process is labour intensive |
| ❖ Machine Hours or Vessel Occupancy or Reaction or Crushing Hours etc. → | When production mainly depends on performance of the base |

**5.7 <u>Absorption of Production Overhead and production Capacity</u>**

Overheads shall be analysed into variable overheads and fixed overheads.

The variable production overheads shall be absorbed to products or services based on actual capacity utilization.

The fixed production overheads and other similar item of fixed costs such as **quality control cost** shall be absorption in the production cost on the basis of the normal capacity or actual capacity utilization of the plant whichever is higher.

In case of **less production** then normal, **under-absorption** of overheads shall be adjusted with, **Costing Profit & Loss Account.** In case of **higher production** than normal, the **over-absorption of overheads** shall also be adjusted with **Costing Profit & Loss Account**.

**5.8 Absorption of Production overheads :**

**Production Overheads absorption rate for each cost centre is to be determined with the help of quantum base as indicate in 5.6 above and the formula as indicated below :**

$$\text{Fixed overheads absorption rate} = \frac{\text{Fixed overheads}}{\text{Normal or actual quantum of base, whichever is higher}}$$

$$\text{Variable overheads absorption rate} = \frac{\text{Variable overheads}}{\text{Actual quantum of base}}$$

**5.9 A pre-determined rate may be used on a provisional basis for internal management decision making such as cost estimates for quotation, fixation of selling process etc. These rates are to be calculated for each cost centres for a particular period. Budgeted overheads for the respective cost centres for the period concerned are to be taken as numerator and budgeted normal bases for the period as denominator for determining the rate.**

$$\text{Pre-determined overhead rate} = \frac{\text{Budgeted Overheads for the period}}{\text{Budgeted normal base for the period}}$$

**The amount of total overheads absorbed by a product, service or activity will be the sum total of the overheads absorbed form individual cost centres on pre-determined basis. The difference between overheads absorbed one pre-determined basis and the actual overheads incurred is the under –or over –absorption of overheads.**

**The under or over-absorption of overheads is mainly due to variation between the estimation and actual.**

## 6. Apportionment and absorption of Administrative Overheads

6.1 Administrative overheads included the following items of cost:

Printing and stationery, other office supplies
Employees cost – salaries of administrative staff
Establishment expenses – Office rent & rates, insurance, depreciation of office building and other assets, legal expenses, audit fees, bank charges, etc.

6.2 Administrative overheads are to be collected in different **costs pools** such as :
--- General Office
--- Personnel department
--- Accounts department
--- Legal department
--- Secretarial department .etc.

**6.3 Administrative overheads are to be further analysed into two-one for production activities and other for sales and distribution activities. Costs collected under the cost pools indicated in 6.2 above are to be distributed to administrative overheads relating to production activities and administrative overheads relating to selling and distribution activities on rational basis for each cost pool.**

**6.4 Administrative overheads relating to production activities are to be apportioned to different production cost centres on the basis conversion costs of production cost centers. The apportioned overheads are absorbed to products on the basis of the normal capacity or actual capacity, whichever is higher.**

**In case of under-absorption or over absorption of administrative overhead relating to production, tile same shall also be adjusted with Costing Profit & Loss Account.**

## 7. Apportionment and absorption of selling overheads and Distribution overheads

7.1 The selling overheads and distribution overheads are collected under different **cost pools** such as:

Selling Overheads:

(i) Sales employees cost
(ii) Rent
(iii) Travelling expenses
(iv) Warranty claim
(v) Brokerage & commission
(vi) Advertisement relating to sales and sales promotion
(vii) Sales incentive
(viii) Bad debt, etc.

**Distribution Overheads :**

**(i) Secondary Packaging**
**(ii) Freight & Forwarding**
**(iii) Warehousing & Storage**
**(iv) Insurance, etc.**

7.2 **Some items of selling overheads and distribution overheads are directly identified and absorbed to products or services and remaining part of selling and distribution overhead along with the with share of administration overheads relating to selling and distribution activities are to be apportioned to various products or jobs or services on the basis of net actual sales value (i.e. Gross sales value less excise duty, sales tax and other government levies).**

## 8. Presentation and Disclosure:

8.1 **Once the basis of collection, allocation, apportionment and absorption for different production cost centres are selected, the same shall be followed consistently and uniformly.**

8.2 **Change in basis for collection, allocation apportionment and absorption can be adopted only when it is compelled by the change in circumstances like change in technology, refinement and improvement in the basis, etc. and the scientific approach. In case of such changes, proper disclosure in cost records is essential.**

8.3. **Any changes in basis for collection, allocation, apportionment and absorption which has a materials effect on the cost of the product should be disclosed in the cost statements. Where the effect of such changes is not ascertainable wholly or partly, the fact should be indicated in the cost statement.**

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