BANGLADESH COST ACCOUNTING STANDARDS

BCAS - 5

Indirect Cost Rates

BCAS 5: Indirect Cost Rates

5.1 Introduction

The standard deals with the procedure, methods, pooling, allocation and distribution of indirect cost for products and services to determine total cost and per unit cost. In cost and management accounting, the costs are usually accumulated by activity or department to identify the costs of activities that the organization undertakes. Activity cost information is used for two purposes: to target activities for improvement or elimination, and to provide an accurate basis for the product or service costing data used in making product or service mix decision. A system of better pooling and distribution of indirect costs can only ensure greater accuracy in determination of cost of products or services. It is, therefore, necessary to follow standard practices of applying indirect cost rate in determining costs for computing per unit cost and preparation of cost statement.

5.2 Objectives

The broad objective of this standard is to provide guidance on computing indirect cost rate that can be used for charging cost object with the indirect cost most accurately. However, specific objectives of this standard are pointed out below:

a) The standardization of allocation of support department costs is to provide a logical basis for determination of per unit as well as total cost.

b) This standard focuses on determination of indirect cost rate.

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

d) The standard aims at ensuring better disclosure requirement and transparency in the cost statement.

e) The standard aims at providing better understanding on `indirect costing rates` for preparation of per unit cost statement as well as` cost of production report for cost control measures and assist to management decision making process.

5.3 Scope

5.3.1 This standard shall be applied in determining unit as well as product cost.

5.3.2 The standard shall also be applied in cost and management accounting practices relating to:

a) Costs of products, services or activities;

b) Transfer pricing;

c) Segment performance; and

d) Cost statements for any other purpose.

5.3.3 The purpose of this standard is to provide guidance relating to the allocation of capacity-related indirect costs.

5.3.4 The standard is to be followed by all public limited companies where cost audit is made mandatory through Government's gazette notification from time to time.

5.4 Key Features

The key features of this standard are pointed below -

a. Proposing a representative predetermined overhead rate;

b. Explaining different levels of capacity and its impact on indirect cost rate;

c. Comparative discussion on different allocation bases;

d. Illustrating the computation of rates and its application; and

e. Identifying and explaining the variances resulting for allocation based on standard.

5.5 Definitions

The following terms are used in this standard with the meanings specified -

5.5.1 Indirect costs: As defined in BCAS 4.5.1.

5.5.2 Capacity: Capacity is very important in choosing the numerator of the allocation rate equation which represents the most appropriate cost driver. Capacity may be theoretical, practical and standard. Theoretical capacity is the maximum capacity whereas practical capacity is computed by deducting provisions required for maintenance from the theoretical capacity. And standard capacity is theoretical capacity less an allowance for required maintenance, less an allowance that reflects the amount of idle time caused by varying demand on the resource, assuming that the resource capacity is efficiently and economically managed.

5.5.3 Allocation rate: This is the rate at which indirect cost is charged over cost object. When the cost used in the numerator of the allocation rate equation is a budgeted or standard one, the allocation rate is called a predetermined allocation rate because it is determined before the actual costs are known. When the actual cost is used as the numerator in the cost allocation rate equation, the resulting allocation rate is called an actual allocation rate.

5.6 Standards

5.6.1 *This standard recommends that the total capacity related indirect costs used in the allocation rate equation should be based on budgeted or standard cost, rather than actual cost. This results in an allocation rate that can be used during the period to cost output and for control proposes.*

5.6.2 *This standard recommends that the cost driver activity level used in the allocation rate equation should be based on standard capacity. It is important to note that the deductions from theoretical capacity used to compute standard capacity should be based on best practice relating to the use of that capacity, not the historical experience of an individual organization.*

5.6.3 *The number of cost driver units of the capacity used to allocate costs to the cost object should reflect the standard for the work done for the cost object, not the number of*

cost driver units of the capacity actually used.

5.6.4 The total allocation to a cost object will equal the number of units of capacity used by the cost object multiplied by the allocation rate developed for that cost object.

$$\text{Allocation} = \text{Units of Cost Driver Used} \times \text{Rate per unit of Cost Driver}$$

5.6.5 This standard deals with issues that relate to computing the rate per unit of cost driver in the allocation equation. The rate per unit of cost driver, or the allocation rate, is calculated as follows.

$$\text{Allocation Rate} = \frac{\text{Total Capacity Related Indirect Cost}}{\text{Cost Driver Activity Label}}$$

5.6.6 An indirect cost rate is simply a mechanism for determining fairly and conveniently within the boundaries of sound administrative principle, what proportions of Departmental/organization administration costs each programs should bear. An indirect cost rate represents the ratio between the total indirect costs and benefiting direct costs, after excluding and/or reclassifying unallowable costs, and extraordinary or distorting expenditures (i.e., capital expenditures and major contracts and sub-grants). The indirect costs in the numerator of the equation should bear a reasonable relationship to the direct costs from the denominator. This will allow for each program or activity represented in the direct costs base to assume their fair share of indirect costs when the rate is applied.

5.6.7 Indirect costs are usually constant for a wide range of output, and are grouped under fixed costs. Capacity-related indirect costs reflect the cost of capacity that cannot be varied in the short run to meet demand and are used by two or more cost objects.

5.6.8 ***Where an outside party has an interest in the allocation rate developed by the costing system of a firm due to contractual or regulatory issues, the firm and the outside party should negotiate and specify the standards used for cost, standard capacity, and activity units for work done in the contract or during the regulatory process.***

5.6.9 Developing a standard approach to computing allocation rates is a matter of considerable importance due to many costing disputes, particularly between contracting authorities and contractors in cost-plus contract situations, arise over the choice of the numerator and the denominator in the allocation rate equation.

5.6.10 The following table summarizes the seven numerator/denominator pairs that can be used in the allocation rate equation.

Capacity-Related Cost	Cost Driver Activity Level			
Budgeted or Standard	N/A	Budgeted	Average	Capacity
Actual	Actual	Budgeted	Average	Capacity

5.7 Recording and Reporting

5.7.1 'Indirect costing rates' should be done on predetermined objective which is based on activity.

5.7.2 'Indirect costing rates' should be followed consistently from period to period and preparation of cost statements should be made with reference to a period of time.

5.7.3 A change in 'Indirect costing rates' should be made only if it is required by law or for compliance with any Bangladesh Cost Accounting Standard or the change would reset in a more appropriate preparation or presentation of cost statements of an enterprise.

5.7.4 Any change in 'Indirect costing rates' of cost which has a material effect on the cost of the product should be disclosed in the cost statements. Where the effect of such change is not ascertainable wholly or party, the fact should be indicated in the cost statement.

5.8 Effective Date

This standard will be effective from January 1, 2015 onwards.

Appendix 5A

This appendix illustrates the computation and application of Indirect Cost Rate.

The discussion will be based on ABC Company, which has a production machine with a budgeted cost of BDT 300,000 per year plus BDT 400 for every operating hour.

The theoretical capacity of the machine is 3,000 hours per year. The machine's practical capacity (which is theoretical capacity less time allowed for required maintenance) is 97% of its theoretical capacity or 2910 hours. Industry statistics suggest that the most efficient organizations have on average, a further 2% of theoretical capacity idle because of varying demand during the year. Note that this new capacity level, which we will call standard capacity (or 2850 hours) and which amounts to 95% of theoretical capacity, includes no allowance for idle time (such as capacity lost because of improper load balancing, or time lost due to machine failures, or shut downs due to lack of materials) other than that relating to varying demand. The capital budgeting analysis that justified the machine's purchase projected an average use of 2,800 hours per year over the machine's lifetime.

During this year the planned level of activity was 2,700 hours. At the end of the year, however, it was found that the actual activity level was 2,900 hours, the number of hours allowed for the work done was 2,875 and the actual costs were BDT 310,000 plus BDT 390 for each hour that the machine was operated.

Computing a Predetermined Allocation Rate

Computation of predetermined allocation rate is a step by step process. These steps are discussed below considering the above example data.

Choosing the Cost Driver Activity Level

Most organization use a predetermined allocation rate so the cost for the period of jobs can be computed as the job is completed, rather than waiting until the actual cost for the period is known. The predetermined rate approach also tends to produce allocation rates that are less variable.

In ABC Company, a predetermined rate would use the budget cost of BDT 300,000 in the numerator of the allocation rate equation. Note that the flexible cost of the machine of BDT 400 per hour is irrelevant in computing the allocation rate for the indirect costs since BDT 400 per hour cost would be a direct cost to the cost objects using the machine. The next choice in

computing the allocation rate is to select the cost driver activity level. The five alternatives available here are:

a) the planned level of operations of 2,700 hours;

b) the expected average level of operations of 2,800 hours;

c) the theoretical capacity of 3,000 hours;

d) the practical capacity of 2,910 hours; and

e) the standard capacity of 2,850 hours.

Note that 2,900 hours, the amount of capacity actually used is not an option because the predetermined allocation rate calculation must use data that are available before operations begin.

Using the Planned Level of Operations as the Cost Driver Activity Level

The arguments for using the planned level of operations each year as the cost driver activity level to compute allocation rate for that year is that, year by year, if expectation are realized, the amount of indirect costs allocated to cost objects will equal the budgeted cost of the capacity. The argument against using the planned level of operations is that the allocation rate will vary from year to year as the cost in the allocation rate equation remains constant but the cost driver activity level varies. In years when capacity use is high, the cost allocation rate will be lower than in years when capacity use is low. Because of this variability, and because the cost allocation rate falls as the operation approaches capacity (when, presumably, capacity is most valuable), using the planned level of operations as the cost driver activity level in the allocation rate equation is unacceptable.

Using the Expected Average Level of Operations as the Cost Driver Activity Level

Two arguments are advanced for using the expected average level of operations over the lifetime of the capacity as the cost driver activity level in the allocation rate equation.

a) This approach results in a constant cost allocation rate.

b) The expected average demand on capacity is the number that was likely used in the evaluation process that justified the capacity's purchase.

Therefore, the allocation rate reflects the implied effective cost per unit of capacity used to justify the capacity acquisition.

The major disadvantage of using the expected average level of operations as the cost driver activity level is that it obscures the cost of unused or idle capacity and provides no cost incentive for organizations to focus on improving capacity use. This is an argument that is often raised in cost-plus contracting situations where the contractor argues that the cost of excess capacity is buried in the allocation.

Using Capacity as the Cost Driver Activity Level

The primary argument for using a capacity-based number as the cost driver activity level in the allocation rate equation is that the resulting allocation rate supports the process of costing idle facilities and the division of the idle facility cost between what is normal for an efficient organization and what is excessive. This insight is critical for control purposes and contract

costing when the contract price is cost plus. For this reason alone, this standard recommends using a capacity-based cost driver activity level.

The second argument for using a capacity-based cost driver activity level is that capacity is the cost driver for indirect cost. The indirect cost is committed when the capacity is acquired and therefore does not depend upon how much is used.

On the one hand, some observers advocate using theoretical capacity as the cost driver activity level.

The argument is that theoretical capacity provides the most accurate estimate of the cost per unit of acquired capacity, and that an allocation rate based on theoretical capacity provides a continuous message to management, via the unallocated cost of unused capacity, of the need to improve use.

On the other hand, observers argue that, because the difference between theoretical capacity and standard capacity reflects required maintenance and fluctuations in use resulting from unavoidable demand fluctuations, no organization can achieve theoretical capacity. Therefore, basing the allocation rate on theoretical capacity provides an unrealistically low estimate of the effective cost information about idle capacity motivates managers to use capacity more effectively, since that motivation comes when demand on existing facilities exceeds supply.

Practical capacity, which is theoretical capacity less an allowance for required maintenance time, caries the negative features of both the theoretical capacity and standard capacity approaches without providing any advantage.

Practice, which reflects conventional wisdom, widely supports the use of standard capacity as the measure for the cost driver activity level. The difference between theoretical capacity and standard capacity is often called idle capacity.

The predetermined rate used to allocate cost in ABC Company when theoretical capacity is used as the cost driver activity level would be BDT 100 per machine hour as computed in the following equation.

$$\text{Allocation Rate} = \frac{\text{Budgeted Cost}}{\text{Theoretcal Capacity}} = \frac{\text{BDT 300,000}}{\text{3,000}} = \text{BDT 100}$$

The predetermined rate used to allocate cost in ABC Company when standard capacity is used as the cost driver activity level would be BDT 105.2632 per machine hour, as the computed in the following equation:

$$\text{Allocation Rate} = \frac{\text{Budgeted Cost}}{\text{Standard Capacity}} = \frac{\text{BDT 300,000}}{\text{2,850}} = \text{BDT 105.2632}$$

When allocating cost to production, the organization should use the standard amounts of the cost driver allowed for the work done rather than the actual amounts of the cost driver that were used. This avoids allocating favorable or unfavorable cost driver activity use variances to production and provides a solid basis for control and cost-based pricing.

Computing the Actual Allocation Rate

The same argument used to conclude that standard capacity is the appropriate choice for the cost driver activity level applies to calculating the actual allocation rate. Therefore, the actual rate used to allocate cost in ABC Company would be BDT 108.7719 per machine hour.

$$\text{Allocation Rate} = \frac{\text{Actual Cost}}{\text{Standard Capacity}} = \frac{\text{BDT 310,000}}{\text{2,850}} = \text{BDT 108.7719}$$

The following allocations and variance would be the result in ABC Company using this actual allocation rate:

Indirect cost spending variance = Actual cost - Budgeted cost = BDT 310,000 - BDT 300,000= BDT 10,000 (unfavorable)

Total capacity cost allocated to production = Standard hours allowed for work x Allocation rate = 2,875 x BDT 108.7719 = BDT 312,719

Cost saving due to efficient capacity use:

Total capacity cost allocate to production - Budgeted cost = BDT 312,719 - BDT 300,000 = BDT 12,719 (favorable)

Note that using actual cost in this case where there is an unfavorable spending variance has the effect to overstating the cost saving due to efficient capacity use. Part of the overstatement is due to the allocation of unfavorable spending variance for the capacity-related cost to production. In general terms, this overstatement is computed as follows:

Overstatement = Cost driver activity rate x (Rate using actual cost - Rate using standard cost)

= Savings Computed using actual cost - Saving computed using standard cost

In case of ABC Company the amount of overstatement is computed below:

= 2,875 x (BDT 108.7719 - BDT 105.2632)

= 2,875 x BDT 3.5087

= BDT 10,088

Using the actual allocation rate has the effect of allocating production efficiencies or inefficiencies to production and disguising the nature of the efficiency variance by embedding the difference in a capacity use (volume) variance. This is undesirable because this disguises the production efficiencies or inefficiencies and also because organizations should not expect to recover production inefficiencies, nor should they be expected to relinquish production efficiencies when the cost is used for contract purposes.

For this reason, and because the organization must wait until the end of the period when actual costs are known to compute the cost allocation rate and the cost of jobs, the standard recommends the use of predetermined allocation rate method.