

BANGLADESH COST ACCOUNTING STANDARDS

BCAS 28

Capacity Determination



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BCAS 28: Capacity Determination

28.1 Introduction

Better utilization of capacity means better utilization of resources which is an important consideration for cost determination and cost reduction. It is really essential to establish the capacity of the plant. This standard deals with the principles and methods of determining the capacity of a facility installed for producing goods or providing services by an entity. Moreover, this standard deals with the principles and methods of classification and determination of capacity of an entity for ascertainment of the cost of product or service, and the presentation and disclosure of the same in cost statements.

28.2 Objectives

- 28.2.1 The objective of the standard is to prescribe the method of determination of capacity to be applied uniformly and consistently.
- 28.2.2 The standard will help the management to identify the bottlenecks, imbalances and idle capacity for effective use of various resources.
- 28.2.3 The standard will help in proper allocation, apportionment and absorption of cost.

28.3 Scope

- 28.3.1 This standard shall be applied to the cost statements, including those requiring attestation, which require determination of capacity for assignment of overheads.
 - 28.3.2 The standard will be followed for capacity determination required to be carried out for any purpose or under any provisions of any Act (i.e. Companies Act 1994), Rules or Regulation of Bangladesh (i.e. Cost Audit Rules).
 - 28.3.3 The standard will be applied for an undertaking, whether existing or new, where there is material expansion in capacity due to introduction of new machines, productive resources or material reduction in capacity due to disposal or withdrawal or impairment of old machines or productive resources.
 - 28.3.4 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.
- 28.4 **Key features:** The key features of the standard are pointed below –
- a) Explain capacity in manufacturing environment
 - b) Identifies different types of capacity and their use in costing
 - c) Shows the impact of capacity determination on product or service costing

28.5 Definitions

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

- 28.5.1 **Licensed Capacity:** Licensed Capacity is the production capacity of the plant for which license has been issued by an appropriate authority.

- 28.5.2 **Installed Capacity:** Installed Capacity is the maximum productive capacity according to the manufacturers' specification of machines or equipment. Installed capacity of the unit/plant is determined after taking into account imbalances in different machines or equipment in the various departments/production cost centers in the unit/plant and number of working shifts.
- 28.5.3 **Practical or Achievable Capacity:** Practical or Achievable Capacity is the maximum productive capacity of a plant reduced by the predictable and unavoidable factors of interruption pertaining to internal causes. Thus, practical capacity is the installed capacity minus the inevitable interruptions due to time lost for break downs of machines, repairs, set ups, normal delays, weekly off-days and holidays, inventory taking periods etc. Practical capacity does not consider the external factors causing reduction in production e.g. lack of orders.
- 28.5.4 **Normal Capacity:** Normal Capacity is the level of productive capacity i.e. attained or attainable over a period of time, considering the normal conditions and variations in the line of business. Normal capacity is practical capacity minus the loss of productive capacity due to external factors.
- 28.5.5 **Actual Capacity Utilization:** Actual Capacity Utilization is the volume of production achieved in relation to installed capacity. Volume may be measured in terms of units produced or services provided or equivalent machine or man hours, as applicable. Actual capacity utilization is usually expressed as a percentage of installed capacity.
- 28.5.6 **Idle Capacity or Underutilization of Capacity:** Idle Capacity or Underutilization of Capacity is the difference between installed capacity and the actual capacity utilization when actual capacity utilization is less than installed capacity.
- 28.5.7 **Excess Capacity Utilization:** Excess Capacity Utilization is the difference between installed capacity and the actual capacity utilization when actual capacity utilization is more than installed capacity.
- 28.5.8 **Abnormal Idle Capacity:** Abnormal idle capacity is the difference between practical capacity and normal capacity or actual capacity utilization whichever is higher.
- 28.5.9 **Unutilized Capacity:** Unutilized Capacity is the difference between Installed capacity and Normal capacity.

28.6 Standards

- 28.6.1 Installed capacity is usually determined based on:
- Manufacturers' Technical specifications
 - Capacities of individual or interrelated production centers
 - Operational constraints / capacity of critical machines
 - Number of shifts
 - Any other factors in line with above
- 28.6.2 In case of manufacturers' technical specifications are not available, the estimates by technical experts on capacity under ideal conditions may be considered for determination of installed capacity.

28.6.3 In case a product passes through different production processes and each process is having different capacity then the process which brings out effective and ultimate production, shall be considered for deciding installed capacity.

28.6.4 Practical capacity or achievable capacity shall be determined after adjustment of the following with the installed capacity:

- a) Available production hours taking into consideration holidays, normal shut down days and normal idle time.
- b) Normal time loss in batch change over, break down of machines, repairs, inventory taking periods etc.
- c) Loss in efficiency due to ageing of the machines/equipment
- d) Number of shifts
- e) Any other factors in line with above

28.6.5 Normal capacity is determined based on the productive capacity achieved or expected to be achieved over a period of time, say three to five years. This capacity is determined after adjustment of external factors with practical capacity.

28.6.6 In case of new plant where at the initial stage the capacity will be far below the normal capacity, normal capacity may be taken as one based on specific industry's standard, market projection etc. The period to achieve normal capacity may depend on infrastructural support, management decision, market condition etc.

28.6.7 Normal capacity of production process involved in the production of a product or the productive capacity of the plant as a whole should be taken into account to arrive at normal capacity for a product or plant, as the case may be.

28.6.8 The periods influenced by abnormalities shall be excluded for this purpose.

28.6.9 In case the same products with different specifications and of different ranges in terms of size, type, variety etc. are manufactured, then there is a need to determine equivalence among them in order to determine the capacity.

28.6.10 In case some intermediate products / components etc. are also produced, they should be taken into consideration for determining equivalent capacity.

28.6.11 In case some job is outsourced or some machines are given on lease/ let out or taken on lease, its impact in terms of decrease/increase in capacity shall be considered separately.

28.7 Recording and Reporting

28.7.1 Cost Statements shall present Installed capacity, normal capacity and actual production of goods or services provided, in absolute terms.

28.7.2 Actual Capacity utilization shall be presented as a percentage of installed capacity.

28.7.3 The cost statements shall disclose the followings:

- a) The details of basis for arriving at the capacity, variables used and assumptions made should be disclosed.

- b) Any change in the installed capacity due to modifications in the machines/ equipment or addition of balancing equipment or disposal or impairment of some machines/ equipment should be disclosed.
- c) The licensed capacity and installed capacity should be disclosed in absolute term of production whereas practical capacity, normal capacity and actual capacity utilization should be disclosed in absolute term as well as in percentage of installed capacity.
- d) In case the same products with different specifications and of different ranges in terms of size, type, variety etc are manufactured, then there is a need to determine equivalence among them and capacity should be established in terms of equivalent units.
- e) In case some machines are taken on lease or some machines are leased out, their impact in terms of increase/ decrease in capacity should be disclosed separately.
- f) In case of low capacity utilization as compared to the installed capacity, reasons for the same should be disclosed. Comments on the shortfall in production should also specify the factors which are controllable and uncontrollable in short term or in long term.
- g) In case of excess capacity utilization, the same should be disclosed separately in absolute terms and in terms of percentage with reasons.

28.8 Effective Date: This standard will be effective from January 1, 2020 onwards.

Appendix – 1A

Computation of Different Capacity Level

Manufacturers' Specifications - capacity per hour = 500 units

No of shifts (each shift 8 hours) = 3 shifts

Holidays in a year:

Sundays = 52 days

Other holidays = 13 days

Annual maintenance is done within these 13 holidays

Preventive Weekly Maintenance for the machine on Sunday.

Normal idle capacity for batch change over, Lunch, personal need etc. = 1 hr per shift

Production based on sales expectancy in past 5 years

= 30.1, 26.9, 29.7, 24.4 and 30.2 lakh units

Actual Production for the year = 30.1

Calculation:

Installed Capacity for the machine = $365 * 8 * 3 * 500 = 43.8$ lakh units

Practical Capacity = $(365 - 52 - 13) * (8 - 1) * 3 * 500 = 31.5$ lakh units

Out of the past five years, normal capacity is average of 3 normal years.

Normal Capacity = $(30.1 + 29.7 + 30.2) / 3 = 30.0$ lakh units

Actual Capacity Utilization = 30.1 lakh units = 68.7 %

Idle Capacity = $(43.8 - 30.1) = 13.7$ lakh unit = 31.3 %

Abnormal idle capacity = $31.5 - 30.1 = 1.4$ lakh units