



## CAS-23 COST ACCOUNTING STANDARD ON OVERBURDEN REMOVAL COST

The following is the Cost Accounting Standard (CAS-23) on “**OVERBURDEN REMOVAL COST**” issued by the Council of the Institute of Cost Accountants of India. In this standard, the standard portions have been set in ***bold Italic*** type. These are to be read in context of the background material which has been set in normal type.

### 1. Introduction

The standard deals with the principles and methods of measurement and assignment of Overburden Removal Cost and the presentation and disclosure in cost statements.

### 2. Objective

*The objective of this standard is to bring uniformity, consistency in the principles, methods of determining and assigning Overburden Removal Cost with reasonable accuracy.*

### 3. Scope

*The standard shall be applied to cost statements which require classification, measurement, assignment, presentation and disclosure of Overburden Removal Cost including those requiring attestation.*

### 4. Definitions

The following terms are being used in this standard with the meaning specified. Any term not defined in this Standard shall have the same meaning and expression as set out in the Glossary of Terms issued by the Council.

**4.1 Abnormal cost:** *An unusual or atypical cost whose occurrence is usually irregular and unexpected and/ or due to some abnormal situation of the production or operations.*

**4.2 Administrative overheads:** *Cost of all activities relating to general management and administration of an entity.*

**4.3 Amortization:** *Amortization is the systematic allocation of the depreciable amount of an intangible asset over its useful life.*

**4.4 Cost Object:** *An activity, contract, cost centre, customer, process, product, project, service or any other object for which costs are ascertained.<sup>1</sup>*

Activity includes mining operations also.

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<sup>1</sup>.Adapted from CIMA Terminology



**4.5 Current Ratio:** *the ratio of overburden removed to mineral produced in a particular patch of mine during the year.*

Quantity of mineral includes production and mineable mineral lying exposed.

Quantity of overburden removed is the net quantity after adjustment of opening and closing advance stripping quantities.

**4.6 Depreciation:** *Depreciation is the systematic allocation of the depreciable amount of an asset over its useful life.*

**4.7 Imputed Costs:** *Notional cost, not involving cash outlay, computed for any purpose.*

**4.8 Interest and Finance Charges:** *Interest, including any payment in the nature of interest for use of non-equity funds and incidental cost that an entity incurs in arranging those funds*

**4.9 Mines overheads:** *indirect costs involved in the mining process for rendering services.*

This relates to the activities of both Mineral extraction and Overburden Removal.

**4.10 Mining Plan:** *It is the plan expected to provide information required to measure the stripping activity with reasonable consistency.*

**4.11 Overheads:** *Overheads comprise costs of indirect materials, indirect employees and indirect expenses.*

**4.12 Overburden:** *It is the overlying materials generally having no commercial value.*

**4.13 Overburden Removal cost:** *is the cost incurred to remove the overlying material from the mine site.*

**4.14 Ratio Variance:** *It is the variance between current ratio and standard /average stripping ratio in terms of quantity of mineral produced during the period.*

**4.15 Repair and Maintenance Cost:** *Cost of all activities which have the objective of maintaining or restoring an asset in or to a state in which it can perform its required function at intended capacity and efficiency.*

**4.16 Stripping Activity:** *It is the activity of overburden removal that benefits the identified component of an ore to be mined by the entity.*

**4.17 Stripping Ratio:** *Stripping ratio is ratio of excavation of overburden to ore.*

Generally overburden is measured in cubic metres and ore in tonnes. Therefore, the Stripping ratio is equal to Volume of overburden (m<sup>3</sup>) / Weight of ore (in tonnes).



**4.18 Standard stripping ratio: this is the ratio between the total quantity of overburden to be removed (in cubic meters) and the total mineral to be extracted (in tonnes) during the Projected life of the project.**

The term Standard stripping ratio and Average stripping ratio denote the same meaning and are used interchangeably.

*The Ratio shall be reviewed periodically, at least every five years, to take into account changes in geological factors such as actual behavior of the soil and the Ore body. The ratio shall be reviewed immediately if the geological factors alter radically, for example due to earthquake.*

The reported quantity of Overburden is considered in cost statement where the variance between the reported quantity and the measured quantity is within the permissible limits. Reported quantity is the quantity of overburden that is necessary corresponding to actual quantity of mineral raised.

For example, 3:1 stripping ratio means that mining one Ton of ore will require mining three cubic meters of waste rock (overburden).

**4.19 Advance Stripping: Advance Stripping is the excess overburden removed in between the overburden bench and assumed angle of repose drawn from the starting of Mineral bench from the surface of Mineral than what is needed for extraction of Mineral.**

## **5. Principles of Measurement**

- 5.1. Overburden Removal Cost shall be the aggregate of direct and indirect cost relating to overburden removal activity.**
- 5.2. Direct cost includes the cost of consumable stores, spares like machinery spares, explosives and detonators, manpower, equipment usage, utilities, payment made directly to contractors and other identifiable resources consumed in such activity.**
- 5.3. Indirect cost includes the cost of resources common to various mining operation including overburden removal activity such as manpower, administrative overheads, loading and unloading equipment usage and other costs allocable to such activities.**
- 5.4. The overburden removal cost attributable to a development phase of a mine area shall be capitalised as non-current asset when it is probable that future economic benefits to the area will flow to the entity and such cost can be identified and measured separately.**



**5.5. The overburden removal cost attributable to developed area of mine shall be charged to production of ore at the Standard stripping ratio.**

The cost of advance stripping activity whose economic benefit is likely to flow to the entity during the subsequent period, shall be capitalised and amortised.

If the removal of ore is more than the Standard stripping ratio, then the cost of short removal overburden shall be charged to the cost of production either by creating the reserve or by adjusting the earlier capitalized overburden removal cost.

**5.6. Overburden shall be measured by multiplying the number of trips undertaken by equipment for Overburden removal or by any electronic mode. Measurement at regular intervals may be carried out by volume/ physical verification to arrive at fair quantity of overburden removed. Final assessment will be made based on scientific methodology.**

**5.7. Current ratio is determined by dividing the actual overburden removed (net quantity after due adjustment for opening & closing advance stripping quantity) with the actual production of mineral including adjustment for mineable quantity of mineral lying exposed during the period.**

**5.8. Cost of overburden removal activity carried out by outsourcing shall be determined at agreed price as per contract price including duties and taxes and other expenditure directly attributable thereto. The cost shall also include the cost of resources provided to the contractor by the company.**

**5.9. Cost of overburden removal activity of each mine shall be computed and considered separately.**

**5.10. Subsidy/ grant/ incentive or amount of similar nature received/ receivable with respect to overburden removal activity if any shall be reduced for ascertainment of the cost of the overburden removal for a patch/ plot to which the amounts are related.**

**5.11. Any overburden removal cost resulting from some abnormal circumstances if material and quantifiable shall not form part of the overburden removal cost.**

Examples are fire, cave-in, flooding and other similar events of abnormal circumstances.

**5.12. Fine, penalties, damages and similar levies paid to statutory authorities or other third parties shall not form part of the overburden removal cost.**

**5.13. Interest & Finance charges incurred in connection with the overburden removal shall not form part of the overburden removal cost.**



**5.14. Any change in the cost accounting principles applied for the determination of the overburden removal cost should be made only if it is required by law or for compliance with the requirements of a cost accounting standard or a change would result in a more appropriate preparation or presentation of cost statements of an enterprise.**

## **6. Assignment of costs**

**6.1 Direct cost of overburden removal shall be assigned to the overburden removal activity.**

**6.2 The cost for equipment shall be assigned in the ratio of machine hours actually engaged for mineral and overburden removal or any other appropriate method that apportions the cost in an equitable manner.**

**6.3 Administrative overheads and other indirect expenses shall be apportioned to mineral and overburden on the basis of ratio of actual mineral produced and overburden removed during the period or on the basis of actual machine hours engaged for mineral extraction, and overburden removal or any other appropriate basis.**

## **7. Presentation**

**7.1. Overburden removal, absorption and cost details shall be presented separately for each mine.**

## **8. Disclosures**

**8.1 The cost statements shall disclose the following:**

- i) The basis of determining the overburden removal cost.**
- ii) Where cost of removal is considered on the basis of standard ratio, any variation positive or negative from the current ratio.**
- iii) Any subsidy grant/ incentive and any such payment reduced from the cost of overburden removal.**
- iv) Credit/ recoveries relating to overburden removal.**
- v) Any abnormal cost excluded from overburden removal cost.**
- vi) Penalties and damages excluded from the overburden removal cost.**

**8.2 Disclosures shall be made only where material, significant and quantifiable.**

**8.3 Disclosures shall be made in the body of the Cost Statement or as a foot note or as a separate schedule.**



**8.4** *Any change in the cost accounting principles and methods applied for the measurement and assignment of the overburden removal cost during the period covered by the cost statement which has a material effect on the overburden removal cost shall be disclosed. Where the effect of such change is not ascertainable wholly or partly the fact shall be indicated.*

**9. Effective date:**

This Cost Accounting Standard shall be effective from the period commencing on or after 1st April, 2017 for being applied for the preparation and certification of the General Purpose Cost Statements.