

Guidance Note
on
Cost Accounting Standard
on
Cost of Utilities
(CAS-8)



Issued by

THE INSTITUTE OF COST ACCOUNTANTS OF INDIA

(A Statutory Body under an Act of Parliament)

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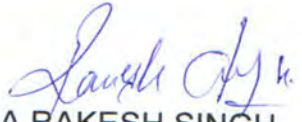


FOREWORD

The Council of the Institute of Cost Accountants of India in its meeting held on 25th March, 2013 has approved release of the Guidance Note on Cost Accounting Standard on Cost of Utilities (CAS 8) as recommended by the CASB. This is a part of the efforts of the Technical Directorate in developing Guidance Notes for providing professional advisory support to the practitioners as well Industry to facilitate the adoption and evaluate the implementation of the Cost Accounting Standards by the business entities.

I am confident that this Guidance Note would help the members and other readers to understand and implement the various principles of Cost Accounting Standard on Cost of Utilities.

I wish to place on record my appreciation for Shri M Gopalakrishnan, Chairman CASB and all members of the CASB for bringing out guidance literature for the members.


CMA RAKESH SINGH
President

11th April, 2013



PREFACE

The Cost Accounting Standards Board which is engaged in the process of developing Cost Accounting Standards and also comes out with Guidance Notes in various areas with a view to facilitating and propagating the Cost Accounting principles relevant to specific aspects of business entity's operations and to provide guidance for their adoption and implementation through illustrations and practical examples.

In the series that have been issued so far, I am pleased to present the next Guidance Note which is on Cost Accounting Standard on Utilities (CAS 8). In the current business context, utilities have come to occupy a key slot next to materials and employee cost. This Guidance Note on the subject deals with practical aspects of the principles and methods for determination of Cost of Utilities as provided in the CAS-8.

I sincerely thank all the members of the Cost Accounting Standards Board for their valuable contribution in finalization of this Guidance Note. I would also like to place on record the whole hearted support extended to the Cost Accounting Standards Board by CMA Rakesh Singh, President and CMA.Suresh Mohanty, Vice President of the Institute.

I also acknowledge the efforts put in by the CASB Secretariat technical team headed by Dr. S K Gupta, Director(Technical) and Sh. M L Mehta (Advisor), in bringing out this vital document. I am confident that the Secretariat will keep up the scorching pace set so far and release the Guidance Notes on the remaining CAS in near future.

I am confident that this Guidance Note would be well received by the members.

A handwritten signature in black ink, appearing to read 'M. Gopalakrishnan', written in a cursive style.

CMA M. Gopalakrishnan
Chairman – CASB

11th April, 2013



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Guidance Note on Cost Accounting Standard on Cost of Utilities (CAS-8)

The Council of the Institute of Cost Accountants of India has issued Cost Accounting Standard 8 (CAS-8) on Cost of Utilities which lays down a set of principles and methods of classification, measurement and assignment of Cost of Utilities for determination of the cost of product and presentation and disclosure of such costs in the cost statement.

The Guidance Note deals with practical aspects in connection with the determination of Cost of Utilities of a product. In this Guidance Note the Cost Accounting Standards have been set in **bold italic** type and reference number of the standard has been retained”.

Further The Companies (Cost Accounting Records) Rules, 2011 provides that every company, including a foreign company defined under section 591 of the Companies Act,1956 which is engaged in production, processing, manufacturing, or mining activities has to maintain cost accounting records in accordance with the generally accepted cost accounting principles and cost accounting standards issued by the ICAI, to the extent these are found to be relevant and applicable. The above Rules further provides that these will be applicable to companies wherein:

- (a) aggregate value of net worth as on the last date of the immediately preceding financial year exceeds five crores of rupees; or
- (b) the aggregate value of the turnover made by the company from sale or supply of all products or activities during the immediately preceding financial year exceeds twenty crores of rupees; or
- (c) the company’s equity or debt securities are listed or are in the process of listing on any stock exchange whether in India or outside India.



Chapter 1

Introduction

Production processes need several inputs other than raw material in the form of water, steam, electricity, and the like. These inputs are known as utilities. Utilities are classified according to the nature of utility, such as power, steam, water, compressed air and so on.

A distinction is to be made whether an input is a utility or production input. For example in case of manufacture of Caustic Soda, electricity is a principal input for electrolysis of brine. If there are multiple connections/source of supply of electricity and in production of Caustic soda one of the source is directly connected, it is to be treated as production input and not as utility. For other connection where utility power is distributed to one or more end users, it is to be treated as utility.

For example, one of the manufacturing processes requires heating. The heat can be generated and applied with help of steam or a stand alone thermic fluid heater attached to the process equipment. In such a case, if heat is applied to a given process with the help of stand-alone thermic fluid heater which is a part of process equipment and there is only single end user - this should be treated as a part of a process and not as a utility cost.

When different activities are required to be carried out on given input(s) to make it distributable and usable by one or more consuming sections, it should be recognized as a distinct utility.

Sub-set of a particular Utility:

A given utility may have more than one distinct utilities. For example supplier of electricity may be providing electricity at 11 KVA and thereafter it is converted to 460 V and given to different users. One of such user may employ step down process and bring the voltage level to 230 V. Depending upon the relevancy, the electricity in this case may be treated as two distinct utilities viz. 460 V(High Voltage) and 230 V (Low voltage) electricity, If there is variation in supply rate.

Sub-set of utility is also applicable for generating of steam. If steam is raised in a boiler at 48 Kg/cm² at 1800°C temperature with 0% humidity (Superheated steam) given to certain process and in other boiler steam is raised at 18 Kg/cm² with 2% moisture at 1000°C (saturated steam) which is given to different processes or to the same process and at different point of time, two



different utilities shall be considered for steam viz High Pressure steam (48 Kg/cm²) and Low Pressure steam (18 Kg/cm²).

The above two examples highlight the importance of selection of appropriate sub sets of a given utility considering the special feature of a sub-set.

Sometimes an entity may have centralised utility or utility at department level. For example a manufacturing process may need some form of compressed air, whether for running a simple air tool or for more complicated tasks such as the operation of pneumatic control. Compressed Air Utility may be centralized services or it may be that individual air compression units are provided for each department depending upon the requirement. In case individual air compression units are provided it may be possible to merge the cost of operating the air compressor with the respective departmental expenses. But where centralized air compression and supply is made, a separate air compressed utility is to be accounted.

Classification of utility:

“Various types of utilities are used in manufacturing process as indicated in **Annexure-1**. These are classified according to the nature of utility, such as power, steam water, compressed air and the like”.

Examples of cost measurement are:

- Use of historical cost;
- Use of actual or standard cost;
- Designation of items of cost which must be included or excluded from the utility cost.

Unit of Measurement of Utility:

Each utility has a different measurement unit considering its nature and cost is expressed in per unit of the related utility. Details of measurement of unit of different utility is given below:

Utility	Measure	Unit	Category
Power	Units per hr	KWH or MWH	H.T 440V L.T 220V
Steam- Low heat steam Super heat steam	Kg per tonne	KG/ Cm ² at --- °C	Kg/sq.cm



Water – Chilled water Treated water Demineralised water	Volume	Ltrs/K.Ltrs	
Heating	Thermal unit	K cal or BTU	Output Temp 300 to 400Deg C
Air – Compressed air	Pressure Volume	M ³	Kg/sq.cm

Assignment is tracing the cost of utility to a product or service and dealt in Chapter 4.

The principles and methods adopted should be applied consistently from one period to another and for reasonable uniformity between different products/units. For example inputs of utility such as coal, furnace oil, etc are valued on the basis of FIFO (First-in-First out) method, the same should be followed consistently from one period to another and for different type of utility for valuing the inputs.

CAS-8 is applicable to the organization which is producing utilities for use in their manufacturing process. It is not applicable to the organizations which are primarily engaged in generation and sale of utilities. For example it is not applicable to organizations producing utilities, such as, NTPC, TATA power, NHPC etc.

As per Para 3.4 of CAS -8, the issues related to ascertainment and treatment of carbon credit are not covered under this standard.



Chapter 2

Definitions

The following terms are used in this guidance note with the meaning specified:

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

Committed Cost: *The cost of maintaining stand-by utilities shall be the committed cost.*

Cost Object: This includes a product, service, cost centre, activity, sub-activity, project, contract, customer or distribution channel or any other unit in relation to which costs are ascertained.

Finance Costs: *Costs incurred by an enterprise in connection with the borrowing of funds.*

Imputed Costs: *Hypothetical or notional costs, not involving cash outlay, computed for any purpose.*

Normal capacity: Normal Capacity is the production achieved or achievable on an average over a number of periods or seasons under normal circumstances taking into account the loss of capacity resulting from planned maintenance.

Standard Cost: A predetermined cost of resource inputs for the cost object computed with reference to set of technical specifications and efficient operating conditions.

Utilities: Significant inputs such as power, steam, water, compressed air and the like which are used for manufacturing process but do not form part of the final product.

Stand-by utilities: Any utility created to safeguard against the failure of the main source of inputs.



Chapter 3

Principles of measurement

5.1 Each type of utility shall be treated as a distinct cost object.

As each utility is a distinct cost object, cost of each utility is to be collected and measured separately. For example power, steam, water, compressed air, oxygen, nitrogen, coke oven gas and the like are distinct utilities, and the cost is collected and measured for each utility separately. The costs are booked to each utility through initial documents such as supplier 's bill, if directly identifiable with utility, payroll analysis sheet, stores requisition, etc. A separate cost statement is to be prepared for each utility.

5.2 Cost of utilities purchased shall be measured at cost of purchase including duties and taxes, transportation cost, insurance and other expenditure directly attributable to procurement (net of trade discounts, rebates, taxes and duties refundable or to be credited) that can be quantified with reasonable accuracy at the time of acquisition.

There can be a mix source of supply for a given utility. For example, the entity may purchase electricity from electricity supplier and may also be receiving from its own stand-by facilities for generation of electricity.

For purchased power it will include all cost of purchase, maximum demand charges(which is payable irrespective of the actual power consumption), Load factor, local duties and other expenditure attributable to procurement. Credit is to be given for any discount, rebate, taxes and duties refundable.

The above treatment is also applicable to any other utility purchased, such as purchase of steam, coke oven gas from other unit, raw water from municipal sources and so on.

Cost of utility consists of direct employee cost, fuel , direct expenses, chemicals, stores and spares, repairs & maintenance, depreciation and inter utility transfer cost.

5.3.1 Cost of self generated utilities for own consumption shall comprise direct material cost, direct employee cost, direct expenses and factory overheads.



The cost of generating a utility may comprise water, fuel, power, direct expenses (such as boiler inspection fee) consumable stores, direct employee cost, repair and maintenance, depreciation, inter-utility transfer and factory overhead.

For example:

Cost of power generation will include cost of fuel such as furnace oil, coal, salaries and wages, consumable stores, repair and maintenance, depreciation and factory overhead.

Unit cost is arrived at on the basis of the net aggregate consumption in different departments after adjusting transmission losses. In case of cogeneration (power and steam) where waste heat from TG (Turbine Generation) is recovered in waste heat recovery unit and used for production of steam, due credit should be given to the Power plant and corresponding charge to SGP(Steam Generation Plant).

Charging of power to the consuming cost object is generally done at the weighted average of the cost of power purchased, generated and distribution cost at the consuming point.

Steam: A separate statement of cost of steam is prepared indicating the quantity of steam generated, cost of fuel, soft water, power, employee cost for operating staff, sundry supplies, chemical additives, depreciation and other works overhead. Unit cost of steam is arrived at on the basis of units consumed in different departments after adjusting distribution loss.

Steam may be of high pressure, low pressure and medium pressure with multiple paths by which the steam pressure is reduced according to the purpose of use. Steam costs are highly dependent on the path that steam follows in the generation and distribution system.

Raw water: Raw water is either purchased or obtained from ground wells/canal. The cost of water mainly consists of share of cost of power allocated through inter-utility transfer. The total cost of water should include employee cost, fuel, power, repair and maintenance of tube wells, depreciation, overhead. The total monthly cost of operating this department is divided by the quantity of K Ltr of water pumped during the month to determine the unit cost of water pumped.

Cost of Soft Water: Water, if hard, requires treatment. The cost of soft water will include the cost of raw water, chemicals, cost of maintenance of settling tanks, employees cost, depreciation and the like.

The cost of demineralised water is also arrived at on the above basis.



Inter Utility transfer

There is inter-utility transfer cost for a utility. For example water utility may be used in generation of steam and power. Power may be required for pumping water from tubewell. Inter-utility cost is to be determined by the following method:

- a) repeated distribution method;
- b) matrix algebra through computer application

(a) When Repeated Distribution Method is adopted, the utility costs are repeatedly allocated in the specified percentage until the figures become too small to be significant. Steps to be followed under this method are:

- I. The proportion at which the cost of a utility is to be distributed to production cost centres and other utilities centre is determined based on usage.
- II. Cost of first utility is to be apportioned to production cost centres and other utilities in the proportion as determined in step (a) above.
- III. Similarly cost of other utilities is to be apportioned.
- IV. This process as stated above is to be continued till the figures remaining undistributed in the utility are too small to be significant. The small amount left with utilities may be distributed to the production cost centres.

b) Matrix algebra through computer application: Spread sheet software such as Excel provides facility for inter-division cost ascertainment and reapportionment of inter utility. This application may be used for determining inter-utility transfer cost.

Quantitative records of production and distribution should be recorded for each utility to measure the unit cost of a utility.

An illustration of steam cost is at Annexure 2.

5.3.2 In case of Utilities generated for the purpose of inter unit transfers, the distribution cost incurred for such transfers shall be added to the cost of utilities determined as per paragraph 5.3.1.



If utilities generated are transferred to inter units of an entity, the cost of distribution of such utilities will be included in the cost of utility as determined under para 5.3.1. It will comprise cost of generating utility and cost of distribution facility. Distribution may be through a pipe line/transmission line. The cost of maintenance of pipe line/ Transmission line for transfer of utility will be added to the cost of utility.

5.3.3 Cost of Utilities generated for the inter company transfers shall comprise direct material cost, direct employee cost, direct expenses, factory overheads, distribution cost and share of administrative overheads.

In case of inter company transfer, cost of utility so transferred should comprise as para 5.3.2 viz. direct material(fuel and the like),direct labour, direct expenses, chemicals, share of factory overheads ,distribution cost and share of administrative overhead. Cost of a utility determined as above plus share of administrative overhead is to be charged for inter company transfer. Transmission loss should be treated as per agreement between the parties.

5.3.4 Cost of Utilities generated for the sale to outside parties shall comprise direct material cost, direct employee cost, direct expenses, factory overheads, distribution cost, share of administrative overheads and marketing overheads.

The sale price of utilities sold to out side parties should include cost of utilities as computed under para 5.3.3. plus marketing overhead and margin, as illustrated in **Annexure 3**.

5.4 Finance costs incurred in connection with the utilities shall not form part of cost of utilities.

Finance Costs are *incurred by an enterprise in connection with the borrowing of funds*. While determining the cost of utility as para 5.3.1 to 5.3.4. above, finance cost i.e. interest related cost will not be considered as an item of cost.

5.5 The cost of utilities shall include the cost of distribution of such utilities. The cost of distribution will consist of the cost of delivery of utilities up to the point of consumption.

The utility is supplied to the user from the place of generating the utility. The cost incurred from the place of generating to the end users (i.e.setting of pipe line and the like) will form part of the cost of utility supplied. It will include the cost of transportation through pipe/



transmission line, stepping up/stepping down of power voltage, maintenance of distribution channels, etc.

5.6 Cost of utilities shall not include imputed costs.

Imputed cost does not involve any cash payment. It should not be included in the cost of utility.

5.7 Where cost of utilities is accounted at standard cost, the price variances related to utilities shall be treated as part of cost of utilities and the portion of usage variances due to normal reasons shall be treated as part of cost of utilities. Usage variances due to abnormal reasons shall be treated as part of abnormal cost.

The cost of utility may be accounted on standard cost method. The standards are fixed for various inputs, such as material, fuel, direct employee cost, budgeted overhead expenses. Under this method, price of inputs of material fuel and the like is predetermined for a stated period taking into account all the factors affecting price such as anticipated market trends, transportation charges and normal quantity of purchase. Standard prices are determined for each input and material requisitions are valued at standard price irrespective of the actual purchase price. Any difference between the standard and actual prices of purchase results in input/ material price variance. The material price variance is to be treated as part of input/material cost. There may be also input/material usage variance (the difference between the quantity required as per standard and actual consumption). Normal variance will form part of the cost of input. Abnormal usage variance will not form part of the utility cost. There can be other variances relating to employee cost, overhead between actual and budgeted and the like. Variances due to normal reasons should be treated as cost while the variances due to abnormal reasons should not form part of the cost of production.

For other expenses and overhead, expenses budgeted and actual are compared at different level of activity.

5.8 Any Subsidy/Grant/Incentive or any such payment received/receivable with respect to any cost of utilities shall be reduced for ascertainment of the cost to which such amounts are related.

Subsidy, grant or incentives are provided for specific purpose. For example, generation of non-conventional energy. Any subsidy, grant received/receivable should be reduced from the utility cost.



5.9 The cost of production and distribution of utilities shall be determined based on the normal capacity or actual capacity utilization whichever is higher and unabsorbed cost, if any, shall be treated as abnormal cost. Cost of a Stand-by Utility shall include the committed costs of maintaining such a utility.

Where utilities are created exclusively for captive consumption, utility plants are operated based on the production plan of end product. Normal capacity of end product is considered to be normal capacity for the utility.

Normal Capacity is the production achieved or achievable on an average over a number of periods or seasons under normal circumstances taking into account the loss of capacity resulting from planned maintenance. There may be a situation when end product itself may be operated at below normal capacity in adverse market conditions and recession. In such a situation the normal capacity adopted for end product should be treated as normal capacity for the utility. The cost of production and distribution of utilities should be determined based on the normal capacity. The unabsorbed cost is to be treated as abnormal cost.

The committed cost of maintaining a stand-by utility should be included in the cost of stand by utility. All related cost of the standby utility is to be absorbed irrespective of its level of utilization.

There may be a different situation where a utility is purchased and generated also. For example in case of electricity, there is one subset called purchased electricity and another is a electricity generation through DG set.

Where utilities have capacity to cater to plant requirement and for sale to other parties, the cost of production and utilities is to be determined based on the normal capacity of the utility plant. If it is operating below normal capacity utilization, unabsorbed cost is to be treated as abnormal cost.

5.10 Any abnormal cost where it is material and quantifiable shall not form part of the cost of utilities.

Abnormal cost may arise for example due to plant break down, flood fire and the like. Such cost will not form, part of the utility cost. Another example of abnormal cost is due to low capacity utilization.



5.11 Penalties, damages paid to statutory authorities or other third parties shall not form part of the cost of utilities.

Penalties /damages are levied for non compliance of regulatory requirements. For example not complying with boiler inspection, not safeguarding hazardous utility. Penalty so levied should not form part of the cost of utilities.

5.12 Credits/recoveries relating to the utilities including cost of utilities provided to outside parties, material and quantifiable, shall be deducted from the total cost of utility to arrive at the net cost of utility.

The total cost of a utility is to be adjusted for the cost of utility supplied to outside parties if the its cost is material and quantifiable. Credit should also be given for the recovery made for the utility consumed by other units such as township and the like. The net cost arrived at, be then charged to the different units benefitted by the use of a utility.

Example:

- (1) Where a unit has a township/colony, electricity and water charges recovered for its use may be credited to the cost of these utilities and net cost distributed to production centres.
- (2) If utility is sold by Unit A to outside parties, credit is to be given to the cost of utility at price of utility sold to outside parties (i.e. cost of utility including distribution +administrative Overhead+ Marketing Overhead and Margin)

5.13 Any change in the cost accounting principles applied for the measurement of the cost of utilities shall 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 organisation.

Cost accounting principle applied for measurement of the cost of utilities should be followed consistently and uniformly among different utilities and period. Change in cost accounting principle should be made only if required by law or for compliance with requirement of law. If various inputs are valued on FIFO basis, it should be followed consistently.





Chapter 4

Assignment of costs

6.1 While assigning cost of utilities, traceability to a cost object in an economically feasible manner shall be the guiding principle.

The cost of utilities is to be assigned to the end user/ cost objects on the basis of traceability to a cost object. Cost Object as defined under paragraph 4.3 includes a product, service, cost centre, activity, sub-activity, project, contract, customer or distribution channel or any other unit in relation to which utility costs are to be ascertained. The meter installed for recording consumption of utility is the right source of traceability of cost of utility for a cost object. If no meters are provided, the cost of utilities is to be assigned on the basis of rated capacity, wattage, horse power of machines, area volume or on technical assessment. The basis adopted for assigning cost of utility should be economically feasible. Economic feasible means cost effectiveness in the sense that cost accounting is not too expensive in relation to expected benefits. Basis of assignment varies with each utility as detailed below:

Power: The power consumed by each cost object /activity/sub-activity is to be assigned on the basis of meter reading. Current period reading minus previous period reading indicates the units consumed by the cost object and multiplying with utility rate, total cost of the utility is assigned.

If no meters are provided, the cost is assigned on the basis of, kw or horse power of machines, as discussed earlier. This practice applies for other utilities

6.2 Where the cost of utilities is not directly traceable to cost object, it shall be assigned on the most appropriate basis.

The cost of utilities is to be assigned on the basis of meter reading which is more reliable. In case meters have not been installed, it should be assessed on technical estimate based on equipment rating, area, volume, and the like.

For example:

For Product A, in the absence of meter, utility required may be assigned based on product requirement as per technical estimate.



6.3 *The most appropriate basis of distribution of cost of a utility to the departments consuming services is to be derived from usage parameters.*

In the absence of meter, utility is to be distributed to the consuming departments based on usage parameters such as stated in the project report, technical estimates taking into account the equipment rating capacity, space, volume and the like .The project report of the plant lays down various usage requirement of utility, and the same should also be taken into account while assigning the utility consumption.

**Chapter 5****Presentation****7.1 Utilities costs shall be presented as a separate cost head for each type of utility in the cost statement, if material.**

The cost statement should indicate the details of each utility separately, if material, as detailed below:

Cost statement of A Product				
Particulars	Unit	Qty	Rate/Per unit	Amount(Rs)
Material consumed	Xx	Xx		Xx
Utilities				
Water	KL	62500	1.50	93750
Dm Water	KL	3560	3.00	10680
Power	Kwh	615780	4.00	2463120
Steam	MT	2560	780.00	1996800

In the context of cost statement, Materiality is to be judged in terms of nature, quantity and cost of utility. A piece of information is material, if its omission/non-disclosure could influence the decision of the user. If a utility is not material, it may be shown under production overhead.

For utilities (such as steam, hot water, thermic fluid) produced with heat recovery system, separate cost statement shall be prepared giving details of cost elements.

7.2 Where separate cost statements are prepared for utilities, cost of utilities shall be classified as purchased or generated. Such statement shall also include cost of utilities consumed along with quantitative information by individual consuming units, inter unit transfers, inter company transfers and sale to outside parties wherever applicable.

If a utility is purchased and generated, purchase value of the units purchased and cost of units generated is to be indicated in the cost statement separately. Weighted average rate is to be used for assigning the cost of utility to the user departments. The cost statement should also furnish distribution of utility to users departments, inter unit transfers, inter company transfers



and sale to outside parties. The information is to be furnished both in quantity and value. Cost of utility is to be assigned as provided under para 6 above.

**Chapter 6****Disclosures****8.1 The cost statements shall disclose the following:****8.1.1 The basis of distribution of Cost of Utility to the consuming centres.**

The basis of distribution of cost of utility to the consuming centre adopted is to be disclosed in the cost statement. Normally it will be based on meter readings of period/technical estimates, area, etc as detailed in the table below

Power	Basis	Units (KWH)	Amount
Production Deptt A	Meter reading	5700	23370
Production Deptt B	Meter reading	3560	14596
Utility : Water	Meter reading	1000	4100
Air-conditioning	Meter reading	2300	9430
Others	Meter reading	1500	6150
	Total	14060	57646
Steam	Basis	M.Tons	Amount
Power House	Meter Reading		
Production Deptt A	Meter Reading		
Production Deptt B	Meter Reading		
	Total		
Air Conditioning	Basis		
Production	Volume		
Design & Drawing	Volume		
Administration	Volume		
Sales Department	Volume		

8.1.2 The cost of purchase, production, distribution, marketing and price with reference to sales to outside parties.



If a utility purchased as well as generated is sold to outside parties, the utility cost statement should disclose the following details

Particulars	Units	Rate	Amount
POWER			
Purchased			
Generated			
Total			
Less Distribution loss			
Net units			
Distribution			
Deptt A			
Deptt B			
Other			
Outside parties			
Total			
Sale to outside parties			
Cost of generation & Distribution			
Add: Administrative Overhead			
Add: Marketing & Distribution cost			
Total			
Sale Price			

For Example

Disclosure: During the period, unit has sold 5680 KWH units to outside parties @ Rs 6.50 per KWH against cost of sales (including marketing and distribution cost) of Rs 5.10 per KWH.

8.1.3 Where cost of utilities is disclosed at standard cost, the price and usage variances.



In case standard costing technique is used, cost statement of a utility should disclose price and usage variance separately relating to various inputs. Variances should be indicated in the cost statement. Abnormal variance are to be excluded and indicated in the cost statement as a foot note.

A cost statement indicating the variance is at **Annexure 3**.

8.1.4. The cost and price of Utility received from/supplied to related parties.

If any utility is procured from or supplied to related parties(as defined under the Companies (Accounting Standards) Rules, 2006) its relationship, nature of transaction viz quantity, rate, other terms/ conditions of procurement are to be disclosed. The objective of disclosure is to ascertain that the transaction is at arm's length and on purely commercial terms.

Example

Related party → XYZ Ltd

Nature of relationship → *We and our* subsidiaries own 51 percent of their Equity.

Nature of transactions: XYZ Ltd supplies power

Volume of transaction: During this year2500 KWH units of power were supplied @ Rs. 4.50 per KWH for Rs 11250.

8.1.5 The cost and price of Utility received from/supplied as inter unit transfers and inter company transfers

Inter unit transfers/inter company transfers relating to utility received/supplied is to be disclosed in the cost statement or as a foot note. It should indicate cost of a utility supplied and price of a utility purchased. In case of inter-unit transfers, utility should be at cost. if inter utility transfer is at selling price, difference between cost and price to be indicated as a footnote in the cost statement of a product. In case of inter company transfers, if utility is charged at price in the cost statement, details of cost should be furnished by a footnote.

For Example:

(1)Main Steel plant has supplied coke oven gas to Tubes Plant at cost of Rs xxx per cub meter.



(2) Company A has sold power 6500 KWH to Company B at a selling price of Rs 5.00 per KWH against cost of sales of Rs 3.75 per KWH.

Cost of Production per KWH Rs 3.50

Selling & Distribution per KWH Rs 0.25

Cost of Sales per KWH ... Rs 3.75

8.1.6 Cost of utilities incurred in foreign exchange.

Cost of inputs for a utility incurred in foreign exchange is to be disclosed by way of footnote in the cost statement of the utility.

For Example:

Unit has captive thermal power plant. It has imported 1500 MT coke valued in foreign exchange US \$ xxxxx during the current year.

8.1.7 Any Subsidy/Grant/Incentive and any such payment reduced from Cost of utilities.

Any subsidy/grant/incentive received relating to utilities is to be reduced from the cost of utilities and disclosure made accordingly by way of a foot note.

Example

The State Government has been subsidizing setting up of non-conventional energy plant/its use. Such subsidies received and receivable are to be reduced from the cost of utility.

Example: Unit has set up wind plant and received subsidy of Rs 10.0 lakhs. This has been reduced from the capital cost of the plant and resulting in lower depreciation of Rsxxxx.

8.1.8 Credits/recoveries relating to the Cost of utilities.

If any credit or recovery considered while determining the cost of utility, the same should be disclosed in the body of the cost statement.

8.1.9 Any abnormal cost excluded from Cost of utilities.

Abnormal cost is to be excluded from the cost of utilities as the same has not contributed to the production of utilities. Disclosure is to be made by way of foot note in the cost statement.



For example: During the year there was theft of 300 Tons of coal valued at Rs xxxx. The same has been excluded from the cost of the power generated. .

8.1.10 Penalties and damages paid etc. excluded from cost of utilities.

Penalties and damages paid are not an item of cost as these are levied for non compliance with regulatory /contractual requirements. These are to be excluded from cost and disclosure made as a footnote in the cost statement.

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

Cost Accounting principles, and methods applied for the measurement and assignment of cost of utilities are to be applied consistently between one period and uniformly applied for different utilities. If any change is made in these principles and methods results in material effect on the cost of utilities, the same should be disclosed in the cost statement or by a foot note. In case the impact of change in principles and methods of cost accounting is not ascertainable, the fact is to be disclosed by a note to the cost statements.

For Example:

(1) Heat recovery steam partly used for drying process was charged at of the normal steam rate. It has been changed to charging Heat recovery steam at equivalent calorific value of furnace oil used resulting in higher charges to dry process of Rs xxx and higher credit to steam.

(2) Steam to various cost centres was being assigned on technical estimates. During the current period, meters have been installed and the cost of steam has been assigned on the basis of meter reading.

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

Level of materiality and significance has not been stated in the standard. As stated in para 7.1 Material and significance of an information will be different from situation to situation.



Materiality of cost information is to be judged from the perspective of the users of that information. If material, the same is to be disclosed.

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

Disclosure in the body of cost statement will depend on cost of each utility. If it forms material part of the cost of the utility, the same should be disclosed in the cost statement. Disclosures may also be by way of foot note.



Annexure 1

CLASSIFICATION OF UTILITY

Power	Purchased Power Generated Power (stand alone) Co Generation
Water	Raw Water Treated water Demineralized water Distilled water/softening water Chilled/cold water Hot water
Steam	Low Pressure steam High pressure steam
Climatic control	Air conditioning Humidification Air Handling units
Air	Compressed Air Instrument Air (Vacuum) Oxygen Gas Nitrogen gas , Hydrogenation



Annexure 2

Illustration of Steam Cost

RAW MATERIAL	UNIT	Qty	RATE	AMOUNT	COST PER MT
COAL	MT	9380.00	4386.25	411.43	742.85
COAL HANDLING CHARGES				3.5	6.32
DIESEL OIL EXPENSES FOR LOADER				5.5	9.93
COAL COSUMPTION\ASH SALE				-6.28	-11.34
SIDING EXPENSES				1.67	3.01
ENTRY TAX				6.25	11.28
RAW MTRL TOTAL				422.07	762.05
CHEMICALS					
LIME	MT	11.85	3460.21	0.41	0.74
CAUSTIC SODA	MT	11.85	27512.87	3.26	5.89
H C L	MT	67.94	3694.60	2.51	4.53
RESIN-FFIP	LT	118.50	151.91	0.18	0.32
SULPHURIC ACID	LT	2.37	8438.82	0.2	0.36
CHLORINE	LT	1.58	7594.94	0.12	0.22
SODIUM SULPHATE	KG	19.75	151.91	0.03	0.05
OTHERS		0.00	1.00	1.65	2.98
CHEMICAL TOTAL				8.36	15.09
POWER	KW	871172.00	2.79	24.3	43.87
WATER	KL	49003.00	2.72	1.33	2.40
TOTAL VARIABLE COST				456.06	823.41
FIXED COST					
EMPLOYEES				8.04	14.52
DEPRECIATION				4.5	8.12
OTHERS				1.2	2.17
TOTAL FIXED COST				13.74	24.81
TOTAL COST (VARIABLE+FIXED)				469.80	848.24



Annexure 3

Examples of Steam cost – Transfer to Other units

Steam cost per tonne works out to Rs 471.09 as illustrated under Annexure 2. If steam is transferred to other unit, distribution cost will be in addition to the above cost as illustrated below

1	Steam generation cost as 5.3.1 above	Rs 471.09 Per MT	
2	Distribution cost :	Per MT	
	Operation & Main tenance cost of distribution line	Rs 1.00	
	Depreciation	Rs 0.75	
	Other	<u>Rs 0.75</u>	
	Total Distribution cost	Rs 2.50	
3.	Inter Unit transfer cost	Rs. 473.59	

Cost of a utility determined as per para 5.3.2 plus share of administrative overhead to be charged.

Example:

Inter Company transfer price

1. Cost of steam generation as para 5.3.1.	Rs 471.09 per MT
2. Distribution cost	Rs 2.50 per MT



3.Share of Administrative Overheads	Rs 0.50 per MT
4.inter company transfer, cost of utility	Rs 474.09 per MT

Example of Sale of Utility

1.	Cost of steam generation as para 5.3.1.	Rs 471.09 per MT
2	Distribution cost	Rs 2.50 per MT
3	Share of Administrative Overheads	Rs 0.50 per MT
4	Marketing overhead	Rs 0.75 per MT
5.	Cost of Sales	Rs 474.80 per MT
6	Margin	Rs 2.20 per MT
7	Sales to outside parties	Rs 477.00 per MT

Illustration : Determination of Abnormal Cost due to low capacity Utilisation	
Installed capacity Power Plant	400,000 kwh
Normal Capacity fixed after accounting for normal unavoidable interruptions	366,000 kwh
Generation of Power:	
2007-08	370,000
2008-09	340,000
Generation during 2008-09 was low due to strike for 30 days.	
Therefore it was decided by the management to remove cost portion of fixed overheads incurred	



during the strike period and the same was shown as a reconciliation item (Abnormal Overhead) in the Profit Reconciliation Statement for Profit as per Cost Accounts and Profit as per financial Account. Detailed working is as under:

(A) Variable Cost	Rs 11,90,000
(B) Fixed Overheads for the year based on Normal Capacity of	Rs 7,32,000
(C) Abnormal Fixed Overhead due to unutilised capacity	Rs 61,000
(D) Share of Fixed Overhead for Actual Production (B-C)	Rs 671,000
Cost of generation after excluding low utilisation cost	
(a) Variable cost	Rs 11,90,000
(b) Fixed Overhead for actual production	Rs 6,71,000
(c) Total	Rs 1,861,000
Units produced	340000 kwh
Cost per unit (KWH) $\text{Rs } 1861000/340000$	Rs 5.53 kwh
Fixed Overhead unabsorbed (treated as an item of reconciliation between Costing P&L A/c & Financial A/c)	Rs 61,000



(CAS-8)

COST ACCOUNTING STANDARD ON COST OF UTILITIES

The following is the COST ACCOUNTING STANDARD – 8 (CAS-8) issued by the Council of The Institute of Cost and Works Accountants of India on “COST OF UTILITIES”, for comments. In this Standard, the standard portions have been set in ***bold italic*** type. This standard should be read in the context of the background material which has been set in normal type.

1. Introduction

1.1 This standard deals with the principles and methods of determining the cost of utilities.

1.2 *This standard deals with the principles and methods of classification, measurement and assignment of cost of utilities, for determination of the cost of product or service, and the presentation and disclosure in cost statements.*

2. Objective

The objective of this standard is to bring uniformity and consistency in the principles and methods of determining the cost of utilities with reasonable accuracy.

3. Scope

3.1 *This standard shall be applied to cost statements which require classification, measurement, assignment, presentation and disclosure of cost of utilities including those requiring attestation.*

3.2 *For determining the cost of production to arrive at an assessable value of excisable utilities used for captive consumption, Cost Accounting Standard 4 on Cost of Production for Captive Consumption (CAS 4) shall apply.*

3.3 *This standard shall not be applicable to the organizations primarily engaged in generation and sale of utilities.*



3.4 This standard does not cover issues related to the ascertainment and treatment of carbon credits, which shall be dealt with in a separate standard.

4. Definitions

The following terms are being used in this standard with the meaning specified.

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 operation.¹

4.2 Committed Cost: The cost of maintaining stand-by utilities shall be the committed cost.

4.3 Cost Object: This includes a product, service, cost centre, activity, sub-activity, project, contract, customer or distribution channel or any other unit in relation to which costs are ascertained.²

4.4 Finance Costs: Costs incurred by an enterprise in connection with the borrowing of funds. This will include interest and commitment charges on bank borrowings, other short term and long term borrowings, amortisation of discounts or premium related to borrowings, amortisation of ancillary cost incurred in connection with the arrangements of borrowings, finance charges in respect of finance leases, other similar arrangements and exchange differences arising from foreign currency borrowings to the extent they are regarded as an adjustment to the interest costs³. The terms Finance costs and Borrowing costs are used interchangeably.

4.5 Imputed Costs: Hypothetical or notional costs, not involving cash outlay, computed for any purpose.⁴

¹ Adapted from CAS 1 paragraph 6.5.19

² Adapted from CIMA Terminology

³ Adapted from CIMA Terminology

⁴ Adapted from CAS 1 paragraph 6.5.13



4.6 Normal capacity: *Normal Capacity is the production achieved or achievable on an average over a number of periods or seasons under normal circumstances taking into account the loss of capacity resulting from planned maintenance.*⁵

In case of any standby utility the normal capacity will be the same as actual production of the utility.

The normal capacity of a utility meant for captive consumption would be based on the normal capacity for the production facility of the end product of the consuming unit.

4.7 Standard Cost: *A predetermined cost of resource inputs for the cost object computed with reference to set of technical specifications and efficient operating conditions.*

Standard costs are used as scale of reference to compare the actual costs with the standard cost with a view to determine the variances, if any, and analyse the causes of variances and take proper measure to control them. Standard costs are also used for estimation.

4.8 Utilities: *Significant inputs such as power, steam, water, compressed air and the like which are used for manufacturing process but do not form part of the final product.*

4.9 Stand-by utilities: *Any utility created to safeguard against the failure of the main source of inputs.*

5. Principles of measurement

5.1 *Each type of utility shall be treated as a distinct cost object.*

5.2 *Cost of utilities purchased shall be measured at cost of purchase including duties and taxes, transportation cost, insurance and other expenditure directly attributable to procurement (net of trade discounts, rebates, taxes and duties refundable or to be credited) that can be quantified with reasonable accuracy at the time of acquisition.*

⁵ Adapted from CAS 2 paragraph 4.4



5.3.1 Cost of self generated utilities for own consumption shall comprise direct material cost, direct employee cost, direct expenses and factory overheads.

5.3.2 In case of Utilities generated for the purpose of inter unit transfers, the distribution cost incurred for such transfers shall be added to the cost of utilities determined as per paragraph 5.3.1.

5.3.3 Cost of Utilities generated for the inter company transfers shall comprise direct material cost, direct employee cost, direct expenses, factory overheads, distribution cost and share of administrative overheads.

5.3.4 Cost of Utilities generated for the sale to outside parties shall comprise direct material cost, direct employee cost, direct expenses, factory overheads, distribution cost, share of administrative overheads and marketing overheads.

The sale value of such utilities will also include the margin.

5.4 Finance costs incurred in connection with the utilities shall not form part of cost of utilities.

5.5 The cost of utilities shall include the cost of distribution of such utilities.

The cost of distribution will consist of the cost of delivery of utilities up to the point of consumption.

5.6 Cost of utilities shall not include imputed costs.

5.7 Where cost of utilities is accounted at standard cost, the price variances related to utilities shall be treated as part of cost of utilities and the portion of usage variances due to normal reasons shall be treated as part of cost of utilities. Usage variances due to abnormal reasons shall be treated as part of abnormal cost.



5.8 Any Subsidy/Grant/Incentive or any such payment received/receivable with respect to any cost of utilities shall be reduced for ascertainment of the cost to which such amounts are related.

5.9 The cost of production and distribution of utilities shall be determined based on the normal capacity or actual capacity utilization whichever is higher and unabsorbed cost, if any, shall be treated as abnormal cost⁶. Cost of a Stand-by Utility shall include the committed costs of maintaining such a utility.

5.10 Any abnormal cost where it is material and quantifiable shall not form part of the cost of utilities.

5.11 Penalties, damages paid to statutory authorities or other third parties shall not form part of the cost of utilities.

5.12 Credits/recoveries relating to the utilities including cost of utilities provided to outside parties, material and quantifiable, shall be deducted from the total cost of utility to arrive at the net cost of utility.

5.13 Any change in the cost accounting principles applied for the measurement of the cost of utilities 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 organisation.

6. Assignment of costs

6.1 While assigning cost of utilities, traceability to a cost object in an economically feasible manner shall be the guiding principle.

6.2 Where the cost of utilities is not directly traceable to cost object, it shall be assigned on the most appropriate basis.

⁶ Adapted from paragraph 5.7 of CAS 3



6.3 The most appropriate basis of distribution of cost of a utility to the departments consuming services is to be derived from usage parameters.

7. Presentation

7.1 Utilities costs shall be presented as a separate cost head for each type of utility in the cost statement, if material.

7.2 Where separate cost statements are prepared for utilities, cost of utilities shall be classified as purchased or generated. Such statement shall also include cost of utilities consumed along with quantitative information by individual consuming units, inter unit transfers, inter company transfers and sale to outside parties wherever applicable.

8. Disclosures

8.1 The cost statements shall disclose the following:

- 1. The basis of distribution of Cost of Utility to the consuming centres.**
- 2. The cost of purchase, production, distribution, marketing and price with reference to sales to outside parties.**
- 3. Where cost of utilities is disclosed at standard cost, the price and usage variances.**
- 4. The cost and price of Utility received from/supplied to related parties⁷.**
- 5. The cost and price of Utility received from/supplied as inter unit transfers and inter company transfers**
- 6. Cost of utilities incurred in foreign exchange.**
- 7. Any Subsidy/Grant/Incentive and any such payment reduced from Cost of utilities.**
- 8. Credits/recoveries relating to the Cost of utilities.**
- 9. Any abnormal cost excluded from Cost of utilities.**
- 10. Penalties and damages paid etc excluded from cost of utilities.**

⁷ Related party as per the applicable legal requirements relating to the cost statement as on the date of the statement



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

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

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