

Component:	Assets / Inventory (IAS 2) and Expenses (IAS 2)
Short title:	Treatment and disclosure of idle capacity variances in the income statement

Issue

Metals companies often operate at below normal capacity. This leads to two questions:

1. are costs associated with idle capacity included in inventory?
2. if not, how should they be presented in the income statement?

Solution

The allocation of fixed production overheads to the costs of conversion is based on the normal capacity of the production facilities. Normal capacity is the production expected to be achieved on average over a number of periods or seasons under normal circumstances, taking into account the loss of capacity resulting from planned maintenance. The actual level of production may be used if it approximates normal capacity [IAS 2.13].

Idle capacity variances should be presented as part of cost of sales, but not treated as part of production overheads for the purposes of inventory valuation.

The amount of fixed overhead allocated to each unit of production is not increased as a consequence of low production or idle plant. Therefore, unallocated overheads are recognised as an expense in the period in which they are incurred [IAS 2.13].

For an illustrative example please refer to the Appendix 1A "Overhead allocation at below normal (idle) capacity".

Please note that the examples reflect only one method of systematic allocation and do not represent the only method by which overhead costs may be allocated.

Appendix 1A "Overhead allocation at below normal (idle) capacity"

Where an entity operates at normal capacity, overhead costs would normally be included in inventory and later recognised as cost of sales when the product is sold. The requirement of IAS 2 effectively accelerates the recognition of these costs in the income statement.

The following example demonstrates how to allocate overhead cost to inventory when operating at below normal capacity and is also used in Appendix 1B, for consistency.

a) Fixed production overheads are 3,000, made up of the following:

Factory manager's wage	1,500
Other fixed production overheads	1,500

Variable production overhead costs are 2.50/unit and total 1,875, made up of the following:

Indirect labour	1,125
Indirect materials, supplies	750

b) Direct costs are 7,500

c) Overhead recovery rate = Fixed production overhead / Direct costs
 = 3,000/7,500
 = 40%

The overhead recovery rate indicates the rate at which overhead is recovered in relation to direct production cost. In this example, the overhead recovery rate is 40%, implying that for each cost unit of direct production incurred, an additional 0.40 cost units of production overhead are incurred and recovered when operating at below normal capacity. However, IAS 2.13 states that the amount of overhead allocated to each unit of production is not increased as a consequence of low production or idle plant. We would therefore revert to the overhead recovered when operating at normal capacity, being 30%, by adjusting our calculation of actual capacity utilized (i.e. 75%).

d) Normal capacity = 1,000 units
 Theoretical capacity = 1,200 units
 Actual capacity utilized = 750 units (75% of normal capacity)

Normal capacity is 83% of theoretical capacity. In practice, normal capacity is the true "full" capacity level – the theoretical level is ignored when allocating fixed production overheads. The typical plant is designed under specific conditions which technologically enable it to produce at a theoretical production level or capacity. In practice, however, the actual plant capabilities envisage a normal production capacity, which effectively represents the full or maximum capacity and is generally below the theoretical capacity level.

e) Production overhead recognised as part of cost of inventory is:
 = Direct costs x overhead recovery rate x actual capacity utilization rate
 = 7,500 x 40% x 75%
 = 2,250

Therefore, the fixed overhead cost per unit is:

$$\begin{aligned}
 &= \text{Fixed production overhead recognised as inventory} / \\
 &\quad \text{actual units produced} \\
 &= 2,250/750 \\
 &= 3.0
 \end{aligned}$$

As indicated above, the amount of fixed overhead allocated to each unit of production is not increased as a consequence of low production or idle plant [IAS 2.13]. Consequently, the cost per unit is 3.0, which is the same as it is when operating at normal capacity. We would have arrived at the same cost allocation had we simply applied the normal recovery rate of 30% to direct costs incurred (i.e., $7,500 \times 30\% = 2,250$).

Variable production overheads are fully allocated to the cost of inventory (i.e., $1,875/750 = 2.50/\text{unit}$).

In the determination of production overhead recognised as part of the cost of inventory, the production capacity is taken into account. In this case normal capacity is below (theoretically) full capacity. At normal capacity, conceptually, fixed production overhead is considered to be 100% efficient and is presumed to be fully employed in the production process, and is therefore fully recognised as part of the cost of inventory. However, once below normal capacity, production overhead costs are discounted for any shortfall and not considered to be fully engaged in the production process and therefore are not fully recognised as part of inventory cost.

f) Fixed production overhead recognised as an expense is:

$$\begin{aligned}
 &= \text{Total production overhead} - \text{production overhead allocated to} \\
 &\quad \text{production/inventory} \\
 &= 3,000 - 2,250 \\
 &= 750
 \end{aligned}$$

The remaining 750 is recognised as an expense in the income statement, as part of cost of sales. The 750 represents the portion of production overhead costs unallocated to inventories, as they are presumed to not contribute to the production process as a result of production being below normal capacity, whilst the fixed overhead cost is incurred – irrespective of the volume of production. In this case, the actual production is 25% below full capacity, which translates to a cost of 750 (i.e., $3,000 \times 25\% = 750$). If production was at 100% of normal capacity, the full amount of production overheads would be allocated to inventory. Therefore, the 750 essentially represents the portion of fixed production overheads not employed in the production process (cost of idle capacity) when operating at below normal capacity and therefore not contributing to bringing inventory to its present location and condition.