How do you determine normal capacity

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In calculating the cost of production, fixed overheads are assigned to units produced during the period using the normal capacity.

IAS-2, which deals with inventory valuation, defines normal capacity as "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".

There is no consensus among professional accountants on how the normal capacity should be determined.

Some take the position that the attainable capacity, which is the installed capacity adjusted for the loss of capacity due to the planned maintenance, is the normal capacity. They are comfortable with an objective measure, which is auditable. Attainable capacity does not meet the definition of normal capacity because it does not represent the production that the entity expects to achieve under normal circumstances. However, proponents of this approach take refuge under the last part of the definition which stipulates that the loss of capacity due to planned maintenance should be taken into consideration in determining the normal capacity. They argue that the clause, indirectly, provides a formula for calculating the normal capacity.

Some others consider the practical capacity as the normal capacity. Practical capacity represents the management's estimate of the capacity that the entity will use, at the maximum, under the normal circumstances. An entity decides the practical capacity at the time of acquisition of the capacity. For example, at the time of acquisition of a machine, the entity estimates that it would produce 80,000 units at the maximum in any accounting year. The practical capacity is 80,000 units per annum. The attainable capacity may be higher than that. The gap between the installed capacity and practical capacity might arise due to number of reasons. For example, if the capacity of the smallest machine is 1 million units, the entity has no option but to acquire the capacity of 1 million units, although it estimates practical capacity at 80,000 units.

Those who use the practical capacity as the normal capacity, argue that even if the firm is unable to achieve the practical capacity consistently over number of years, fixed overheads should be assigned to units produced on the basis of the practical capacity. The under-absorption of overheads should be presented in internal reports as a loss attributed to the idle capacity. In the profit and loss account (external reporting), the loss is recognised in the current year because inventories of finished goods and work-in-progress are valued on that basis.

They also argue that, when the entity operates below the practical capacity, assignment of fixed overheads based on the actual production, leads the entity into a 'death spiral' (the term used by Robert S. Kaplan). Use of actual production in assigning fixed overheads results in higher production cost and consequently lowers product profitability. This has a behavioural consequence. Managers lose incentive to improve efficiency and reduce cost for a product that fails to meet the profitability target. Successive reduction in production and consequent increase in product cost will ultimately kill the product.

Practical capacity does not meet the definition of the normal capacity. It is management's estimate of maximum product and not average production to be achieved.

Moreover management's estimate was made at the time of acquisition of the capacity based on the then prevailing circumstances. Normal capacity should represent management's present estimate of the production to be achieved over number of periods in future based on management's perception of normal circumstances that will prevail in future. It may be higher or lower than the practical capacity estimated at the time of the acquisition of capacity.

Information based on production cost determined using the practical capacity is a fiction because it fails to takes into account changes occurred in the environment during the intervening period.

Conclusion
Normal capacity is specific to the entity. It should be based on its strategic and operational objectives. Once established, it should not be adjusted for temporary variations between actual production and normal capacity. It should be reviewed periodically. The frequency of review depends on the dynamics of the environment in which the firm operates and its internal environment.

Standard setters may consider deleting the last part of the definition or should provide further guidance on the issue.