



Munich Personal RePEc Archive

IAS 16 Property, Plant and Equipment - A Closer Look

Muthupandian, K S

The Institute of Cost and Works Accountants of India

20 March 2009

Online at <https://mpra.ub.uni-muenchen.de/39902/>
MPRA Paper No. 39902, posted 08 Jul 2012 07:29 UTC

IAS 16

Property, Plant And Equipment

– A Closer Look

K.S.Muthupandian*

International Accounting Standard (IAS) 16, *Property, Plant and Equipment*, prescribes the accounting treatment for Property, Plant and Equipment. In August 1980, the International Accounting Standards Committee (IASC) issued the Exposure Draft E18, *Accounting for Property, Plant and Equipment in the Context of the Historical Cost System*. In March 1982, the IASC issued IAS 16, *Accounting for Property, Plant and Equipment*, effective January 1, 1983. In May 1992, the IASC issued Exposure Draft E43, *Property, Plant and Equipment*. The IASC issued revised IAS 16, *Accounting for Property, Plant and Equipment*, in December 1993, as part of the 'Comparability of Financial Statements' project based on E32. The effective date was fixed as January 1, 1995. In 1998, IAS 16 revised by IAS 36, *Impairment of Assets*. The effective date of 1998 revisions to IAS 16 was fixed as January 1, 1999. On December 18, 2003, the International Accounting Standards Board (IASB) issued the revised version of IAS 16. The effective date was fixed as January 1, 2005. On May 22, 2008, the IASB amended IAS 16 for 'Annual Improvements to International Financial Reporting Standards (IFRS) 2007'. The effective date of May 2008 amendment to IFRS 5, *Non-current Assets held for Sale and Discontinued Operations*, was fixed as January 1, 2009.

Objective

The objective of IAS 16 is to prescribe the accounting treatment for Property, Plant and Equipment (PPE) so that users of the financial statements can discern information about an entity's investment in its PPE and the changes in such investment. The principal issues in accounting for PPE are the recognition of the assets, the determination of their carrying amounts, and the associated depreciation charges and impairment losses to be recognized in relation to them.

***M.Com., AICWA and Member of Tamil Nadu State Treasuries and Accounts Service, presently working as Treasury Officer, Ramanathapuram District, Tamil Nadu. Email: ksmuthupandian@ymail.com**

Scope and Application

IAS 16 shall be applied in accounting for PPE except for:

- PPE classified as held for sale in accordance with IFRS 5
- biological assets related to agricultural activity (IAS 41, *Agriculture*)
- recognition and measurement of exploration and evaluation assets
- mineral rights and mineral reserves such as oil, natural gas and similar non-regenerative resources
- items of PPE where another standard requires or permits a different accounting treatment (e.g. IAS 17, *Leases* and IAS 40, *Investment property*)

Key Definitions

Cost is the amount of cash or cash equivalents paid or the fair value of the other consideration given to acquire an asset at the time of its acquisition or construction.

Depreciable amount is the cost of an asset, or other amount substituted for cost, less its residual value.

Fair value is the amount for which an asset could be exchanged between knowledgeable, willing parties in an arm's length transaction.

An **impairment loss** is the amount by which the carrying amount of an asset exceeds its recoverable amount.

PPE are tangible items that are:

- held for use in the production or supply of goods or services, for rental to others, or for administrative purposes
- expected to be used during more than one period

Recoverable amount is the higher of an asset's net selling price and its value in use.

Residual value is the estimated amount that an entity would currently obtain from disposal of the asset, after deducting the estimated costs of disposal, if the asset were already of the age and in the condition expected at the end of its useful life.

Useful life is the period over which an asset is expected to be available for use by an entity or the number of production or similar units expected to be obtained from the asset by an entity.

Recognition

Items of PPE should be recognised as assets when it is probable that:

- the future economic benefits associated with the asset will flow to the enterprise;
- and
- the cost of the asset can be measured reliably.

This recognition principle is applied to all PPE costs at the time they are incurred. These costs include costs incurred initially to acquire or construct an item of PPE and costs incurred subsequently to add to, replace part of, or service it.

IAS 16 does not prescribe the unit of measure for recognition – what constitutes an item of PPE.

IAS 16 recognises that parts of some items of PPE may require replacement at regular intervals. The carrying amount of an item of PPE will include the cost of replacing the part of such an item when that cost is incurred if the recognition criteria (future benefits and measurement reliability) are met. The carrying amount of those parts that are replaced is derecognised in accordance with the derecognition provisions of this standard.

Also, continued operation of an item of PPE (for example, an aircraft) may require regular major inspections for faults regardless of whether parts of the item are replaced. When each major inspection is performed, its cost is recognised in the carrying amount of the item of PPE as a replacement if the recognition criteria are satisfied. If necessary, the estimated cost of a future similar inspection may be used as an indication of what the cost of the existing inspection component was when the item was acquired or constructed.

Initial recognition of PPE

IAS 16 requires that an item of PPE that qualifies for recognition as an asset is initially measured at its cost. Cost includes all costs necessary to bring the asset to working condition for its intended use.

Elements of Cost

The cost of an item of PPE comprises:

- (a) its purchase price, including import duties and non-refundable purchase taxes, after deducting trade discounts and rebates.
- (b) any costs directly attributable to bringing the asset to the location and condition necessary for it to be capable of operating in the manner intended by management.
- (c) the initial estimate of the costs of dismantling and removing the item and restoring the site on which it is located, the obligation for which an entity incurs either when the item is acquired or as a consequence of having used the item during a particular period for purposes other than to produce inventories during that period.

Examples of directly attributable costs are:

- (a) costs of employee benefits (as defined in IAS 19, *Employee Benefits*) arising directly from the construction or acquisition of the item of PPE;
- (b) costs of site preparation;
- (c) initial delivery and handling costs;
- (d) installation and assembly costs;
- (e) costs of testing whether the asset is functioning properly, after deducting the net proceeds from selling any items produced while bringing the asset to that location and condition (such as samples produced when testing equipment); and
- (f) professional fees.

The obligations for costs accounted for in accordance with IAS 2, *Inventories*, or IAS 16 are recognised and measured in accordance with IAS 37, *Provisions, Contingent Liabilities and Contingent Assets*.

Examples of costs that are not costs of an item of PPE are:

- (a) costs of opening a new facility;
- (b) costs of introducing a new product or service (including costs of advertising and promotional activities);
- (c) costs of conducting business in a new location or with a new class of customer (including costs of staff training); and
- (d) administration and other general overhead costs.

Recognition of costs in the carrying amount of an item of PPE ceases when the item is in the location and condition necessary for it to be capable of operating in the manner intended by management. Therefore, costs incurred in using or redeploying an item are not included in the carrying amount of that item. For example, the following costs are not included in the carrying amount of an item of PPE: (a) costs incurred while an item capable of operating in the manner intended by management has yet to be brought into use or is operated at less than full capacity; (b) initial operating losses, such as those incurred while demand for the item's output builds up; and (c) costs of relocating or reorganising part or all of an entity's operations.

If payment for an item of PPE is deferred, interest at a market rate must be recognised or imputed.

If an asset is acquired in exchange for another asset (whether similar or dissimilar in nature), the cost will be measured at the fair value unless (a) the exchange transaction lacks commercial substance or (b) the fair value of neither the asset received nor the asset given up is reliably measurable. If the acquired item is not measured at fair value, its cost is measured at the carrying amount of the asset given up.

Measurement of PPE subsequent to initial recognition

After initial recognition, the entity may choose between the cost model and the revaluation model as its accounting policy. The policy chosen shall be applied to an entire class of PPE.

Cost model: The carrying amount of each item within the entire class of PPE is its cost less any accumulated depreciation and less any accumulated impairment losses.

Revaluation model: The carrying amount of each item within the entire class of PPE is the fair value at the date of revaluation less any subsequent accumulated depreciation and any subsequent accumulated impairment losses. Revaluations are to be made with sufficient regularity that the carrying amount does not differ materially from that which would be determined using fair value at the reporting date.

The Revaluation Model

Under the revaluation model, revaluations should be carried out regularly, so that the carrying amount of an asset does not differ materially from its fair value at the balance sheet date. If an item is revalued, the entire class of assets to which that asset belongs should be revalued.

Changes in the carrying amount of an asset due to a revaluation are accounted for as follows:

- an increase in an asset's carrying amount is recognised by a direct credit to equity under the heading "revaluation reserve" unless the increase reverses a previously recognised revaluation decrease of the same asset, in which case the increase is recognised in profit or loss to the extent it reverses the previous profit or loss recognition.
- a decrease in an carrying amount is recognised in profit and loss unless the decrease reverses a previously recognized revaluation increase of the same asset, in which case the decrease is debited to the revaluation reserve to the extent that it reverses the previous revaluation increment.
- the relevant component of the revaluation reserve may be transferred to retained earnings when the item of PPE is derecognised. Such transfers are not made through profit or loss statement (that is, no "recycling" through profit or loss).
- the effect of taxes on income, if any, resulting from the revaluation of PPE are recognised and disclosed in accordance with IAS 12, *Income taxes*.

When an item of PPE is revalued, any accumulated depreciation at the date of the revaluation is treated in one of the following ways: (a) restated proportionately with the change in the gross carrying amount of the asset so that the carrying amount of the asset after revaluation equals its revalued amount.

This method is often used when an asset is revalued by means of applying an index to its depreciated replacement cost. (b) eliminated against the gross carrying amount of the asset and the net amount restated to the revalued amount of the asset. This method is often used for buildings. The amount of the adjustment arising on the restatement or elimination of accumulated depreciation forms part of the increase or decrease in carrying amount that is accounted for as per the following procedure:

The items within a class of PPE are revalued simultaneously to avoid selective revaluation of assets and the reporting of amounts in the financial statements that are a mixture of costs and values as at different dates. However, a class of assets may be revalued on a rolling basis provided revaluation of the class of assets is completed within a short period and provided the revaluations are kept up to date.

Depreciation of items of PPE

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

- each part of an item of PPE with a cost that is significant in relation to the total cost of the item shall be depreciated separately
- the depreciation charge for each period is recognised in profit or loss, unless it is included in the carrying amount of another asset such as inventory conversion costs (IAS 2) or the cost of an intangible asset (IAS 38, *Intangible assets*)
- the depreciation begins when the asset is available for use and continues until the asset is derecognised, even if it is idle.
- the depreciable amount of an asset (cost less prior depreciation, impairment, and residual value) is allocated on a systematic basis over the asset's useful life
- the method of depreciation used is to reflect the pattern in which the asset's future economic benefits are expected to be consumed by the entity
- the method must allocate the depreciable amount on a systematic basis over the life of the asset and can include the straight-line method, the units of production method or the diminishing balance method. Provided the method is applied consistently (unless there is a change in the expected pattern of the benefits), any method that reflects the pattern in which the entity expects to consume the future economic benefits relating to that asset can be used.
- the residual value and the useful life of an asset shall be reviewed at least at the end of each annual reporting period and, if expectations differ from previous estimates, the changes shall be accounted for prospectively as a change in an accounting estimate in accordance with IAS 8, *Accounting Policies, Changes in Accounting Estimates and Errors*.

- the method of depreciation shall be reviewed at least at the end of each annual reporting period and, if the pattern of consumption of benefits has changed, the method of depreciation shall be changed prospectively as a change in estimate under IAS 8.

- Although the future economic benefits of an asset are consumed by an entity principally through use, the following should also be considered in determining useful life:

- (i) The expected usage of the asset – i.e., the expected capacity or output;
- (ii) The expected physical wear and tear – this can be influenced by the extent of use as well as the repair and maintenance program, both while the asset is in use and when idle;
- (iii) Changes in market demand as well as technical or commercial obsolescence; and
- (iv) Legal and other limits on the use of the asset, for example the expiry of leases.

Recoverability of the Carrying Amount

IAS 36 is applied in determining whether an item of PPE is impaired and the determination of its recoverable amount. An item of PPE shall not be carried at more than recoverable amount. Recoverable amount is the higher of an asset's fair value less costs to sell and its value in use. Any claim of compensation from third parties for impaired items of PPE is included in the profit or loss account when the compensation becomes receivable. The cost of PPE restored, purchased or constructed as replacements for impairments or losses is determined in accordance with IAS 16.

Derecognition (Retirements and Disposals)

The carrying amount of an item of PPE shall be derecognized (removed from the balance sheet):

- (a) on disposal, or
- (b) when it is withdrawn from use and no future economic benefits are expected from its use or disposal.

The gain or loss arising from the derecognition of an item of PPE shall be determined as the difference between the net disposal proceeds, if any, and the carrying amount of the item and should be recognised in the income statement.

The gain or loss arising from derecognition of an item of PPE should be included in profit or loss when the item is derecognised. Gains shall not be classified as revenue

Separate Components

Some items of PPE comprise separate components with different useful lives. For example, an aero plane might itself have a life of 30 years while the seats and fabric in the interior only have a life of 5 years. In such situations the separate components should be capitalized as separate assets and each depreciated over their useful lives.

Major Inspection or Overhaul Costs

Normally all inspection and overhaul costs are expensed as they are incurred. However, to the extent that they satisfy the IAS16 rules for separate components, such costs should be capitalized separately as a non-current asset and depreciated over their useful lives. The seats and fabric in the aero plane in the above example show this rule in action. Every five years the cost of overhauling the interior of the plane should be capitalized as a non-current asset and depreciated over the five year period before the next overhaul is carried out.

Prescribed Disclosures

For each class of PPE, the required disclosures include:

- the measurement bases used to determine the gross carrying amount (e.g. cost or valuation)
- the depreciation methods used
- the useful lives or depreciation rates used
- the gross carrying amount and accumulated depreciation (aggregated with accumulated impairment losses) at the beginning and end of the period
- a detailed reconciliation of the carrying amount at the beginning and the end of the period, showing:

additions;
 disposals;
 acquisitions through business combinations;
 revaluation increases;
 impairment losses;
 reversals of impairment losses;
 depreciation;
 net foreign exchange differences on translation;
 other movements.

Required disclosures also include the:

- existence and amounts of restrictions on title, and PPE pledged as security for liabilities
- amount of expenditures recognised in the carrying amount of an item of PPE in course of its construction
- amount of contractual commitments for the acquisition of PPE
- amount of compensation from third parties for items of PPE that were impaired, lost or given up that is included in profit and loss

If PPE is stated at revalued amounts, certain additional disclosures are required:

- the effective date of the revaluation
- whether an independent valuer was involved
- the methods and significant assumptions in estimating fair values of items, including the extent to which observable active market prices or other valuation techniques were used

- for each revalued class of PPE, the carrying amount that would have been recognised had the assets been carried under the cost model
- the revaluation reserve, indicating the change for the period and any restrictions on the distribution of the balance to shareholders

Encouraged disclosures

- carrying amount of temporarily idle PPE.
- Gross carrying amount of any fully depreciated PPE that is still in use.
- carrying amount of PPE retired from active use and held for disposal.
- The fair value of PPE when it is materially different from the carrying amount of PPE held under the cost model.

May 2008 Amendment to IAS 16

IAS 16 has been amended to permit entities whose normal business is both renting and subsequently selling the same asset (leasing industry) to recognise both incomes from rental and from the subsequent sale as revenue. Currently, IAS 16 does not permit gains made to be included as part of revenue, when such assets are derecognised (i.e. sold). A consequential amendment to IAS 7 'Statement of cash flows' will also allow both rental and sale cash flows to be included as operating activities.

Comparison to Previous Standard

The major changes from the original IAS 16 are as follows.

Scope. This Standard clarifies that an entity is required to apply the principles of this Standard to items of PPE used to develop or maintain (a) biological assets and (b) mineral rights and mineral reserves such as oil, natural gas and similar non-regenerative resources.

Recognition-Subsequent Costs. An entity evaluates under the general recognition principle all PPE costs at the time they are incurred. Those costs include costs incurred initially to acquire or construct an item of PPE and costs incurred subsequently to add to, replace part of, or service an item. The previous version of IAS 16 contained two recognition principles. An entity applied the second recognition principle to subsequent costs.

Measurement at Recognition-Asset Dismantlement, Removal and Restoration Costs. The cost of an item of PPE includes the costs of its dismantlement, removal or restoration, the obligation for which an entity incurs as a consequence of installing the item. Its cost also includes the costs of its dismantlement, removal or restoration, the obligation for which an entity incurs as a consequence of using the item during a particular period for purposes other than to produce inventories during that period. The previous version of IAS 16 included within its scope only the costs incurred as a consequence of installing the item.

Measurement at Recognition-Asset Exchange Transactions. An entity is required to measure an item of PPE acquired in exchange for a non-monetary asset or assets, or a combination of monetary and non-monetary assets, at fair value unless the exchange transaction lacks commercial substance. Under the previous version of IAS 16, an entity measured such an acquired asset at fair value unless the exchanged assets were similar.

Measurement after Recognition-Revaluation Model. If fair value can be measured reliably, an entity may carry all items of PPE of a class at a revalued amount, which is the fair value of the items at the date of the revaluation less any subsequent accumulated depreciation and accumulated impairment losses. Under the previous version of IAS 16, use of revalued amounts did not depend on whether fair values were reliably measurable.

Depreciation-Unit of Measure. An entity is required to determine the depreciation charge separately for each significant part of an item of PPE. The previous version of IAS 16 did not as clearly set out this requirement.

Depreciation-Depreciable Amount. An entity is required to measure the residual value of an item of PPE as the amount it estimates it would receive currently for the asset if the asset were already of the age and in the condition expected at the end of its useful life. The previous version of IAS 16 did not specify whether the residual value was to be this amount or the amount, inclusive of the effects of inflation, that an entity expected to receive in the future on the asset's actual retirement date.

Depreciation-Depreciation Period. An entity is required to begin depreciating an item of PPE when it is available for use and to continue depreciating it until it is derecognised, even if during that period the item is idle. The previous version of IAS 16 did not specify when depreciation of an item began and specified that an entity should cease depreciating an item that it had retired from active use and was holding for disposal.

Derecognition-Derecognition Date. An entity is required to derecognise the carrying amount of an item of PPE that it disposes of on the date the criteria for the sale of goods in IAS 18 *Revenue* would be met. The previous version of IAS 16 did not require an entity to use those criteria to determine the date on which it derecognised the carrying amount of a disposed-of item of PPE. An entity is required to derecognise the carrying amount of a part of an item of PPE if that part has been replaced and the entity has included the cost of the replacement in the carrying amount of the item. The previous version of IAS 16 did not extend its derecognition principle to such parts; rather, its recognition principle for subsequent expenditures effectively precluded the cost of a replacement from being included in the carrying amount of the item.

Derecognition-Gain Classification. An entity cannot classify as revenue a gain it realises on the disposal of an item of PPE. The previous version of IAS 16 did not contain this provision.

SIC Interpretations

The Standing Interpretation Committee (SIC) of the IASB has issued the following three Interpretations relating to IAS 16:

- SIC 6 – *Costs of Modifying Existing Software*
- SIC 14 – *Property, Plant and Equipment – Compensation for the Impairment or Loss of Items.*
- SIC 23 – *Property, Plant and Equipment – Major Inspection and Overhaul Costs.*

These interpretations have been incorporated into the revised IAS 16.

Comparative Indian Standard

The Accounting Standard issued by the Institute of Chartered Accountants of India (ICAI) comparative to IAS 16 is AS 10, *Accounting for Fixed Assets*. AS 10 is based on the earlier IAS 16. AS 10 has now been revised to bring it in line with the current IAS 16. The revised AS 10 has been approved by the Council and the National Advisory Committee on Accounting Standards (NACAS). The major differences between these two standards are differences due to legal and regulatory environment. In India, the law governing the companies prescribes minimum rates of depreciation. Keeping this in view, the revised AS 10 recognises that depreciation rates prescribed by the statute would be the minimum rates of depreciation.

Conclusion

The IASB tentatively decided to clarify that IFRS 5 does not apply when assets are transferred to inventories which are held for sale in the ordinary course of business. IAS 16 obliges mining companies to account for and depreciate PPE on a parts basis and to further evaluate their useful life and residual value on at least an annual basis. These provisions of IAS 16 are threatening to slow down the pace at which mining houses can comply with and implement the changes in accounting standards.
