Accounting for Property, Plant and Equipment

Introduction
The accounting for property, plant and equipment requires the proper application of the matching rule through the resolution of two important issues. The first is how much of the total cost to allocate to expense in the current accounting period. The second is how much to retain on the balance sheet as an asset to benefit future periods. (Needles et al 2005, Note 1). They go on to state that to resolve these issues, four important questions about acquisition, use, and disposal of each asset must be answered:

1. How is the cost of the asset determined?
2. How should the expired portion of the cost be allocated against revenues over time?
3. How should subsequent expenditures, such as repairs and additions, be treated?
4. How should disposal of assets be recorded?

This article will attempt to answer these questions. It will also address the issue of revaluations (under question 1). It will not address the question of the relative importance of the amounts assigned to the income statement (the profit and loss paradigm) and the amounts assigned to the balance sheet (the balance sheet paradigm). In other words where there is a conflict is it more important to get the measure of the current use (income statement) correct or is the measure of future use (balance sheet) more important. Rather it will describe the requirements of GAAP.

**IAS 16 Property, Plant and Equipment** prescribes this accounting treatment, primarily dealing with the timing of recognition of the assets, their carrying amounts and associated depreciation. The standard applies in accounting for property, plant and equipment except when another standard requires or permits a different accounting treatment. An example where this applies includes: Property, plant and equipment classified as held for sale in accordance with IFRS 5 *Non current assets held for sale and discontinued operations*; IAS 17 *Leases* and IAS 40 *Investment Property*.

**IAS 16** defines Property, plant and equipment (PPE) as tangible items that are: held for use in the production or supply of goods or services, for rental to others, or for administrative purposes and expected to be used during more than one accounting period.
Cost is defined as 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 or, where applicable, the amount attributed to that asset when initially recognised in accordance with the specific requirements of other IFRSs, e.g. IFRS 2 *Share Based Payment*.

**Recognition:** The cost of an item of PPE shall be recognised as an asset if, and only if:

(a) it is probable that future economic benefits associated with the item will flow to the entity; and

(b) the cost of the item can be measured reliably.

**PPE is reported at carrying value:** it is the amount at which an asset is recognised after deducting any accumulated depreciation and accumulated impairment losses. It may be regarded as the unexpired part of the cost of the asset, not its market value. If a non-current asset loses some or all of its revenue generating potential before the end of its useful life, the asset may be deemed impaired, and its carrying value reduces. Asset impairment occurs when the sum of the expected cash flows from the asset is less than the carrying value of the asset. A reduction in carrying value as a result of impairment is recorded as a loss in the income statement as soon as it is deemed to have occurred.

An item of PPE that qualifies for recognition as an asset shall be measured at its cost. After recognition an entity shall choose as its accounting policy either the cost model or the revaluation model.

**Cost model:** After recognition, an item of PPE shall be carried at its cost less any accumulated depreciation and any accumulated impairment losses.

**Revaluation model:** After recognition an item of PPE whose fair value can be measured reliably shall be carried at a revalued amount, being its fair value at the date of revaluation less subsequent accumulated depreciation and subsequent accumulated impairment losses.

**How is the cost of the asset determined?**

The cost of an item of PPE comprises the cost of purchase, net of any trade discounts plus any import duties and non-refundable purchase taxes and 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.

These are costs that would have been avoided if the asset had not been purchased or constructed. General overhead costs cannot be allocated to the cost of PPE. Directly attributable costs include:

1. Costs of employee benefits arising directly from the construction or acquisition of the item of property, plant and equipment;
2. Costs of site preparation;
3. Initial delivery and handling costs;
4. Instillation and delivery costs;
5. 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,
6. Professional fees.

It can be seen that these costs are incurred prior to the use of the asset, and are necessary in order for the asset to be usable by the entity. ‘Necessary’ is strictly interpreted. Costs incurred because of error or any abnormal costs (for example, wasted material) cannot be included in the cost of PPE and must be written off as an expense.

Where these costs are incurred over a period of time (such as employee benefits), the period for which the costs can be included in the cost of PPE ends when the asset is ready for use, even if the asset is not brought into use until a later date. As soon as an asset is capable of operating it is ready for use. The fact that it may not operate at normal levels immediately, because demand has not yet built up, does not justify further capitalisation of costs in this period. IAS 16 does not deal with the issue of whether borrowing costs associated with the financing of a constructed asset can or should be regarded as a directly attributable cost of construction. This is not examinable in Financial Accounting, Formation 2 Stage but is relevant for later examination stages. IAS 23, Borrowing Costs requires (from January 2009) the inclusion of borrowing costs of qualifying assets as part of the cost of constructing the asset. “A qualifying asset is an asset that takes a substantial period of time to get ready for its intended use”.

In order to be consistent with the treatment of ‘other costs’, only those finance costs that would have been avoided if the asset had not been constructed are eligible for inclusion. If the entity has borrowed funds specifically to finance the construction of an asset, then the amount to be capitalised is the actual finance costs incurred. Where the borrowings form part of the general borrowing of the entity, then a capitalisation rate that represents the weighted average borrowing rate of the entity should be used.

Costs of ‘decommissioning’ an asset may be included where it is recognised as a provision under IAS 37, Provisions, Contingent Liabilities and Contingent Assets. The cost of the asset will include the best available estimate of the costs of dismantling and removing the item and restoring the site on which it is located, where the entity has incurred an obligation to incur such costs by the date on which the cost is initially established. In accordance with the principles of IAS 37, the amount to be capitalised in such circumstances would be the amount of foreseeable expenditure appropriately discounted where the effect is material.
Revaluation of Property, Plant and Equipment

As already stated IAS 16 allows entities the choice of two valuation models for PPE – the cost model or the revaluation model. Using the cost model requires PPE to be carried at cost less accumulated depreciation. The revaluation model means that assets are carried at a revalued amount, being its fair value at the date of revaluation less any subsequent accumulated depreciation and subsequent accumulated impairment losses. Fair value is defined as ‘the amount for which an asset could be exchanged between knowledgeable, willing parties in an arm’s length transaction’.

Each model needs to be applied consistently to all PPE of the same ‘class’. A class of assets is a grouping of assets that have a similar nature or function within the business. For example, properties would typically be one class of assets, and plant and equipment another. Additionally, if the revaluation model is chosen, the revaluations need to be kept up to date, although IAS 16 is not specific as to how often assets need to be revalued.

When the revaluation model is used, assets are carried at their revaluation gains.

Revaluation gains are recognised in equity unless they reverse revaluation losses on the same assets that were previously recognised in the income statement. In these circumstances, the revaluation gain is recognised in the income statement. Revaluation changes the depreciable amount of an asset so subsequent depreciation charges are affected.

Revaluation losses are recognised in the income statement. The only exception to this rule is where a revaluation surplus exists relating to a previous revaluation of that asset. To that extent, a revaluation loss can be recognised in equity.

How should the expired portion of the cost be allocated against revenues over time?

IAS 16 defines depreciation as ‘the systematic allocation of the depreciable amount of an asset over its useful life’. ‘Depreciable amount’ is the cost of an asset, or other amount substituted for cost, less residual value. Depreciation is not providing for loss of value of an asset, but is an accrual technique that allocates the depreciable amount to the periods expected to benefit from the asset. Therefore assets that are increasing in value still need to be depreciated. IAS 16 requires that depreciation should be recognised as an expense in the income statement, unless it is permitted to be included in the carrying amount of another asset. An example of this practice would be the possible inclusion of depreciation in the costs incurred on a construction contract that are carried forward and matched against future income from the contract, under the provisions of IAS 11, Construction Contracts.

A number of methods can be used to allocate depreciation to specific accounting periods. IAS 16 mentions three methods: the straight line method, the reducing (or diminishing) balance method and the units of production method. The
method used should reflect the pattern in which the asset’s future economic benefits are expected to be consumed by the entity. Therefore where it is clear that the economic benefits are expected to diminish over time the reducing balance method might be indicated. A change from one method to another is permissible only when the new method will give a fairer presentation of the results and of the financial position. A change in method does not constitute a change in accounting policy; it is a change in accounting estimate. Depreciation begins when the asset is available for use and continues until the asset is derecognised, even if it is idle.

The assessments of the useful life and residual value of an asset are subjective. They will only be known for certain after the asset is sold or scrapped, and this is too late for the purpose of computing annual depreciation. Therefore, IAS 16 requires that the estimates should be reviewed at the end of each reporting period. If either changes significantly, then that change should be accounted for over the remaining estimated useful economic life.

**How should subsequent expenditures, such as repairs and additions, be treated?**
Subsequent expenditure on PPE should only be capitalised if it results in the total economic benefits expected from the asset to increase above those expected on the original recognition. In general expenditure on extensions and other increases in capacity should be capitalised as economic benefits will be expected to increase.

All other subsequent expenditure should be recognised in the income statement because it only maintains the economic benefits originally expected.
In the case of complex assets, such as an aeroplane, where the engine might be treated as an asset separate from the airframe, subsequent expenditure on engine overhaul might be capitalised. For example an aeroplane may have an expected useful life of 25 years. However the engine requires major overhaul every 5 years. The plane costs €25m and €5m of this figure is estimated to be attributable to the economic benefits that are restored by the engine overhauls. Initially the plane is treated as two assets for depreciation purposes: €20m and €5m. The €20 is depreciated over 25 years; the €5m is depreciated over 5 years. Each subsequent overhaul expenditure is capitalised and depreciated over the following 5 years.

**How should disposal of assets be recorded?**
Derecognition of Property, plant and equipment.
An asset should be removed from the balance sheet on disposal or when it is withdrawn from use and no future economic benefits are expected from its disposal. The gain or loss on disposal is the difference between the proceeds and the carrying amount and should be recognised in the income statement. The sales proceeds should not be recognised as revenue.
Where assets are measured using the revaluation model, any remaining balance in the revaluation reserve relating to the asset disposed of is transferred directly to retained earnings. No recycling of this balance into the income statement is permitted.

IFRS 5, *Non-current assets held for sale and discontinued operations* is another standard that deals with the disposal of non-current assets and discontinued operations. (This is not examinable at Financial Accounting, Formation 2 Stage.) An item of PPE becomes subject to the provisions of IFRS 5 (rather than IAS 16) if it is classified as held for sale. This classification can either be made for a single asset (where the planned disposal of an individual and fairly substantial asset takes place) or for a group of assets (where the disposal of a business component takes place).

IFRS 5 is only applied if the held for sale criteria are satisfied, and an asset is classified as held for sale if its carrying amount will be recovered principally through a sale transaction rather than through continued use. For this to be the case the asset must be available for immediate sale in its present condition and its sale must be highly probable. Therefore, an appropriate level of management must be committed to a plan to sell the asset, and an active programme to locate a buyer and complete the plan must have been initiated. The asset needs to be actively marketed at a reasonable price, and a successful sale should normally be expected within one year of the date of classification.

The types of asset that would typically satisfy the above criteria would be property, and very substantial items of plant and equipment. The normal disposal or scrapping of plant and equipment towards the end of its useful life would be subject to the provisions of IAS 16. When an asset is classified as held for sale, IFRS 5 requires that it be moved from its existing balance sheet presentation (non-current assets) to a new category of the balance sheet – ‘non-current assets held for sale’. No further depreciation is charged as its carrying value will be recovered principally through sale rather than continuing use.

The existing carrying value of the asset is compared with its ‘fair value less costs to sell’ (effectively the selling price less selling costs). If ‘fair value less costs to sell’ is below the current carrying value, then the asset is written down to fair value less costs to sell and an impairment loss recognised. When the asset is sold, any difference between the new carrying value and the net selling price is shown as a profit or loss on sale.