LEMBAGA PIAWAIAN PERAKAUNAN MALAYSIA
MALAYSIAN ACCOUNTING STANDARDS BOARD

MASB Standard 23

Impairment of Assets

Any correspondence regarding this Standard should be addressed to:

The Chairman
Malaysian Accounting Standards Board
Suites 5.01-5.03, 5th Floor, Wisma Maran
No. 338, Jalan Tuanku Abdul Rahman
50100 Kuala Lumpur

Tel : 03-27159199
Fax : 03-27159212

E-mail address : masb@po.jaring.my
Website address : http://www.masb.org.my/

Introduction

This Standard prescribes the accounting and disclosure for impairment of all assets. It includes requirements for identifying an impaired asset, measuring its recoverable amount, recognising or reversing any resulting impairment loss, and disclosing information on impairment losses or reversals of impairment losses. Prior to the development of this Standard, the treatment of impaired assets was dealt with in a cursory manner in a number of individual MASB Standards, for example, MASB 15, Property, Plant and Equipment. Although the issue of reduction in value (impairment) was addressed in each of those Standards, there was little guidance provided with respect to recognition and measurement in instances of impairment.

In addition to the problems with respect to individual standards, there have also been variations between the treatment of impaired assets between jurisdictions. For example, under the United States generally accepted accounting principles (US GAAP), an entity assesses whether impairment has occurred based on the undiscounted, as opposed to discounted, future cash flows expected to result from the use of the asset and its eventual disposal.

Based upon the conclusion that existing requirements and guidance in IASs are not detailed enough to ensure that enterprises identify, recognise and measure impairment losses in a similar way, and there is also a need to eliminate alternatives for measuring an impairment loss such as the option not to use discounting, the IASC developed IAS 36. Both IAS 36, Impairment of Assets and FRS 11 (the United Kingdom), Impairment of Fixed Assets and Goodwill have introduced detailed requirements and guidance on impairment and write-downs to recoverable amounts.

The fundamental requirement of this MASB Standard is that an impairment loss should be recognised whenever the recoverable amount of an asset is less than its carrying amount (sometimes called "book value"). However, if the review of the carrying amount of an asset finds no evidence of conditions of impairment (i.e. no indication that an asset may be impaired), determination of the asset's recoverable amount is not required. See Figure 1.

This Standard covers investments in subsidiaries, investments in associates, interests in joint ventures, fixed assets, intangible assets and goodwill. In addition, the provisions of this Standard replace the requirements for the recoverability of an asset that are included in MASB 4, Research and Development Costs, MASB 12, Investment in Associates, and MASB 15, Property, Plant and Equipment.

This Standard does not cover impairment of: inventories; deferred tax assets; assets arising from construction contracts; assets arising from employee benefits; and financial assets that are included in MASB 24, Financial Instruments: Disclosure and Presentation.

With the introduction of this MASB Standard, Malaysian companies will need to focus more attention on the carrying value of their assets and after review, to consider whether there are any impairment losses.

Requirements of MASB 23

1. This Standard requires that the recoverable amount of an asset should be estimated whenever there is indication that the asset may be impaired.

2. This Standard requires an impairment loss to be recognised (an asset is impaired) whenever the carrying amount of an asset exceeds its recoverable amount. See Figure 1. An impairment loss should be recognised in the income statement for assets carried at cost and treated as a revaluation decrease for assets carried at revalued amount.

3. This Standard requires recoverable amount to be measured as the higher of net selling price and value in use:

   (a) net selling price is the amount obtained from the sale of an asset in an arm's length transaction between knowledgeable, willing parties, after deducting any direct incremental disposal costs; and

   (b) value in use is the present value of estimated future cash flows expected to arise from continuing use of an asset and from its disposal at the end of its useful life. The discount rate should be a pre-tax rate that reflects current market assessments of the time value of money and risks specific to the asset.

4. In determining an asset's value in use, this Standard requires that an enterprise should use, among other things:

   (a) cash flow projections based on reasonable and supportable assumptions that:

      (i) reflect the asset in its current condition; and

      (ii) represent management's best estimate of the set of economic conditions that will exist over the remaining useful life of the asset; and

(b) a pre-tax discount rate that reflects current market assessments of the time value of money and the risks specific to the asset. The discount rate should not reflect risks for which future flows have been adjusted.

5. Recoverable amount should be estimated for an individual asset. If it is not possible to do so, the Standard requires an enterprise to determine recoverable amount for the cash-generating unit to which the asset belongs. See Figure 1 and Figure 3. A cash-generating unit is the smallest identifiable group of assets that generate cash inflows from continuing use that are largely independent of the cash inflows from other assets or groups of assets. However, if the output produced by an asset or group of assets is traded in an active market, this asset or group of assets should be identified as a separate cash-generating unit, even if some or all of the production of these assets are used internally. Appendix 2, Illustrative Examples, includes examples on the identification of cash-generating units.

6. In testing a cash-generating unit for impairment, this Standard requires that goodwill and corporate assets (such as Head Office assets) that relate to the cash-generating unit should be considered. This Standard specifies how this should be done.

7. Principles for recognising and measuring impairment losses for a cash-generating unit are the same as those for an individual asset. This Standard specifies how to determine the carrying amount of a cash-generating unit and how to allocate an impairment loss between the assets of the unit.

8. This Standard requires that an impairment loss recognised in prior years should be reversed if, and only if, there has been a change in the estimates used to determine recoverable amount since the last impairment loss was recognised. However, an impairment loss is reversed only to the extent that it does not increase the carrying amount of an asset above the carrying amount that would have been determined for the asset (net of amortisation or depreciation) had no impairment loss been recognised in prior years. A reversal of an impairment loss should be recognised in the income statement for assets carried at cost and treated as a revaluation increase for assets carried at revalued amount. See Figure 2.

9. This Standard requires that an impairment loss for goodwill should not be reversed unless:

   (a) the impairment loss was caused by a specific external event of an exceptional nature that is not expected to recur; and

   (b) subsequent external events have reversed the effect of that event.

10. When impairment losses are recognised (reversed), this Standard requires certain information to be disclosed:

    (a) by class of assets; and

    (b) by reportable segments based on the enterprise's primary format (only required if an enterprise applies MASB Standard on segment reporting).

    This Standard requires further disclosure if impairment losses recognised (reversed) during the period are material to the financial statements of the reporting enterprise as a whole.

11. On first adoption, this Standard should be applied on a prospective basis only. Impairment losses recognised (reversed) should be treated under this Standard and not under the benchmark or the allowed alternative treatment for other changes in accounting policies in MASB 3, Net Profit or Loss for the Period, Fundamental Errors and Changes in Accounting Policies.

Figure 1

Decision Tree Identifying An Asset/CGU that may be Impaired

The purpose of the decision tree is to illustrate how an enterprise should perform the review of the carrying qmount of its assets/CGU, how it should determine the recoverable amount of an asset/CGU and when it should recognise an impairment loss. The decision tree does not form part of the Standard and should be read in the context of the full text of the Standard.

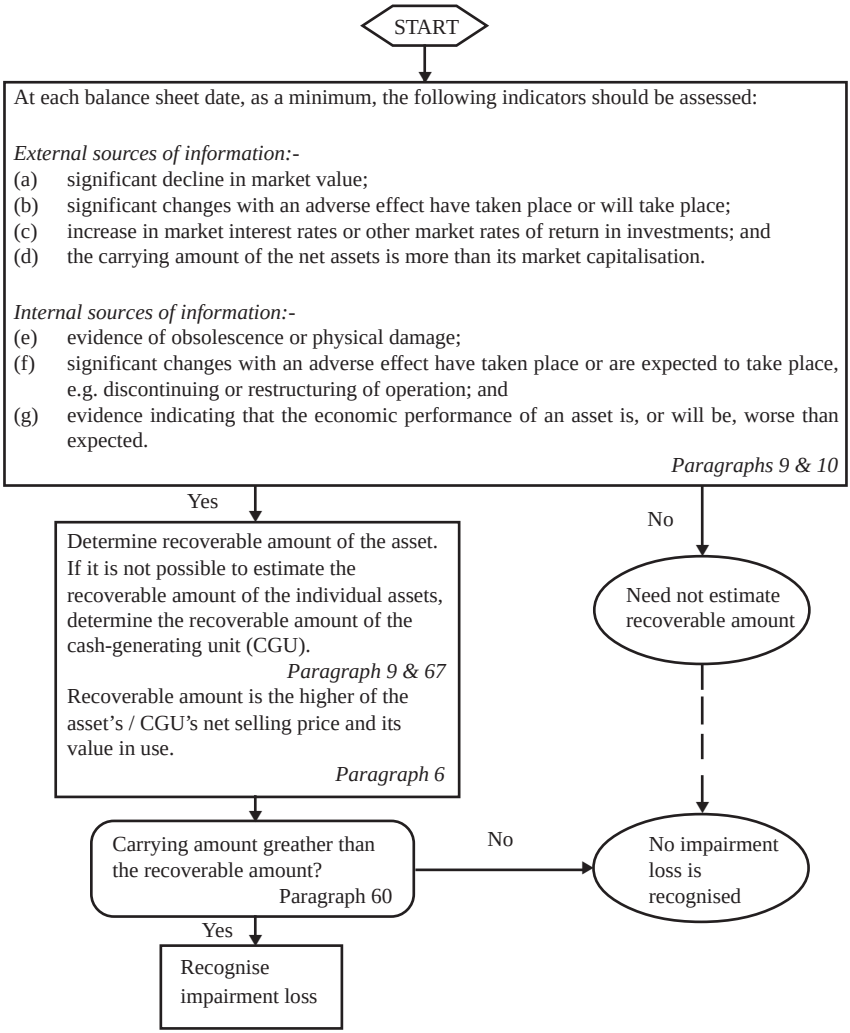

Figure 2

Decision Tree Identifying Reversal of an Impairment Loss

The purpose of the decision tree is to illustrate how an enterprise should perform the review of the reversal of an impairment loss recognised in prior years which may no longer exist or may have decreased. The decision tree does not form part of the Standard and should be read in the context of the full text of the Standard.

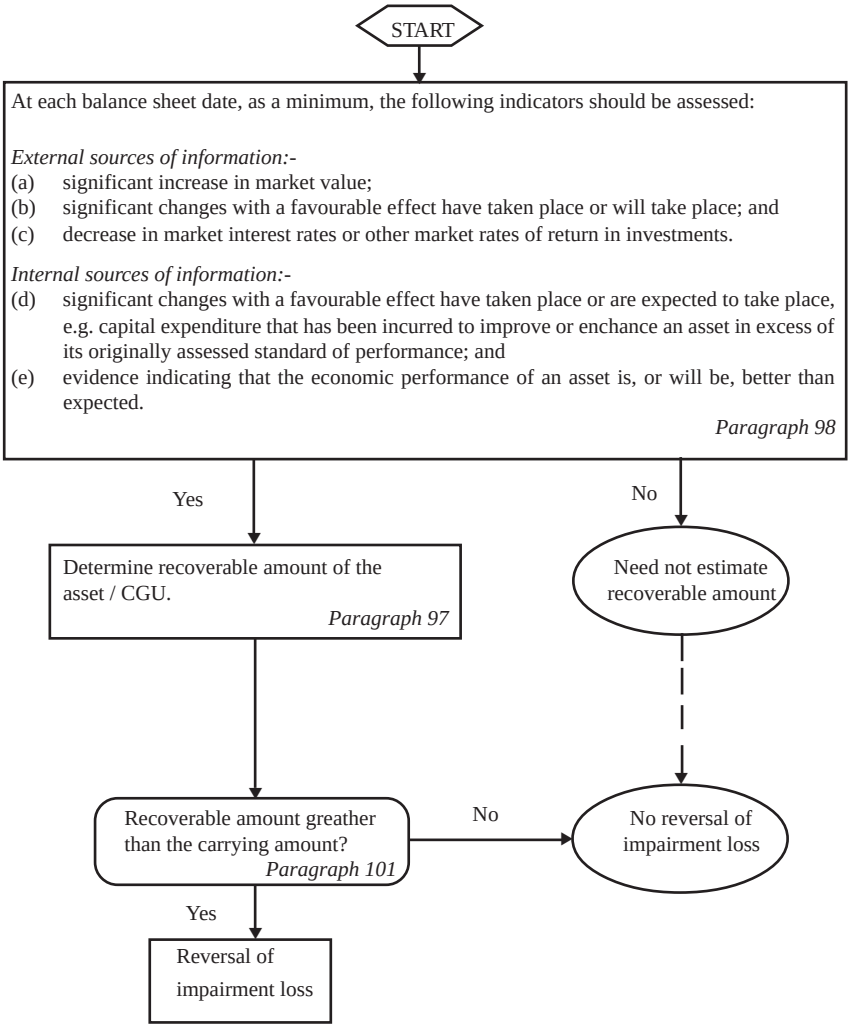

Figure 3

Illustration for recognising an impairment loss

Beta Sdn Bhd (Beta) assesses at each balance sheet date whether there are indications that any of its assets may be impaired. At the current financial year-end, Beta has found that there is an indication, based on an assessment of the external and internal sources of information, that the value of its factory may be impaired.

Beta then proceeded to determine the recoverable amount of the factory, i.e. the higher of the net selling price and value in use. Beta found that the net selling price of the factory is RM40m. The net selling price is the amount obtainable from the sale of the factory in an arm's length transaction between knowledgeable, willing parties, less the costs of disposal. Beta's calculated value in use (i.e. the present value of estimated future cash flows expected to arise from the continuing use of the factory and from its disposal at the end of useful life) of the factory is RM50m.

The carrying amount of the factory is RM65m (cost of RM100m less accumulated depreciation of RM35m). As the carrying amount of the factory is greater than the recoverable amount, Beta then proceeded to recognise RM15m as an impairment loss in its income statement, calculated as follows:

	RM 'million
Factory cost	100
Less : Accumulated depreciation	35
Carrying amount	65
Less : Recoverable amount being higher of	
(a) Value in use RM50m	
and	
(b) Net Selling Price RM40m	
	50
Impairment loss	15

The carrying amount of the factory is now measured at:

Factory cost	100
Less : Accumulated depreciation	35
Less : Impairment loss	15
Carrying amount	50

Note: Further examples are provided in the Appendix 2 of the Standard to assist in the understanding and application of this Standard.

Impairment of Assets

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The standards, which have been set in the bold type, should be read in the context of the background material and implementation guidance in this Standard, and in the context of the Foreword to MASB Standards. MASB Standards are not intended to apply to immaterial items.

Objective

The objective of this Standard is to prescribe the procedures that an enterprise applies to ensure that its assets are carried at no more than their recoverable amount. An asset is carried at more than its recoverable amount if its carrying amount exceeds the amount to be recovered through use or sale of the asset. If this is the case, the asset is described as impaired and the Standard requires the enterprise to recognise an impairment loss. The Standard also specifies when an enterprise should reverse an impairment loss and it prescribes certain disclosures for impaired assets.

Scope

1. This Standard should be applied in accounting for the impairment of all assets, other than:

(a) inventories;

(b) assets arising from construction contracts;

(c) deferred tax assets;

(d) assets arising from employee benefits; and

(e) financial assets.

2. This Standard puts in place for the first time in Malaysia, a standard for impairment of assets.

3. This Standard does not apply to inventories, assets arising from construction contracts, deferred tax assets or assets arising from employee benefits because existing MASB Standards applicable to these assets already contain specific requirements for recognising and measuring these assets.

4. For financial assets that are included in the scope of MASB 24, Financial Instruments: Disclosure and Presentation, the accounting requirements for impairment losses can be found in generally accepted accounting principles with respect to the recognition and measurement of financial instruments. Investments in:

   (a) subsidiaries, as defined in MASB 11, Consolidated Financial Statements and Investments in Subsidiaries;

   (b) associates, as defined in MASB 12, Investments in Associates; and

   (c) joint ventures, as defined in MASB 16, Financial Reporting of Interests in Joint Ventures;

   are financial assets but are excluded from the scope of MASB 24, Financial Instruments: Disclosure and Presentation. Therefore, this Standard applies to such investments.

5. This Standard applies to assets that are carried at revalued amounts (fair value) under other MASB Standards, such as the allowed alternative treatment in MASB 15, Property, Plant and Equipment. However, identifying whether a revalued asset may be impaired depends on the basis used to determine fair value:

   (a) if the asset's fair value is its market value, the only difference between the asset's fair value and its net selling price is the direct incremental costs to dispose of the asset:

      (i) if the disposal costs are negligible, the recoverable amount of the revalued asset is necessarily close to, or greater than, its revalued amount (fair value). In this case, after the revaluation requirements have been applied, it is unlikely that the revalued asset is impaired and recoverable amount need not be estimated; and

      (ii) if the disposal costs are not negligible, net selling price of the revalued asset is necessarily less than its fair value. Therefore, the revalued asset will be impaired if its value in use is less than its revalued amount (fair value). In this case, after the revaluation requirements have been applied, an enterprise applies this Standard to determine whether the asset may be impaired; and

   (b) if the asset's fair value is determined on a basis other than its market value, its revalued amount (fair value) may be greater or lower than

its recoverable amount. Hence, after the revaluation requirements have been applied, an enterprise applies this Standard to determine whether the asset may be impaired.

Definitions

6. The following terms are used in this Standard with the meanings specified:

A cash-generating unit is the smallest identifiable group of assets that generate cash inflows from continuing use that are largely independent of the cash inflows from other assets or groups of assets.

An active market is a market where all the following conditions exist:

(a) the items traded within the market are homogenous;

(b) willing buyers and sellers can normally be found at anytime; and

(c) prices are available to the public.

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

Carrying amount is the amount at which an asset is recognised in the balance sheet after deducting any accumulated depreciation (amortisation) and accumulated impairment losses thereon.

Corporate assets are assets other than goodwill that contribute to the future cash flows of both the cash-generating unit under review and other cash-generating units.

Costs of disposal are incremental costs directly attributable to the disposal of an asset, excluding finance costs and income tax expense.

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

Depreciation (Amortisation) is the systematic allocation of the depreciable amount of an asset over its useful life.[1]

[1] In the case of an intangible asset or goodwill, the term 'amortisation' is generally used instead of 'depreciation'. Both terms have the same meaning.

Net selling price is the amount obtainable from the sale of an asset in an arm's length transaction between knowledgeable, willing parties, less the costs of disposal.

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

Useful life is either:

(a) the period of time over which an asset is expected to be used by the enterprise; or

(b) the number of production or similar units expected to be obtained from the asset by the enterprise.

Value in use is the present value of estimated future cash flows expected to arise from the continuing use of an asset and from its disposal at the end of its useful life.

Identifying an Asset that may be Impaired

7. Paragraphs 8 to 16 specify when recoverable amount should be determined. These requirements use the term 'an asset' but apply equally to an individual asset or a cash-generating unit.

8. Paragraphs 10 to 13 describe some indications that an impairment loss may have occurred; if any of those indications is present, an enterprise is required to make a formal estimate of recoverable amount. If no indication of a potential impairment loss is present, this Standard does not require an enterprise to make a formal estimate of recoverable amount.

9. An asset is impaired when the carrying amount of the asset exceeds its recoverable amount. An enterprise should assess at each balance sheet date whether there is any indication that an asset may be impaired. If any such indication exists, the enterprise should estimate the recoverable amount of the asset.

10. In assessing whether there is any indication that an asset may be impaired, an enterprise should consider, as a minimum, the following indications:

External sources of information:

(a) during the period, an asset's market value has declined significantly more than would be expected as a result of the passage of time or normal use;

(b) significant changes with an adverse effect on the enterprise have taken place during the period, or will take place in the near future, in the technological, market, economic or legal environment in which the enterprise operates or in the market to which an asset is dedicated;

(c) market interest rates or other market rates of return on investments have increased during the period, and those increases are likely to affect the discount rate used in calculating an asset's value in use and decrease the asset's recoverable amount materially;

(d) the carrying amount of the net assets of the reporting enterprise is more than its market capitalisation;

Internal sources of information:

(e) evidence is available of obsolescence or physical damage of an asset;

(f) significant changes with an adverse effect on the enterprise have taken place during the period, or are expected to take place in the near future, in the extent to which, or manner in which, an asset is used or is expected to be used. These changes include plans to discontinue or restructure the operation to which an asset belongs or to dispose of an asset before the previously expected date; and

(g) evidence is available from internal reporting that indicates that the economic performance of an asset is, or will be, worse than expected.

11. The list in paragraph 10 is not exhaustive. An enterprise may identify other indications that an asset may be impaired and these would also require the enterprise to determine the asset's recoverable amount.

12. When an enterprise performs a review of the carrying amount of an asset and finds no evidence of a trigger (i.e. no indication that an asset may be impaired), determination of the asset's recoverable amount is not required.

13. Evidence from internal reporting that indicates that an asset may be impaired includes the existence of:

    (a) cash flows for acquiring the asset, or subsequent cash needs for operating or maintaining it, that are significantly higher than those originally budgeted;

    (b) actual net cash flows or operating profit or loss flowing from the asset that are significantly worse than those budgeted;

    (c) a significant decline in budgeted net cash flows or operating profit, or a significant increase in budgeted loss, flowing from the asset; or

    (d) operating losses or net cash outflows for the asset, when current period figures are aggregated with budgeted figures for the future.

14. The concept of materiality applies in identifying whether the recoverable amount of an asset needs to be estimated. For example, if previous calculations show that an asset's recoverable amount is significantly greater than its carrying amount, the enterprise need not re-estimate the asset's recoverable amount if no events have occurred that would eliminate that difference. Similarly, previous analysis may show that an asset's recoverable amount is not sensitive to one (or more) of the indications listed in paragraph 10.

15. As an illustration of paragraph 14, if market interest rates or other market rates of return on investments have increased during the period, an enterprise is not required to make a formal estimate of an asset's recoverable amount in the following cases:

    (a) if the discount rate used in calculating the asset's value in use is unlikely to be affected by the increase in these market rates. For example, increases in short-term interest rates may not have a material effect on the discount rate used for an asset that has a long remaining useful life; or

    (b) if the discount rate used in calculating the asset's value in use is likely to be affected by the increase in these market rates but previous sensitivity analysis of recoverable amount shows that:

        (i) it is unlikely that there will be a material decrease in recoverable amount because future cash flows are also likely to increase. For example, in some cases, an enterprise may be able to demonstrate that it adjusts its revenue to compensate for any increase in market rates; or

(ii) the decrease in recoverable amount is unlikely to result in a material impairment loss.

16. If there is an indication that an asset may be impaired, this may indicate that the remaining useful life, the depreciation (amortisation) method or the residual value for the asset need to be reviewed and adjusted under the MASB Standard applicable to the asset, even if no impairment loss is recognised for the asset.

Measurement of Recoverable Amount

17. This Standard defines recoverable amount as the higher of an asset's net selling price and value in use. Paragraphs 18 to 58 set out the requirements for measuring recoverable amount. These requirements use the term 'an asset' but apply equally to an individual asset or a cash-generating unit.

18. It is not always necessary to determine both an asset's net selling price and its value in use. For example, if either of these amounts exceeds the asset's carrying amount, the asset is not impaired and it is not necessary to estimate the other amount.

19. It may be possible to determine net selling price, even if an asset is not traded in an active market. However, sometimes it will not be possible to determine net selling price because there is no basis for making a reliable estimate of the amount obtainable from the sale of the asset in an arm's length transaction between knowledgeable and willing parties. In this case, the recoverable amount of the asset may be taken to be its value in use.

20. If there is no reason to believe that an asset's value in use materially exceeds its net selling price, the asset's recoverable amount may be taken to be its net selling price. This will often be the case for an asset that is held for disposal. This is because the value in use of an asset held for disposal will consist mainly of the net disposal proceeds, since the future cash flows from continuing use of the asset until its disposal are likely to be negligible.

21. Recoverable amount is determined for an individual asset, unless the asset does not generate cash inflows from continuing use that are largely independent of those from other assets or groups of assets. If this is the case, recoverable amount is determined for the cash-generating unit to which the asset belongs (see paragraphs 66 to 89), unless either:

(a) the asset's net selling price is higher than its carrying amount; or

(b) the asset's value in use can be estimated to be close to its net selling price and net selling price can be determined.

22. In some cases, estimates, averages and computational shortcuts may provide a reasonable approximation of the detailed computations illustrated in this Standard for determining net selling price or value in use.

Net Selling Price

23. The best evidence of an asset's net selling price is a price in a binding sale agreement in an arm's length transaction, adjusted for incremental costs that would be directly attributable to the disposal of the asset.

24. If there is no binding sale agreement but an asset is traded in an active market, net selling price is the asset's market price less the costs of disposal. The appropriate market price is usually the current bid price. When current bid prices are unavailable, the price of the most recent transaction may provide a basis from which to estimate net selling price, provided that there has not been a significant change in economic circumstances between the transaction date and the date at which the estimate is made.

25. If there is no binding sale agreement or active market for an asset, net selling price is based on the best information available to reflect the amount that an enterprise could obtain, at the balance sheet date, for the disposal of the asset in an arm's length transaction between knowledgeable, willing parties, after deducting the costs of disposal. In determining this amount, an enterprise considers the outcome of recent transactions for similar assets within the same industry. Net selling price does not reflect a forced sale, unless management is compelled to sell immediately.

26. Costs of disposal, other than those that have already been recognised as liabilities, are deducted in determining net selling price. Examples of such costs are legal costs, stamp duty and similar transaction taxes, costs of removing the asset, and direct incremental costs to bring an asset into condition for its sale. However, termination benefits and costs associated with reducing or reorganising a business following the disposal of an asset are not direct incremental costs to dispose of the asset.

27. Sometimes, the disposal of an asset would require the buyer to take over a liability and only a single net selling price is available for both the asset and the liability. Paragraph 79 explains how to deal with such cases.

Value in Use

28. Estimating the value in use of an asset involves the following steps:

    (a) estimating the future cash inflows and outflows to be derived from continuing use of the asset and from its ultimate disposal; and

    (b) applying the appropriate discount rate to these future cash flows.

Basis for Estimates of Future Cash Flows

29. In measuring value in use:

(a) cash flow projections should be based on reasonable and supportable assumptions that represent management's best estimate of the set of economic conditions that will exist over the remaining useful life of the asset. Greater weight should be given to external evidence;

(b) cash flow projections should be based on the most recent financial budgets/forecasts that have been approved by management. Projections based on these budgets/forecasts should cover a maximum period of five years, unless a longer period can be justified; and

(c) cash flow projections beyond the period covered by the most recent budgets/forecasts should be estimated by extrapolating the projections based on the budgets/forecasts using a steady or declining growth rate for subsequent years, unless an increasing rate can be justified. This growth rate should not exceed the long-term average growth rate for the products, industries, or country or countries in which the enterprise operates, or for the market in which the asset is used, unless a higher rate can be justified.

30. Detailed, explicit and reliable financial budgets/forecasts of future cash flows for periods longer than five years are generally not available. For this reason, management's estimates of future cash flows are based on the most recent budgets/forecasts for a maximum of five years. Management may use cash flow projections based on financial budgets/forecasts over a period longer than five years if management is confident that these projections are reliable and it can demonstrate its ability, based on past experience, to forecast cash flows accurately over that longer period.

31. Cash flow projections until the end of an asset's useful life are estimated by extrapolating the cash flow projections based on the financial budgets/forecasts using a growth rate for subsequent years. This rate is steady or declining, unless an increase in the rate matches objective information about patterns over a product or industry life cycle. If appropriate, the growth rate is zero or negative.

32. Where conditions are very favourable, competitors are likely to enter the market and restrict growth. Therefore, enterprises will have difficulty in exceeding the average historical growth rate over the long term (say, twenty years) for the products, industries, or country or countries in which the enterprise operates, or for the market in which the asset is used.

33. In using information from financial budgets/forecasts, an enterprise considers whether the information reflects reasonable and supportable assumptions and represents management's best estimate of the set of economic conditions that will exist over the remaining useful life of the asset.

Composition of Estimates of Future Cash Flows

34. Estimates of future cash flows should include:

(a) projections of cash inflows from the continuing use of the asset;

(b) projections of cash outflows that are necessarily incurred to generate the cash inflows from continuing use of the asset (including cash outflows to prepare the asset for use) and that can be directly attributed, or allocated on a reasonable and consistent basis, to the asset; and

(c) net cash flows, if any, to be received (or paid) for the disposal of the asset at the end of its useful life.

35. Estimates of future cash flows and the discount rate reflect consistent assumptions about price increases due to general inflation. Therefore, if the discount rate includes the effect of price increases due to general inflation, future cash flows are estimated in nominal terms. If the discount rate excludes the effect of price increases due to general inflation, future cash flows are estimated in real terms (but include future specific price increases or decreases).

36. Projections of cash outflows include future overheads that can be attributed directly, or allocated on a reasonable and consistent basis, to the use of the asset.

37. When the carrying amount of an asset does not yet include all the cash outflows to be incurred before it is ready for use or sale, the estimate of future cash outflows includes an estimate of any further cash outflows that are expected to be incurred before the asset is ready for use or sale. For example, this is the case for a building under construction or for a development project that is not yet completed.

38. To avoid double counting, estimates of future cash flows do not include:

    (a) cash inflows from assets that generate cash inflows from continuing use that are largely independent of the cash inflows from the asset under review (for example, financial assets such as receivables); and

    (b) cash outflows that relate to obligations that have already been recognised as liabilities (for example, payables, pensions or provisions).

39. Future cash flows should be estimated for the asset in its current condition. Estimates of future cash flows should not include estimated future cash inflows or outflows that are expected to arise from:

    (a) a future restructuring to which an enterprise is not yet committed; or

    (b) future capital expenditure that will improve or enhance the asset in excess of its originally assessed standard of performance.

40. Because future cash flows are estimated for the asset in its current condition, value in use does not reflect:

    (a) future cash outflows or related cost savings (for example reductions in staff costs) or benefits that are expected to arise from a future restructuring to which an enterprise is not yet committed; or

    (b) future capital expenditure that will improve or enhance the asset in excess of its originally assessed standard of performance or the related future benefits from this future expenditure.

41. A restructuring is a programme that is planned and controlled by management and that materially changes either the scope of the business undertaken by an enterprise or the manner in which the business is conducted. MASB 20, Provisions, Contingent Liabilities and Contingent Assets, gives guidance that may clarify when an enterprise is committed to a restructuring.

42. When an enterprise becomes committed to a restructuring, some assets are likely to be affected by this restructuring. Once the enterprise is committed to the restructuring:

    (a) in determining value in use, estimates of future cash inflows and cash outflows reflect the cost savings and other benefits from the restructuring (based on the most recent financial budgets/forecasts that have been approved by management); and

    (b) estimates of future cash outflows for the restructuring are dealt with in a restructuring provision under MASB 20, Provisions, Contingent Liabilities and Contingent Assets.

    Appendix 2, Example 5, illustrates the effect of a future restructuring on a value in use calculation.

43. Until an enterprise incurs capital expenditure that improves or enhances an asset in excess of its originally assessed standard of performance, estimates of future cash flows do not include the estimated future cash inflows that are expected to arise from this expenditure (see Appendix 2, Example 6).

44. Estimates of future cash flows include future capital expenditure necessary to maintain or sustain an asset at its originally assessed standard of performance.

45. Estimates of future cash flows should not include:

(a) cash inflows or outflows from financing activities; or

(b) income tax receipts or payments.

46. Estimated future cash flows reflect assumptions that are consistent with the way the discount rate is determined. Otherwise, the effect of some assumptions will be counted twice or ignored. Because the time value of money is considered by discounting the estimated future cash flows, these cash flows exclude cash inflows or outflows from financing activities. Similarly, since the discount rate is determined on a pre-tax basis, future cash flows are also estimated on a pre-tax basis.

47. The estimate of net cash flows to be received (or paid) for the disposal of an asset at the end of its useful life should be the amount that an enterprise expects to obtain from the disposal of the asset in an arm's length transaction between knowledgeable, willing parties, after deducting the estimated costs of disposal.

48. The estimate of net cash flows to be received (or paid) for the disposal of an asset at the end of its useful life is determined in a similar way to an asset's net selling price, except that, in estimating those net cash flows:

    (a) an enterprise uses prices prevailing at the date of the estimate for similar assets that have reached the end of their useful life and that have operated under conditions similar to those in which the asset will be used; and

    (b) those prices are adjusted for the effect of both future price increases due to general inflation and specific future price increases (decreases). However, if estimates of future cash flows from the asset's continuing use and the discount rate exclude the effect of general inflation, this effect is also excluded from the estimate of net cash flows on disposal.

Foreign Currency Future Cash Flows

49. Future cash flows are estimated in the currency in which they will be generated and then discounted using a discount rate appropriate for that currency. An enterprise translates the present value obtained using the spot exchange rate at the balance sheet date (described in MASB 6, The Effects of Changes in Foreign Exchange Rates, as the closing rate).

Discount Rate

50. The discount rate (or rates) should be a pre-tax rate (or rates) that reflect(s) current market assessments of the time value of money and the risks specific to the asset. The discount rate(s) should not reflect risks for which future cash flow estimates have been adjusted.

51. A rate that reflects current market assessments of the time value of money and the risks specific to the asset is the return that investors would require if they were to choose an investment that would generate cash flows of amounts, timing and risk profile equivalent to those that the enterprise expects to derive from the asset. This rate is estimated from the rate implicit in current market transactions for similar assets or from the weighted average cost of capital of a listed enterprise that has a single asset (or a portfolio of assets) similar in terms of service potential and risks to the asset under review.

52. When an asset-specific rate is not directly available from the market, an enterprise uses surrogates to estimate the discount rate. The purpose is to estimate, as far as possible, a market assessment of:

    (a) the time value of money for the periods until the end of the asset's useful life; and

    (b) the risks that the future cash flows will differ in amount or timing from estimates.

53. As a starting point, the enterprise may take into account the following rates:

    (a) the enterprise's weighted average cost of capital determined using techniques such as the Capital Asset Pricing Model;

    (b) the enterprise's incremental borrowing rate; and

    (c) other market borrowing rates.

54. These rates are adjusted:

    (a) to reflect the way that the market would assess the specific risks associated with the projected cash flows; and

    (b) to exclude risks that are not relevant to the projected cash flows.

    Consideration is given to risks such as country risk, currency risk, price risk and cash flow risk.

55. To avoid double counting, the discount rate does not reflect risks for which future cash flow estimates have been adjusted.

56. The discount rate is independent of the enterprise's capital structure and the way the enterprise financed the purchase of the asset because the future cash flows expected to arise from an asset do not depend on the way in which the enterprise financed the purchase of the asset.

57. When the basis for the rate is post-tax, that basis is adjusted to reflect a pre-tax rate.

58. An enterprise normally uses a single discount rate for the estimate of an asset's value in use. However, an enterprise uses separate discount rates for different future periods where value in use is sensitive to a difference in risks for different periods or to the term structure of interest rates.

Recognition and Measurement of an Impairment Loss

59. Paragraphs 60 to 65 set out the requirements for recognising and measuring impairment losses for an individual asset. Recognition and measurement of impairment losses for a cash-generating unit are dealt with in paragraphs 90 to 95.

60. If, and only if, the recoverable amount of an asset is less than its carrying amount, the carrying amount of the asset should be reduced to its recoverable amount. That reduction is an impairment loss.

61. An impairment loss should be recognised as an expense in the income statement immediately, unless the asset is carried at revalued amount under another MASB Standard. Any impairment loss of a revalued asset should be treated as a revaluation decrease under that other MASB Standard.

62. An impairment loss on an asset is recognised as an expense in the income statement. However, an impairment loss on a revalued asset is recognised directly against any revaluation surplus for the asset to the extent that the impairment loss does not exceed the amount held in the revaluation surplus for that same asset.

63. When the amount estimated for an impairment loss is greater than the carrying amount of the asset to which it relates, an enterprise should recognise a liability if, and only if, that is required by another MASB Standard.

64. After the recognition of an impairment loss, the depreciation (amortisation) charge for the asset should be adjusted in future periods to allocate the asset's revised carrying amount, less its residual value (if any), on a systematic basis over its remaining useful life.

65. If an impairment loss is recognised, any related deferred tax assets or liabilities are determined in accordance with MASB ED 29, Income Taxes.

Cash-Generating Units

66. Paragraphs 67 to 95 set out the requirements for identifying the cash-generating unit to which an asset belongs and determining the carrying amount of, and recognising impairment losses for, cash-generating units.

Identification of the Cash-Generating Unit to Which an Asset Belongs

67. If there is any indication that an asset may be impaired, recoverable amount should be estimated for the individual asset. If it is not possible to estimate the recoverable amount of the individual asset, an enterprise should determine the recoverable amount of the cash-generating unit to which the asset belongs (the asset's cash-generating unit).

68. The recoverable amount of an individual asset cannot be determined if:

(a) the asset's value in use cannot be estimated to be close to its net selling price (for example, when the future cash flows from continuing use of the asset cannot be estimated to be negligible); and

(b) the asset does not generate cash inflows from continuing use that are largely independent of those from other assets. In such cases, value in use and, therefore, recoverable amount, can be determined only for the asset's cash-generating unit.

Example

A timber company owns heavy equipment to support its timber activities. The heavy equipment could be sold only for scrap value and the heavy equipment does not generate cash inflows from continuing use that are largely independent of the cash inflows from the other assets of the timber company.

It is not possible to estimate the recoverable amount of the heavy equipment because the value in use of the heavy equipment cannot be determined and it is probably different from scrap value. Therefore, the timber company estimates the recoverable amount of the cash-generating unit to which the heavy equipment belongs, probably, to the cash-generating unit related to the timber extraction activities.

69. As defined in paragraph 6, an asset's cash-generating unit is the smallest group of assets that includes the asset and that generates cash inflows from continuing use that are largely independent of the cash inflows from other assets or groups of assets. Identification of an asset's cash-generating unit involves judgement. If recoverable amount cannot be determined for an individual asset, an enterprise identifies the lowest aggregation of assets that generate largely independent cash inflows from continuing use.

Example

A bus company provides services under contract with a local council that requires minimum service on each of five separate routes. Assets devoted to each route and the cash flows from each route can be identified separately. One of the routes operates at a significant loss.

Because the enterprise does not have the option to curtail any one bus route, the lowest level of identifiable cash inflows from continuing use that are largely independent of the cash inflows from other assets or groups of assets are the cash inflows generated by the five routes together. The cash-generating unit for each route is the bus company as a whole.

70. Cash inflows from continuing use are inflows of cash and cash equivalents received from parties outside the reporting enterprise. In identifying whether cash inflows from an asset (or group of assets) are largely independent of the cash inflows from other assets (or groups of assets), an enterprise considers various factors including how management monitors the enterprise's operations (such as by product lines, businesses, individual locations, districts or regional areas or in some other way) or how management makes decisions about continuing or disposing of the enterprise's assets and operations. Appendix 2, Example 1, gives examples of identification of a cash-generating unit.

71. If an active market exists for the output produced by an asset or a group of assets, this asset or group of assets should be identified as a cash-generating unit, even if some or all of the output is used internally. If this is the case, management's best estimate of future market prices for the output should be used:

(a) in determining the value in use of this cash-generating unit, when estimating the future cash inflows that relate to the internal use of the output; and

(b) in determining the value in use of other cash-generating units of the reporting enterprise, when estimating the future cash outflows that relate to the internal use of the output.

72. Even if part or all of the output produced by an asset or a group of assets is used by other units of the reporting enterprise (for example, products at an intermediate stage of a production process), this asset or group of assets forms a separate cash-generating unit if the enterprise could sell this output on an active market. This is because this asset or group of

assets could generate cash inflows from continuing use that would be largely independent of the cash inflows from other assets or groups of assets. In using information based on financial budgets/forecasts that relate to such a cash-generating unit, an enterprise adjusts this information if internal transfer prices do not reflect management's best estimate of future market prices for the cash-generating unit's output.

73. Cash-generating units should be identified consistently from period to period for the same asset or types of assets, unless a change is justified.

74. If an enterprise determines that an asset belongs to a different cash-generating unit than in previous periods, or that the types of assets aggregated for the asset's cash-generating unit have changed, paragraph 119 requires certain disclosures about the cash-generating unit, if an impairment loss is recognised or reversed for the cash-generating unit and is material to the financial statements of the reporting enterprise as a whole.

Recoverable Amount and Carrying Amount of a Cash-Generating Unit

75. The recoverable amount of a cash-generating unit is the higher of the cash-generating unit's net selling price and value in use. For the purpose of determining the recoverable amount of a cash-generating unit, any reference in paragraphs 18 to 58 to 'an asset' is read as a reference to 'a cash-generating unit'.

76. The carrying amount of a cash-generating unit should be determined consistently with the way the recoverable amount of the cash-generating unit is determined.

77. The carrying amount of a cash-generating unit:

(a) includes the carrying amount of only those assets that can be attributed directly, or allocated on a reasonable and consistent basis, to the cash-generating unit and that will generate the future cash inflows estimated in determining the cash-generating unit's value in use; and

(b) does not include the carrying amount of any recognised liability, unless the recoverable amount of the cash-generating unit cannot be determined without consideration of this liability.

This is because net selling price and value in use of a cash-generating unit are determined excluding cash flows that relate to assets that are not part of the cash-generating unit and liabilities that have already been recognised in the financial statements (see paragraphs 26 and 38).

78. Where assets are grouped for recoverability assessments, it is important to include in the cash-generating unit all assets that generate the relevant stream of cash inflows from continuing use. Otherwise, the cash-generating unit may appear to be fully recoverable when in fact an impairment loss has occurred. In some cases, although certain assets contribute to the estimated future cash flows of a cash-generating unit, they cannot be allocated to the cash-generating unit on a reasonable and consistent basis. This might be the case for goodwill or corporate assets such as head office assets. Paragraphs 81 to 89 explain how to deal with these assets in testing a cash-generating unit for impairment.

79. It may be necessary to consider certain recognised liabilities in order to determine the recoverable amount of a cash-generating unit. This may occur if the disposal of a cash-generating unit would require the buyer to take over a liability. In this case, the net selling price (or the estimated cash flow from ultimate disposal) of the cash-generating unit is the estimated selling price for the assets of the cash-generating unit and the liability together, less the costs of disposal. In order to perform a meaningful comparison between the carrying amount of the cash-generating unit and its recoverable amount, the carrying amount of the liability is deducted in determining both the cash-generating unit's value in use and its carrying amount.

Example

A company operates an oil refinery in a country where legislation requires that the owner must restore the site on completion of its operations. The cost of restoration includes the replacement of the overburden, which must be removed before operations commence. A provision for the costs to replace the overburden was recognised as soon as the overburden was removed. The amount provided was recognised as part of the cost of the refinery and is being depreciated over the refinery's useful life. The carrying amount of the provision for restoration costs is RM500 million, which is equal to the present value of the restoration costs.

The enterprise is testing the refinery for impairment. The cash-generating unit for the refinery is the refinery as a whole. The enterprise has received various offers to buy the refinery at a price of around RM800m; this price encompasses the fact that the buyer will take over the obligation to restore the overburden. Disposal costs for the refinery is negligible. The value in use of the refinery is approximately RM1,200 million, excluding restoration costs. The carrying amount of the refinery is RM1,000 million.

The net selling price for the cash-generating unit is RM800 million. This amount considers restoration costs that have already been provided for. As a consequence, the value in use for the cash-generating unit is determined after consideration of the restoration costs and is estimated to be RM700 million (RM1,200 million less RM500 million). The carrying amount of the cash-generating unit is RM500 million, which is the carrying amount of the refinery (RM1,000 million) less the carrying amount of the provision for restoration costs (RM500 million).

80. For practical reasons, the recoverable amount of a cash-generating unit is sometimes determined after consideration of assets that are not part of the cash-generating unit (for example, receivables or other financial assets) or liabilities that have already been recognised in the financial statements (for example, payables, pensions and other provisions). In such cases, the carrying amount of the cash-generating unit is increased by the carrying amount of those assets and decreased by the carrying amount of those liabilities.

Goodwill

81. Goodwill arising on acquisition represents a payment made by an acquirer in anticipation of future economic benefits. The future economic benefits may result from synergy between the identifiable assets acquired or from assets which, individually, do not qualify for recognition in the financial statements. Goodwill does not generate cash flows independently from other assets or groups of assets and, therefore, the recoverable amount of goodwill as an individual asset cannot be determined. As a consequence, if there is an indication that goodwill may be impaired, recoverable amount is determined for the cash-generating unit to which goodwill belongs. This amount is then compared to the carrying amount of this cash-generating unit and any impairment loss is recognised in accordance with paragraph 90.

82. In testing a cash-generating unit for impairment, an enterprise should identify whether goodwill that relates to this cash-generating unit is recognised in the financial statements. If this is the case, an enterprise should:

(a) perform a 'bottom-up' test, that is, the enterprise should:

(i) identify whether the carrying amount of goodwill can be allocated on a reasonable and consistent basis to the cash-generating unit under review; and

(ii) then, compare the recoverable amount of the cash-generating unit under review to its carrying amount (including the carrying amount of allocated goodwill, if any) and recognise any impairment loss in accordance with paragraph 90.

The enterprise should perform the second step of the 'bottom-up' test even if none of the carrying amount of goodwill can be allocated on a reasonable and consistent basis to the cash-generating unit under review; and

(b) if, in performing the 'bottom-up' test, the enterprise could not allocate the carrying amount of goodwill on a reasonable and consistent basis to the cash-generating unit under review, the enterprise should also perform a 'top-down' test, that is, the enterprise should:

(i) identify the smallest cash-generating unit that includes the cash-generating unit under review and to which the carrying amount of goodwill can be allocated on a reasonable and consistent basis (the 'larger' cash-generating unit); and

(ii) then, compare the recoverable amount of the larger cash-generating unit to its carrying amount (including the carrying amount of allocated goodwill) and recognise any impairment loss in accordance with paragraph 90.

83. Whenever a cash-generating unit is tested for impairment, an enterprise considers any goodwill that is associated with the future cash flows to be generated by the cash-generating unit. If goodwill can be allocated on a reasonable and consistent basis, an enterprise applies the 'bottom-up' test only. If it is not possible to allocate goodwill on a reasonable and consistent basis, an enterprise applies both the 'bottom-up' test and 'top-down' test (see Appendix 2, Example 7).

84. The 'bottom-up' test ensures that an enterprise recognises any impairment loss that exists for a cash-generating unit, including for goodwill that can be allocated on a reasonable and consistent basis. Whenever it is impracticable to allocate goodwill on a reasonable and consistent basis in the 'bottom-up' test, the combination of the 'bottom-up' and the 'top-down' test ensures that an enterprise recognises:

(a) first, any impairment loss that exists for the cash-generating unit excluding any consideration of goodwill; and

(b) then, any impairment loss that exists for goodwill. Because an enterprise applies the 'bottom-up' test first to all assets that may be impaired, any impairment loss identified for the larger cash-generating unit in the 'top-down' test relates only to goodwill allocated to the larger unit.

85. If the 'top-down' test is applied, an enterprise formally determines the recoverable amount of the larger cash-generating unit, unless there is persuasive evidence that there is no risk that the larger cash-generating unit is impaired (see paragraph 14).

Corporate Assets

86. Corporate assets include group or divisional assets such as the building of a headquarters or a division of the enterprise, EDP equipment or a research centre. The structure of an enterprise determines whether an asset meets this Standard's definition of corporate assets for a particular cash-generating unit. Key characteristics of corporate assets are that they do not generate cash inflows independently from other assets or groups of assets and their carrying amount cannot be fully attributed to the cash-generating unit under review.

87. Because corporate assets do not generate separate cash inflows, the recoverable amount of an individual corporate asset cannot be determined unless management has decided to dispose of the asset. As a consequence, if there is an indication that a corporate asset may be impaired, recoverable amount is determined for the cash-generating unit to which the corporate asset belongs, compared to the carrying amount of this cash-generating unit and any impairment loss is recognised in accordance with paragraph 90.

88. In testing a cash-generating unit for impairment, an enterprise should identify all the corporate assets that relate to the cash-generating unit under review. For each identified corporate asset, an enterprise should then apply paragraph 82, that is:

(a) if the carrying amount of the corporate asset can be allocated on a reasonable and consistent basis to the cash-generating unit under review, an enterprise should apply the 'bottom-up' test only; and

(b) if the carrying amount of the corporate asset cannot be allocated on a reasonable and consistent basis to the cash-generating unit under review, an enterprise should apply both the 'bottom-up' and 'top-down' tests.

89. An example of how to deal with corporate assets can be found in Appendix 2, Example 8.

Impairment Loss for a Cash-Generating Unit

90. An impairment loss should be recognised for a cash-generating unit if, and only if, its recoverable amount is less than its carrying amount. The impairment loss should be allocated to reduce the carrying amount of the assets of the unit in the following order:

(a) first, to goodwill allocated to the cash-generating unit (if any); and

(b) then, to the other assets of the unit on a pro-rata basis based on the carrying amount of each asset in the unit.

These reductions in carrying amounts should be treated as impairment losses on individual assets and recognised in accordance with paragraph 61.

91. In allocating an impairment loss under paragraph 90, the carrying amount of an asset should not be reduced below the highest of:

(a) its net selling price (if determinable);

(b) its value in use (if determinable); and

(c) zero.

The amount of the impairment loss that would otherwise have been allocated to the asset should be allocated to the other assets of the unit on a pro-rata basis.

92. The goodwill allocated to a cash-generating unit is reduced before reducing the carrying amount of the other assets of the unit because of its nature.

93. If there is no practical way to estimate the recoverable amount of each individual asset of a cash-generating unit, this Standard requires an arbitrary allocation of an impairment loss between the assets of that unit, other than goodwill, because all assets of a cash-generating unit work together.

94. If the recoverable amount of an individual asset cannot be determined (see paragraph 68):

(a) an impairment loss is recognised for the asset if its carrying amount is greater than the higher of its net selling price and the results of the allocation procedures described in paragraphs 90 and 91; and

(b) no impairment loss is recognised for the asset if the related cash-generating unit is not impaired. This applies even if the asset's net selling price is less than its carrying amount.

Example

A machine has suffered physical damage but is still working, although not as well as it used to. The net selling price of the machine is less than its carrying amount. The machine does not generate independent cash inflows from continuing use. The smallest identifiable group of assets that includes the machine and generates cash inflows from continuing use that are largely independent of the cash inflows from other assets is the production line to which the machine belongs. The recoverable amount of the production line shows that the production line taken as a whole is not impaired.

Assumption 1: budgets/forecasts approved by management reflect no commitment of management to replace the machine.

The recoverable amount of the machine alone cannot be estimated since the machine's value in use:

(a) may differ from its net selling price; and

(b) can be determined only for the cash-generating unit to which the machine belongs (the production line).

The production line is not impaired, therefore, no impairment loss is recognised for the machine. Nevertheless, the enterprise may need to reassess the depreciation period or the depreciation method for the machine. Perhaps, a shorter depreciation period or a faster depreciation method is required to reflect the expected remaining useful life of the machine or the pattern in which economic benefits are consumed by the enterprise.

Assumption 2: budgets/forecasts approved by management reflect a commitment of management to replace the machine and sell it in the near future. Cash flows from continuing use of the machine until its disposal are estimated to be negligible.

The machine's value in use can be estimated to be close to its net selling price. Therefore, the recoverable amount of the machine can be determined and no consideration is given to the cash-generating unit to which the machine belongs (the production line). Since the machine's net selling price is less than its carrying amount, an impairment loss is recognised for the machine.

95. After the requirements in paragraphs 90 and 91 have been applied, a liability should be recognised for any remaining amount of an impairment loss for a cash-generating unit if, and only if, that is required by other MASB Standards.

Reversal of an Impairment Loss

96. Paragraphs 97 to 103 set out the requirements for reversing an impairment loss recognised for an asset or a cash-generating unit in prior years. These requirements use the term 'an asset' but apply equally to an individual asset or a cash-generating unit. Additional requirements are set out for an individual asset in paragraphs 104 to 108, for a cash generating unit in paragraphs 109 to 110 and for goodwill in paragraphs 111 to 114.

97. An enterprise should assess at each balance sheet date whether there is any indication that an impairment loss recognised for an asset in prior years may no longer exist or may have decreased. If any such indication exists, the enterprise should estimate the recoverable amount of that asset.

98. In assessing whether there is any indication that an impairment loss recognised for an asset in prior years may no longer exist or may have decreased, an enterprise should consider, as a minimum, the following indications:

External sources of information

(a) the asset's market value has increased significantly during the period;

(b) significant changes with a favourable effect on the enterprise have taken place during the period, or will take place in the near future, in the technological, market, economic or legal environment in which the enterprise operates or in the market to which the asset is dedicated;

(c) market interest rates or other market rates of return on investments have decreased during the period, and those decreases are likely to affect the discount rate used in calculating the asset's value in use and increase the asset's recoverable amount materially;

Internal sources of information

(d) significant changes with a favourable effect on the enterprise have taken place during the period, or are expected to take place in the near future, in the extent to which, or manner in which, the asset is used or is expected to be used. These changes include capital expenditure that has been incurred during the period to improve or enhance an asset in excess of its originally assessed standard of performance or a commitment to discontinue or restructure the operation to which the asset belongs; and

(e) evidence is available from internal reporting that indicates that the economic performance of the asset is, or will be, better than expected.

99. Indications of a potential decrease in an impairment loss in paragraph 98 mainly mirror the indications of a potential impairment loss in paragraph 10. The concept of materiality applies in identifying whether an impairment loss recognised for an asset in prior years may need to be reversed and the recoverable amount of the asset determined.

100. If there is an indication that an impairment loss recognised for an asset may no longer exist or may have decreased, this may indicate that the remaining useful life, the depreciation (amortisation) method or the residual value may need to be reviewed and adjusted in accordance with the MASB Standard applicable to the asset, even if no impairment loss is reversed for the asset.

101. An impairment loss recognised for an asset in prior years should be reversed if, and only if, there has been a change in the estimates used to determine the asset's recoverable amount since the last impairment loss was recognised. If this is the case, the carrying amount of the asset should be increased to its recoverable amount. That increase is a reversal of an impairment loss.

102. A reversal of an impairment loss reflects an increase in the estimated service potential of an asset, either from use or sale, since the date when an enterprise last recognised an impairment loss for that asset. An enterprise is required to identify the change in estimates that causes the increase in estimated service potential. Examples of changes in estimates include:

(a) a change in the basis for recoverable amount (i.e., whether recoverable amount is based on net selling price or value in use);

(b) if recoverable amount was based on value in use: a change in the amount or timing of estimated future cash flows or in the discount rate; or

(c) if recoverable amount was based on net selling price: a change in estimate of the components of net selling price.

103. An asset's value in use may become greater than the asset's carrying amount simply because the present value of future cash inflows increases as they become closer. However, the service potential of the asset has not increased. Therefore, an impairment loss is not reversed just because of the passage of time (sometimes called the 'unwinding' of the discount), even if the recoverable amount of the asset becomes higher than its carrying amount.

Reversal of an Impairment Loss for an Individual Asset

104. The increased carrying amount of an asset due to a reversal of an impairment loss should not exceed the carrying amount that would have been determined (net of amortisation or depreciation) had no impairment loss been recognised for the asset in prior years.

105. Any increase in the carrying amount of an asset above the carrying amount that would have been determined (net of amortisation or depreciation) had no impairment loss been recognised for the asset in prior years is a revaluation. In accounting for such a revaluation, an enterprise applies the MASB Standard applicable to the asset.

106. A reversal of an impairment loss for an asset should be recognised as income immediately in the income statement, unless the asset is carried at revalued amount under another MASB Standard. Any reversal of an impairment loss on a revalued asset should be treated as a revaluation increase under that other MASB Standard.

107. A reversal of an impairment loss on a revalued asset is credited directly to equity under the heading revaluation surplus. However, to the extent that an impairment loss on the same revalued asset was previously recognised as an expense in the income statement, a reversal of that impairment loss is recognised as income in the income statement.

108. After a reversal of an impairment loss is recognised, the depreciation (amortisation) charge for the asset should be adjusted in future periods to allocate the asset's revised carrying amount, less its residual value (if any), on a systematic basis over its remaining useful life.

Reversal of an Impairment Loss for a Cash-Generating Unit

109. A reversal of an impairment loss for a cash-generating unit should be allocated to increase the carrying amount of the assets of the unit in the following order:

(a) first, assets other than goodwill on a pro-rata basis based on the carrying amount of each asset in the unit; and

(b) then, to goodwill allocated to the cash-generating unit (if any), if the requirements in paragraph 111 are met.

These increases in carrying amounts should be treated as reversals of impairment losses for individual assets and recognised in accordance with paragraph 106.

110. In allocating a reversal of an impairment loss for a cash-generating unit under paragraph 109, the carrying amount of an asset should not be increased above the lower of:

(a) its recoverable amount (if determinable); and

(b) the carrying amount that would have been determined (net of amortisation or depreciation) had no impairment loss been recognised for the asset in prior years.

The amount of the reversal of the impairment loss that would otherwise have been allocated to the asset should be allocated to the other assets of the unit on a pro-rata basis.

Reversal of an Impairment Loss for Goodwill

111. As an exception to the requirement in paragraph 101, an impairment loss recognised for goodwill should not be reversed in a subsequent period unless:

(a) the impairment loss was caused by a specific external event of an exceptional nature that is not expected to recur; and

(b) subsequent external events have occurred that reverse the effect of that event.

112. Generally accepted accounting principles prohibit the recognition of internally generated goodwill. Any subsequent increase in the recoverable amount of goodwill is likely to be an increase in internally generated goodwill, unless the increase relates clearly to the reversal of the effect of a specific external event of an exceptional nature.

113. This Standard does not permit an impairment loss to be reversed for goodwill because of a change in estimates (for example, a change in the discount rate or in the amount and timing of future cash flows of the cash-generating unit to which goodwill relates).

114. A specific external event is an event that is outside of the control of the enterprise. Examples of external events of an exceptional nature include new regulations that significantly curtail the operating activities, or decrease the profitability, of the business to which the goodwill relates.

Disclosure

115. For each class of assets, the financial statements should disclose:

(a) the amount of impairment losses recognised in the income statement during the period and the line item(s) of the income statement in which those impairment losses are included;

(b) the amount of reversals of impairment losses recognised in the income statement during the period and the line item(s) of the income statement in which those impairment losses are reversed;

(c) the amount of impairment losses recognised directly in equity during the period; and

(d) the amount of reversals of impairment losses recognised directly in equity during the period.

116. A class of assets is a grouping of assets of similar nature and use in an enterprise's operations.

117. The information required in paragraph 115 may be presented with other information disclosed for the class of assets. For example, this information may be included in a reconciliation of the carrying amount of property, plant and equipment, at the beginning and end of the period.

118. An enterprise that applies MASB 22, Segment Reporting, should disclose the following for each reportable segment based on an enterprise's primary format (as defined in MASB 22):

(a) the amount of impairment losses recognised in the income statement and directly in equity during the period; and

(b) the amount of reversals of impairment losses recognised in the income statement and directly in equity during the period.

119. If an impairment loss for an individual asset or a cash-generating unit is recognised or reversed during the period and is material to the financial statements of the reporting enterprise as a whole, an enterprise should disclose:

(a) the events and circumstances that led to the recognition or reversal of the impairment loss;

(b) the amount of the impairment loss recognised or reversed;

(c) for an individual asset:

(i) the nature of the asset; and

(ii) the reportable segment to which the asset belongs, based on the enterprise's primary format (as defined in MASB 22, Segment Reporting, if the enterprise applies MASB 22);

(d) for a cash-generating unit:

(i) a description of the cash-generating unit (such as whether it is a product line, a plant, a business operation, a geographical area, a reportable segment as defined in MASB 22 or other);

(ii) the amount of the impairment loss recognised or reversed by class of assets and by reportable segment based on the enterprise's primary format (as defined in MASB 22, if enterprise applies MASB 22); and

(iii) if the aggregation of assets for identifying the cash-generating unit has changed since the previous estimate of the cash-generating unit's recoverable amount (if any), the enterprise should describe the current and former way of aggregating assets and the reasons for changing the way the cash-generating unit is identified;

(e) whether the recoverable amount of the asset (cash-generating unit) is its net selling price or its value in use;

(f) if recoverable amount is net selling price, the basis used to determine net selling price (such as whether selling price was determined by reference to an active market or in some other way); and

(g) if recoverable amount is value in use, the discount rate(s) used in the current estimate and previous estimate (if any) of value in use.

120. If impairment losses recognised (reversed) during the period are material in aggregate to the financial statements of the reporting enterprise as a whole, an enterprise should disclose a brief description of the following:

(a) the main classes of assets affected by impairment losses (reversals of impairment losses) for which no information is disclosed under paragraph 119; and

(b) the main events and circumstances that led to the recognition (reversal) of these impairment losses for which no information is disclosed under paragraph 119.

121. An enterprise is encouraged to disclose key assumptions used to determine the recoverable amount of assets (cash-generating units) during the period.

Transitional Provisions

122. This Standard should be applied on a prospective basis only. Impairment losses (reversals of impairment losses) that result from adoption of this MASB Standard should be recognised in accordance with this Standard [i.e., in the income statement unless an asset is carried at revalued amount. An impairment loss (reversal of impairment loss) on a revalued asset should be treated as a revaluation decrease (increase)].

123. However, where an enterprise availed itself of the transitional provision allowed by another MASB Standard to continue to retain the revalued amount of the asset (and subsequently, its carrying amount) as its surrogate cost, then the impairment loss related to that asset should first be applied against any remaining unutilised amount of the revaluation surplus of that asset. When that revaluation surplus has been fully utilised, the remaining impairment loss should be recognised as an expense in the income statement.

124. Before the adoption of this MASB Standard, various MASB Standards included requirements broadly similar to those included in this Standard for the recognition and reversal of impairment losses. However, changes may arise from previous assessments because this Standard details how to measure recoverable amount and how to consider an asset's cash-generating unit. It would be difficult to determine retrospectively what the estimate of recoverable amount would have been. Therefore, on adoption of this Standard, an enterprise does not apply the benchmark or the allowed alternative treatment for other changes in accounting policies in MASB 3, Net Profit or Loss for the Period, Fundamental Errors and Changes in Accounting Policies.

Effective Date

125. This MASB Standard becomes operative for financial statements covering periods beginning on or after 1 January 2002.

Appendix 1

Compliance with International Accounting Standards

As at the date of issue of this Standard, compliance with this Standard will ensure conformity in all material respects with International Accounting Standard IAS 36, Impairment of Assets.

Appendix 2

Illustrative Examples

Contents

Illustrative Examples

The appendix is illustrative only and does not form part of the standards. The purpose of the appendix is to illustrate the application of the standards to assist in clarifying their meaning.

All the examples in this appendix assume the enterprises concerned have no transactions other than those described.

Example 1 - Identification of Cash-Generating Units

The purpose of this example is:

(a) to give an indication of how cash-generating units are identified in various situations; and

(b) to highlight certain factors that an enterprise may consider in identifying the cash-generating unit to which an asset belongs.

A - Retail Store Chain

Background

1. Store X belongs to a retail store chain M. X makes all its retail purchases through M's purchasing centre. Pricing, marketing, advertising and human resources policies (except for hiring X's cashiers and salesmen) are decided by M. M also owns 5 other stores in the same city as X (although in different neighbourhoods) and 20 other stores in other cities. All stores are managed in the same way as X. X and 4 other stores were purchased 5 years ago and goodwill was recognised.

   What is the cash-generating unit for X (X's cash-generating unit)?

Analysis

2. In identifying X's cash-generating unit, an enterprise considers whether, for example:

(a) internal management reporting is organised to measure performance on a store-by-store basis; and

(b) the business is run on a store-by-store profit basis or on a region/city basis.

3. All M's stores are in different neighbourhoods and probably have different customer bases. So, although X is managed at a corporate level, X generates cash inflows that are largely independent from those of M's other stores. Therefore, it is likely that X is a cash-generating unit.

4. If the carrying amount of the goodwill can be allocated on a reasonable and consistent basis to X's cash-generating unit, M applies the 'bottom-up' test described in paragraph 82 of MASB 23. If the carrying amount of the goodwill cannot be allocated on a reasonable and consistent basis to X's cash-generating unit, M applies the 'bottom-up' and 'top-down' tests.

B - Plant for an Intermediate Step in a Production Process

Background

5. A significant raw material used for plant Y's final production is an intermediate product bought from plant X of the same enterprise. X's products are sold to Y at a transfer price that passes all margins to X. 80% of Y's final production is sold to customers outside of the reporting enterprise. 60% of X's final production is sold to Y and the remaining 40% is sold to customers outside of the reporting enterprise.

   For each of the following cases, what are the cash-generating units for X and Y?

   Case 1: X could sell the products it sells to Y in an active market. Internal transfer prices are higher than market prices.

   Case 2: There is no active market for the products X sells to Y.

Analysis

Case 1

6. X could sell its products on an active market and, so, generate cash inflows from continuing use that would be largely independent of the cash inflows from Y. Therefore, it is likely that X is a separate cash-generating unit, although part of its production is used by Y (see paragraph 71 of MASB 23).

7. It is likely that Y is also a separate cash-generating unit. Y sells 80% of its products to customers outside of the reporting enterprise. Therefore, its cash inflows from continuing use can be considered to be largely independent.

8. Internal transfer prices do not reflect market prices for X's output. Therefore, in determining value in use of both X and Y, the enterprise adjusts financial budgets/forecasts to reflect management's best estimate of future market prices for those of X's products that are used internally (see paragraph 71 of MASB 23).

Case 2

9. It is likely that the recoverable amount of each plant cannot be assessed independently from the recoverable amount of the other plant because:

   (a) the majority of X's production is used internally and could not be sold in an active market. So, cash inflows of X depend on demand for Y's products. Therefore, X cannot be considered to generate cash inflows that are largely independent from those of Y; and

   (b) the two plants are managed together.

10. As a consequence, it is likely that X and Y together is the smallest group of assets that generates cash inflows from continuing use that are largely independent.

C - Single Product Enterprise

Background

11. Enterprise M produces a single product and owns plants A, B and C. Each plant is located in a different continent. A produces a component that is assembled in either B or C. The combined capacity of B and C is not fully utilised. M's products are sold world-wide from either B or C. For example, B's production can be sold in C's continent if the products can be delivered faster from B than from C. Utilisation levels of B and C depend on the allocation of sales between the two sites.

    For each of the following cases, what are the cash-generating units for A, B and C?

    Case 1: There is an active market for A's products.

    Case 2: There is no active market for A's products.

Analysis

Case 1

12. It is likely that A is a separate cash-generating unit because there is an active market for its products (see Example B - Plant for an Intermediate Step in a Production Process, Case 1).

13. Although there is an active market for the products assembled by B and C, cash inflows for B and C depend on the allocation of production across the two sites. It is unlikely that the future cash inflows for B and C can be

determined individually. Therefore, it is likely that B and C together is the smallest identifiable group of assets that generate cash inflows from continuing use that are largely independent.

14. In determining the value in use of A and B plus C, M adjusts financial budgets/forecasts to reflect its best estimate of future market prices for A's products (see paragraph 71 of MASB 23).

Case 2

15. It is likely that the recoverable amount of each plant cannot be assessed independently because:

    (a) there is no active market for A's products. Therefore, A's cash inflows depend on sales of the final product by B and C; and

    (b) although there is an active market for the products assembled by B and C, cash inflows for B and C depend on the allocation of production across the two sites. It is unlikely that the future cash inflows for B and C can be determined individually.

16. As a consequence, it is likely that A, B and C together (i.e., M as a whole) is the smallest identifiable group of assets that generate cash inflows from continuing use that are largely independent.

D - Magazine Titles

Background

17. A publisher owns 150 magazine titles of which 70 were purchased and 80 were self-created. The price paid for a purchased magazine title is recognised as an intangible asset. The costs of creating magazine titles and maintaining the existing titles are recognised as an expense when incurred. Cash inflows from direct sales and advertising are identifiable for each magazine title. Titles are managed by customer segments. The level of advertising income for a magazine title depends on the range of titles in the customer segment to which the magazine title relates. Management has a policy to abandon old titles before the end of their economic lives and replace them immediately with new titles for the same customer segment.

    What is the cash-generating unit for an individual magazine title?

Analysis

18. It is likely that the recoverable amount of an individual magazine title can be assessed. Even though the level of advertising income for a title is influenced, to a certain extent, by the other titles in the customer segment, cash inflows from direct sales and advertising are identifiable for each title. In addition, although titles are managed by customer segments, decisions to abandon titles are made on an individual title basis.

19. Therefore, it is likely that individual magazine titles generate cash inflows that are largely independent from one another and that each magazine title is a separate cash-generating unit.

E - Building Half-Rented to Others and Half-Occupied for Own Use

Background

20. M is a manufacturing company. It owns a headquarter building that used to be fully occupied for internal use. After down-sizing, half of the building is now used internally and half rented to third parties. The lease agreement with the tenant is for five years.

    What is the cash-generating unit of the building?

Analysis

21. The primary purpose of the building is to serve as a corporate asset, supporting M's manufacturing activities. Therefore, the building as a whole cannot be considered to generate cash inflows that are largely independent of the cash inflows from the enterprise as a whole. So, it is likely that the cash-generating unit for the building is M as a whole.

22. The building is not held as an investment. Therefore, it would not be appropriate to determine the value in use of the building based on projections of future market related rents.

Example 2 - Calculation of Value in Use and Recognition of an Impairment Loss

In this example, tax effects are ignored.

Background and Calculation of Value in Use

23. At the end of 20X0, enterprise T acquires enterprise M for RM10,000. M has manufacturing plants in 3 countries. The anticipated useful life of the resulting merged activities is 15 years.

Schedule 1. Data at the end of 20X0

End of 20X0	*Allocation of purchase price*	*Fair value of identifiable assets*	*Goodwill*[(1)]
	RM	RM	RM
Activities in Country A	3,000	2,000	1,000
Activities in Country B	2,000	1,500	500
Activities in Country C	5,000	3,500	1,500
Total	10,000	7,000	3,000

(1) Activities in each country are the smallest cash-generating units to which goodwill can be allocated on a reasonable and consistent basis (allocation based on the purchase price of the activities in each country, as specified in the purchase agreement).

24. T uses straight-line depreciation and amortisation over a 15-year life for the Country A assets and no residual value is anticipated.

25. In 20X4, a new government is elected in Country A. It passes legislation significantly restricting exports of T's main product. As a result, and for the foreseeable future, T's production will be cut by 40%.

26. The significant export restriction and the resulting production decrease requires T to estimate the recoverable amount of the goodwill and net assets of the Country A operations. The cash-generating unit for the goodwill and the identifiable assets of the Country A operations is the Country A operations, since no independent cash inflows can be identified for individual assets.

27. The net selling price of the Country A cash-generating unit is not determinable, as it is unlikely that a ready buyer exists for all the assets of that unit.

28. To determine the value in use for the Country A cash-generating unit (see Schedule 2), T:

    (a) prepares cash flow forecasts derived from the most recent financial budgets/forecasts for the next five years (years 20X5-20X9) approved by management;

    (b) estimates subsequent cash flows (years 20X10-20X15) based on declining growth rates. The growth rate for 20X10 is estimated to be 3%. This rate is lower than the average long-term growth rate for the market in Country A; and

    (c) selects a 15% discount rate, which represents a pre-tax rate that reflects current market assessments of the time value of money and the risks specific to the Country A cash-generating unit.

Recognition and Measurement of Impairment Loss

29. The recoverable amount of the Country A cash-generating unit is RM1,360: the higher of the net selling price of the Country A cash-generating unit (not determinable) and its value in use (RM1,360).

30. T compares the recoverable amount of the Country A cash-generating unit to its carrying amount (see Schedule 3).

31. T recognises an impairment loss of RM840 immediately in the income statement. The carrying amount of the goodwill that relates to the Country A operations is eliminated before reducing the carrying amount of other identifiable assets within the Country A cash-generating unit (see paragraph 90 of MASB 23).

32. Tax effects are accounted for separately in accordance with MASB ED 29, Income Taxes (see Example 3A).

Schedule 2. Calculation of the value in use of the Country A cash-generating unit at the end of 20X4

Year	*Long-term growth rates*	*Future cash flows*	*Present value factor at 15% discount rate*[3]	*Discounted future cash flows*
		RM		RM
20X5 (n=1)		230[1]	0.86957	200
20X6		253[1]	0.75614	191
20X7		273[1]	0.65752	180
20X8		290[1]	0.57175	166
20X9		304[1]	0.49718	151
20X10	3%	313[2]	0.43233	135
20X11	-2%	307[2]	0.37594	115
20X12	-6%	289[2]	0.32690	94
20X13	-15%	245[2]	0.28426	70
20X14	-25%	184[2]	0.24719	45
20X15	-67%	61[2]	0.21494	13
Value in use				1,360

[1] Based on management's best estimate of net cash flow projections (after the 40% cut).

[2] Based on an extrapolation from preceding year cash flow using declining growth rates.

[3] The present value factor is calculated as $k = 1/(1+a)^n$, where a = discount rate and n = period of discount

Schedule 3. Calculation and allocation of the impairment loss for the Country A cash-generating unit at the end of 20X4

End of 20X4	*Goodwill*	*Identifiable assets*	*Total*
	RM	RM	RM
Historical cost	1,000	2,000	3,000
Accumulated depreciation / amortisation (20X1- 20X4)	(267)	(533)	(800)
Carrying amount	733	1,467	2,200
Impairment Loss	(733)	(107)	(840)
Carrying amount after impairment loss	0	1,360	1,360

Example 3 - Deferred Tax Effects

(This example is intended to provide an illustration of the deferred tax effects required under MASB ED 29, Income Taxes.)

A - Deferred Tax Effects of the Recognition of an Impairment Loss

Use the data for enterprise T as presented in Example 2, with supplementary information as provided in this example.

33. At the end of 20X4, the tax base of the identifiable assets of the Country A cash-generating unit is RM1,100. Impairment losses are not deductible for tax purposes. The tax rate is 40%.

34. The recognition of an impairment loss on the assets of the Country A cash-generating unit reduces the taxable temporary difference related to those assets. The deferred tax liability is reduced accordingly.

End of 20X4	*Identifiable assets before impairment loss*	*Impairment loss*	*Identifiable assets after impairment loss*
RM	RM	RM	
Carrying amount (Example 2)	1,467	(107)	1,360
Tax base	1,100	-	1,100
Taxable temporary difference	367	(107)	260
Deferred tax liability at 40%	146	(42)	104

35. In accordance with MASB ED 29, Income Taxes, no deferred tax relating to the goodwill was recognised initially. Therefore, the impairment loss relating to the goodwill does not give rise to a deferred tax adjustment.

B - Recognition of an Impairment Loss Creates a Deferred Tax Asset

36. An enterprise has an asset with a carrying amount of RM1,000. Its recoverable amount is RM650. The tax rate is 30% and the tax base of the asset is RM800. Impairment losses are not deductible for tax purposes. The effect of the impairment loss is as follows:

	Before impairment RM	*Effect of impairment* RM	*After impairment* RM
Carrying amount	1,000	(350)	650
Tax base	800	-	800
Taxable (deductible) temporary difference	200	(350)	(150)
Deferred tax liability (asset) at 30%	60	(105)	(45)

37. In accordance with MASB ED 29, Income Taxes, the enterprise recognises the deferred tax asset to the extent that it is probable that taxable profit will be available against which the deductible temporary difference can be utilised.

Example 4 - Reversal of an Impairment Loss

Use the data for enterprise T as presented in Example 2, with supplementary information as provided in this example. In this example, tax effects are ignored.

Background

38. In 20X6, the government is still in office in Country A, but the business situation is improving. The effects of the export laws on T's production are proving to be less drastic than initially expected by management. As a result, management estimates that production will increase by 30%. This favourable change requires T to re-estimate the recoverable amount of the net assets of the Country A operations (see paragraphs 97-98 of MASB 23). The cash-generating unit for the net assets of the Country A operations is still the Country A operations.

39. Calculations similar to those in Example 2 show that the recoverable amount of the Country A cash-generating unit is now RM1,710.

Reversal of Impairment Loss

40. T compares the recoverable amount and the net carrying amount of the Country A cash-generating unit.

Schedule 1. Calculation of the carrying amount of the Country A cash-generating unit at the end of 20X6

	Goodwill	*Identifiable assets*	*Total*
	RM	RM	RM
End of 20X4 (Example 2)			
Historical cost	1,000	2,000	3,000
Accumulated depreciation/ Amortisation (4 years)	(267)	(533)	(800)
Impairment loss	(733)	(107)	(840)
Carrying amount after impairment loss	0	1,360	1,360

Schedule 1. Calculation of the carrying amount of the Country A cash-generating unit at the end of 20X6 (continued)

End of 20X6

Additional depreciation (2 years) [1]	-	(247)	(247)
Carrying amount	0	1,113	1,113
Recoverable amount			1,710
Excess of recoverable amount over carrying amount			597

[1] After recognition of the impairment loss at the end of 20x4, T revised the depreciation charge for the Country A identifiable assets (from RM133.3 per year to RM123.7 per year), based on the revised carrying amount and remaining useful life (11 years).

41. There has been a favourable change in the estimates used to determine the recoverable amount of the Country A net assets since the last impairment loss was recognised. Therefore, in accordance with paragraph 101 of MASB 23, T recognises a reversal of the impairment loss recognised in 20X4.

42. In accordance with paragraphs 109 and 110 of MASB 23, T increases the carrying amount of the Country A identifiable assets by RM87 (see Schedule 3), i.e. up to the lower of recoverable amount (RM1,710) and the identifiable assetsÕ depreciated historical cost (RM1,200) (see Schedule 2). This increase is recognised in the income statement immediately.

43. In accordance with paragraph 111 of MASB 23, the impairment loss on goodwill is not reversed because the external event that led to the recognition of the impairment loss on goodwill has not reversed. The legislation that significantly restricts exports of T's product is still in place, even though its effect is not as severe as expected.

Schedule 2. Determination of the depreciated historical cost of the Country A identifiable assets at the end of 20X6

End of 20X6	*Identifiable assets* RM
Historical cost	2,000
Accumulated depreciation (133.3 * 6 years)	(800)
Depreciated historical cost	1,200
Carrying amount (Schedule 1)	1,113
Difference	87

Schedule 3. Carrying amount of the Country A assets at the end of 20X6

End of 20X6	*Goodwill*	*Identifiable assets*	*Total*
	RM	RM	RM
Gross carrying amount	1,000	2,000	3,000
Accumulated amortisation	(267)	(780)	(1,047)
Accumulated impairment loss	(733)	(107)	(840)
Carrying amount	0	1,113	1,113
Reversal of impairment loss	0	87	87
Carrying amount after reversal of impairment loss	0	1,200	1,200

Example 5 - Treatment of a Future Restructuring

In this example, tax effects are ignored.

Background

44. At the end of 20X0, enterprise K tests a plant for impairment. The plant is a cash-generating unit. The plant's assets are carried at depreciated historical cost. The plant has a carrying amount of RM3,000 and a remaining useful life of 10 years.

45. The plant is so specialised that it is not possible to determine its net selling price. Therefore, the plant's recoverable amount is its value in use. Value in use is calculated using a pre-tax discount rate of 14%.

46. Management approved budgets reflect that:

    (a) at the end of 20X3, the plant will be restructured at an estimated cost of RM100. Since K is not yet committed to the restructuring, a provision has not been recognised for the future restructuring costs; and

    (b) there will be future benefits from this restructuring in the form of reduced future cash outflows.

47. At the end of 20X2, K becomes committed to the restructuring. The costs are still estimated to be RM100 and a provision is recognised accordingly. The plant's estimated future cash flows reflected in the most recent management approved budgets and a current discount rate are the same as those estimated at the end of 20X0.

48. At the end of 20X3, actual restructuring costs of RM100 are incurred and paid. Again, the plant's estimated future cash flows reflected in the most recent management approved budgets and a current discount rate are the same as those estimated at the end of 20X0.

At the End of 20X0

Schedule 1. Calculation of the plantÕs value in use at the end of 20X0

Year	*Future cash flows* RM	*Discounted at 14%* RM
20X1	300	263
20X2	280	215
20X3	420[1]	283
20X4	520[2]	308
20X5	350[2]	182
20X6	420[2]	191
20X7	480[2]	192
20X8	480[2]	168
20X9	460[2]	141
20X10	400[2]	108
Value in use		2,051

[1] Excludes estimated restructuring costs reflected in management budgets.

[2] Excludes estimated benefits expected from the restructuring reflected in management budgets.

49. The plant's recoverable amount (value in use) is less than its carrying amount. Therefore, K recognises an impairment loss for the plant.

Schedule 2. Calculation of the impairment loss at the end of 20X0

	Plant RM
Carrying amount before impairment loss	3,000
Recoverable amount (Schedule 1)	2,051
Impairment loss	(949)
Carrying amount after impairment loss	2,051

At the End of 20X1

50. No event occurs that requires the plant's recoverable amount to be re-estimated. Therefore, no calculation of the recoverable amount is required to be performed.

At the End of 20X2

51. The enterprise is now committed to the restructuring. Therefore, in determining the plant's value in use, the benefits expected from the restructuring are considered in forecasting cash flows. This results in an increase in the estimated future cash flows used to determine value in use at the end of 20X0. In accordance with paragraphs 97-98 of MASB 23, the recoverable amount of the plant is re-determined at the end of 20X2.

Schedule 3. Calculation of the plant's value in use at the end of 20X2

Year	*Future cash flows* RM	*Discounted at 14%* RM
20X3	420[(1)]	368
20X4	570[(2)]	439
20X5	380[(2)]	256
20X6	450[(2)]	266
20X7	510[(2)]	265
20X8	510[(2)]	232
20X9	480[(2)]	192
20X10	410[(2)]	144
Value in use		2,162

[(1)] Excludes estimated restructuring costs because a liability has already been recognised.

[(2)] Includes estimated benefits expected from the restructuring reflected in management budgets.

52. The plant's recoverable amount (value in use) is higher than its carrying amount (see Schedule 4). Therefore, K reverses the impairment loss recognised for the plant at the end of 20X0.

Schedule 4. Calculation of the reversal of the impairment loss at the end of 20X2

	Plant RM
Carrying amount at the end of 20X0 (Schedule 2)	2,051
End of 20X2	
Depreciation charge (for 20X1 and 20X2 + Schedule 5)	(410)
Carrying amount before reversal	1,641
Recoverable amount (Schedule 3)	2,162
Reversal of the impairment loss	521
Carrying amount after reversal	2,162
Carrying amount: depreciated historical cost (Schedule 5)	2,400[1]

[1] The reversal does not result in the carrying amount of the plant exceeding what its carrying amount would have been at depreciated historical cost. Therefore, the full reversal of the impairment loss is recognised.

At the End of 20X3

53. There is a cash outflow of RM100 when the restructuring costs are paid. Even though a cash outflow has taken place, there is no change in the estimated future cash flows used to determine value in use at the end of 20X2. Therefore, the plant's recoverable amount is not calculated at the end of 20X3.

Schedule 5. Summary of the carrying amount of the plant

End Of Year	*Depreciated historical cost*	*Recoverable amount*	*Adjusted depreciation charge*	*Impairment loss*	*Carrying amount after impairment*
	RM	RM	RM	RM	RM
20X0	3,000	2,051	0	(949)	2,051
20X1	2,700	n.c.	(205)	0	1,846
20X2	2,400	2,162	(205)	521	2,162
20X3	2,100	n.c.	(270)	0	1,892

n.c. = not calculated as there is no indication that the impairment loss may have increased/ decreased.

Example 6 - Treatment of Future Capital Expenditure

In this example, tax effects are ignored.

Background

54. At the end of 20X0, enterprise F tests a plane for impairment. The plane is a cash-generating unit. It is carried at depreciated historical cost and its carrying amount is RM150,000. It has an estimated remaining useful life of 10 years.

55. For the purpose of this example, it is assumed that the plane's net selling price is not determinable. Therefore, the plane's recoverable amount is its value in use. Value in use is calculated using a pre-tax discount rate of 14%.

56. Management approved budgets reflect that:

    (a) in 20X4, capital expenditure of RM25,000 will be incurred to renew the engine of the plane; and

    (b) this capital expenditure will improve the performance of the plane by decreasing fuel consumption.

57. At the end of 20X4, renewal costs are incurred. The plane's estimated future cash flows reflected in the most recent management approved budgets and a current discount rate are the same as those estimated at the end of 20X0.

At the End of 20X0

Schedule 1. Calculation of the plane's value in use at the end of 20X0

Year	*Future cash flows* RM	*Discounted at 14%* RM
20X1	22,165	19,443
20X2	21,450	16,505
20X3	20,550	13,871
20X4	24,725[(1)]	14,639
20X5	25,325[(2)]	13,153
20X6	24,825[(2)]	11,310
20X7	24,123[(2)]	9,640
20X8	25,533[(2)]	8,951
20X9	24,234[(2)]	7,452
20X10	22,850[(2)]	6,164
Value in use		121,128

[(1)]Excludes estimated renewal costs reflected in management budgets.

[(2)]Excludes estimated benefits expected from the renewal of the engine reflected in management budgets.

58. The plane's carrying amount is higher than its recoverable amount (value in use). Therefore, F recognises an impairment loss for the plane.

Schedule 2. Calculation of the impairment loss at the end of 20X0

	Plane RM
Carrying amount before impairment loss	150,000
Recoverable amount (Schedule 1)	121,128
Impairment loss	(28,872)
Carrying amount after impairment loss	121,128

Years 20X1 - 20X3

59. No event occurs that requires the plane's recoverable amount to be re-estimated. Therefore, no calculation of recoverable amount is required to be performed.

At the End of 20X4

60. The capital expenditure is incurred. Therefore, in determining the plane's value in use, the future benefits expected from the renewal of the engine are considered in forecasting cash flows. This results in an increase in the estimated future cash flows used to determine value in use at the end of 20X0. As a consequence, in accordance with paragraphs 97-98 of MASB 23, the recoverable amount of the plane is recalculated at the end of 20X4.

Schedule 3. Calculation of the plane's value in use at the end of 20X4

Year	*Future cash flows*[(1)] RM	*Discounted at 14%* RM
20X5	30,321	26,597
20X6	32,750	25,200
20X7	31,721	21,411
20X8	31,950	18,917
20X9	33,100	17,191
20X10	27,999	12,756
Value in use		122,072

[(1)] Includes estimated benefits expected from the renewal of the engine reflected in management budgets.

61. The plane's recoverable amount (value in use) is higher than the plane's carrying amount and depreciated historical cost (see Schedule 4). Therefore, K reverses the impairment loss recognised for the plane at the end of 20X0 so that the plane is carried at depreciated historical cost.

Schedule 4. Calculation of the reversal of the impairment loss at the end of 20X4

	Plane RM
Carrying amount at the end of 20X0 (Schedule 2)	121,128
End of 20X4	
Depreciation charge (20X1 to 20X4 + Schedule 5)	(48,452)
Renewal expenditure	25,000
Carrying amount before reversal	97,676
Recoverable amount (Schedule 3)	122,072
Reversal of the impairment loss	17,324
Carrying amount after reversal	115,000
Carrying amount: depreciated historical cost (Schedule 5)	115,000[(1)]

[(1)] The value in use of the plane exceeds what its carrying amount would have been at depreciated historical cost. Therefore, the reversal is limited to an amount that does not result in the carrying amount of the plane exceeding depreciated historical cost.

Schedule 5. Summary of the carrying amount of the plane

Year	*Depreciated historical cost*	*Recoverable amount*	*Adjusted depreciation charge*	*Impairment loss*	*Carrying amount after impairment*
	RM	RM	RM	RM	RM
20X0	150,000	121,128	0	(28,872)	121,128
20X1	135,000	n.c.	(12,113)	0	109,015
20X2	120,000	n.c.	(12,113)	0	96,902
20X3	105,000	n.c.	(12,113)	0	84,789
20X4	90,000		(12,113)		
Renewal	25,000		-		
	115,000	122,072	(12,113)	17,324	115,000
20X5	95,833	n.c.	(19,167)	0	95,833

n.c. = not calculated as there is no indication that the impairment loss may have increased/ decreased.

Example 7 - Application of the 'Bottom-Up' and 'Top-Down' Tests to Goodwill

In this example, tax effects are ignored.

62. At the end of 20X0, enterprise M acquired 100% of enterprise Z for RM3,000. Z has 3 cash-generating units A, B and C with net fair values of RM1,200, RM800 and RM400 respectively. M recognises goodwill of RM600 (RM3,000 less RM2,400) that relates to Z.

63. At the end of 20X5, A makes significant losses. Its recoverable amount is estimated to be RM1,400. Carrying amounts are detailed below.

Schedule 1. Carrying amounts at the end of 20X5

End of 20X5	*A*	*B*	*C*	*Goodwill*	*Total*
	RM	RM	RM	RM	RM
Net carrying amount	1,300	1,200	800	450	3,750

A - Goodwill Can Be Allocated on a Reasonable and Consistent Basis

64. At the date of acquisition of Z, the net fair values of A, B and C are considered a reasonable basis for a pro-rata allocation of the goodwill to A, B and C.

Schedule 2. Allocation of goodwill at the end of 20X5

	A	*B*	*C*	*Total*
End of 20X0	RM	RM	RM	RM
Net fair values	1,200	800	400	2,400
Pro-rata	50%	33%	17%	100%
End of 20X5				
Net carrying amount	1,300	1,200	800	3,300
Allocation of goodwill (using the pro-rata above)	225	150	75	450
Net carrying amount (after allocation of goodwill)	1,525	1,350	875	3,750

65. In accordance with the 'bottom-up' test in paragraph 82(a) of MASB 23, M compares A's recoverable amount to its carrying amount after the allocation of the carrying amount of goodwill.

Schedule 3. Application of 'bottom-up' test

End of 20X5	*A* RM
Carrying amount after allocation of goodwill (Schedule 2)	1,525
Recoverable amount	1,400
Impairment loss	125

66. M recognises an impairment loss of RM125 for A. The impairment loss is fully allocated to the goodwill in accordance with paragraph 90 of MASB 23.

B - Goodwill Cannot Be Allocated on a Reasonable and Consistent Basis

67. There is no reasonable way to allocate the goodwill that arose on the acquisition of Z to A, B and C. At the end of 20X5, Z's recoverable amount is estimated to be RM3,500.

68. At the end of 20X5, M first applies the 'bottom-up' test in accordance with paragraph 82(a) of MASB 23. It compares A's recoverable amount to its carrying amount excluding the goodwill.

Schedule 4. Application of 'bottom-up' test

End of 20X5	*A* RM
Carrying amount	1,300
Recoverable amount	1,400
Impairment loss	0

69. Therefore, no impairment loss is recognised for A as a result of the Ôbottom-upÕ test.

70. Since the goodwill could not be allocated on a reasonable and consistent basis to A, M also performs a 'top-down' test in accordance with paragraph 82(b) of MASB 23. It compares the carrying amount of Z as a whole to its recoverable amount (Z as a whole is the smallest cash-generating unit that includes A and to which goodwill can be allocated on a reasonable and consistent basis).

Schedule 5. Application of the 'top-down' test

End of 20X5	*A*	*B*	*C*	*Goodwill*	*Z*
	RM	RM	RM	RM	RM
Carrying amount	1,300	1,200	800	450	3,750
Impairment loss arising from the 'bottom-up' test	0	-	-	-	0
Carrying amount after the 'bottom-up' test	1,300	1,200	800	450	3,750
Recoverable amount					3,500
Impairment loss arising from 'top-down' test					(250)

71. Therefore, M recognises an impairment loss of RM250 that it allocates fully to goodwill in accordance with paragraph 90 of MASB 23.

Example 8 - Allocation of Corporate Assets

In this example, tax effects are ignored.

Background

72. Enterprise M has three cash-generating units: A, B and C. There are adverse changes in the technological environment in which M operates. Therefore, M conducts impairment tests of each of its cash-generating units. At the end of 20X0, the carrying amounts of A, B and C are RM100, RM150 and RM200 respectively.

73. The operations are conducted from a headquarter. The carrying amount of the headquarter assets is RM200: a headquarter building of RM150 and a research centre of RM50. The relative carrying amounts of the cash-generating units are a reasonable indication of the proportion of the headquarter building devoted to each cash-generating unit. The carrying amount of the research centre cannot be allocated on a reasonable basis to the individual cash-generating units.

74. The remaining estimated useful life of cash-generating unit A is 10 years. The remaining useful lives of B, C and the headquarter assets are 20 years. The headquarter assets are depreciated on a straight-line basis.

75. There is no basis on which to calculate a net selling price for each cash-generating unit. Therefore, the recoverable amount of each cash-generating unit is based on its value in use. Value in use is calculated using a pre-tax discount rate of 15%.

Identification of Corporate Assets

76. In accordance with paragraph 88 of MASB 23, M first identifies all the corporate assets that relate to the individual cash-generating units under review. The corporate assets are the headquarter building and the research centre.

77. M then decides how to deal with each of the corporate assets:

    (a) the carrying amount of the headquarter building can be allocated on a reasonable and consistent basis to the cash-generating units under review. Therefore, only a 'bottom-up' test is necessary; and

    (b) the carrying amount of the research centre cannot be allocated on a reasonable and consistent basis to the individual cash-generating units under review. Therefore, a 'top-down' test will be applied in addition to the 'bottom-up' test.

Allocation of Corporate Assets

78. The carrying amount of the headquarter building is allocated to the carrying amount of each individual cash-generating unit. A weighted allocation basis is used because the estimated remaining useful life of A's cash-generating unit is 10 years, whereas the estimated remaining useful lives of B and C's cash-generating units are 20 years.

Schedule 1. Calculation of a weighted allocation of the carrying amount of the headquarter building

End of 20X0	*A*	*B*	*C*	*Total*
	RM	RM	RM	RM
Carrying amount	100	150	200	450
Useful life	10 years	20 years	20 years	
Weighting based on useful life	1	2	2	
	RM	RM	RM	RM
Carrying amount after weighting	100	300	400	800
Pro-rata allocation of the building	12% (100/800)	38% (300/800)	50% (400/800)	100%
Allocation of the carrying amount of the building (based on pro-rata above)	RM 19	RM 56	RM 75	RM 150
Carrying amount (after allocation of the building)	119	206	275	600

Determination of Recoverable Amount

79. The 'bottom-up' test requires calculation of the recoverable amount of each individual cash-generating unit. The 'top-down' test requires calculation of the recoverable amount of M as a whole (the smallest cash-generating unit that includes the research centre).

Schedule 2. Calculation of A, B, C and M's value in use at the end of 20X0

	A		*B*		*C*		*M*	
Year	*Future cash flows*	*Discount at 15%*	*Future cash flows*	*Discount at 15%*	*Future cash flows*	*Discount at 15%*	*Future cash flows*	*Discount at 15%*
	RM	RM	RM	RM	RM	RM	RM	
1	18	16	9	8	10	9	39	34
2	31	23	16	12	20	15	72	54
3	37	24	24	16	34	22	105	69
4	42	24	29	17	44	25	128	73
5	47	24	32	16	51	25	143	71
6	52	22	33	14	56	24	155	67
7	55	21	34	13	60	22	162	61
8	55	18	35	11	63	21	166	54
9	53	15	35	10	65	18	167	48
10	48	12	35	9	66	16	169	42
11			36	8	66	14	132	28
12			35	7	66	12	131	25
13			35	6	66	11	131	21
14			33	5	65	9	128	18
15			30	4	62	8	122	15
16			26	3	60	6	115	12
17			22	2	57	5	108	10
18			18	1	51	4	97	8
19			14	1	43	3	85	6
20			10	1	35	2	71	4
Value in Use		199		164		271		720[(1)]

[(1)]It is assumed that the research centre generates additional future cash flows for the enterprise as a whole. Therefore, the sum of the value in use of each individual cash-generating unit is less than the value in use of the business as a whole. The additional cash flows are not attributable to the headquarter building.

Calculation of Impairment Losses

80. In accordance with the 'bottom-up' test, M compares the carrying amount of each cash-generating unit (after allocation of the carrying amount of the building) to its recoverable amount.

Schedule 3. Application of 'bottom-up' test

End of 20X0	*A* RM	*B* RM	*C* RM
Carrying amount (after allocation of the building) (Schedule 1)	119	206	275
Recoverable amount (Schedule 2)	199	164	271
Impairment loss	0	(42)	(4)

81. The next step is to allocate the impairment losses between the assets of the cash-generating units and the headquarter building.

Schedule 4. Allocation of the impairment losses for cash-generating units B and C

Cash-generating unit	*B* RM		*C* RM	
To headquarter building	(12)	(42*56/206)	(1)	(4*75/275)
To assets in cash-generating unit	(30)	(42*150/206)	(3)	(4*200/275)
	(42)		(4)	

82. In accordance with the 'top-down' test, since the research centre could not be allocated on a reasonable and consistent basis to A, B and C's cash-generating units, M compares the carrying amount of the smallest cash-generating unit to which the carrying amount of the research centre can be allocated (i.e., M as a whole) to its recoverable amount.

Schedule 5. Application of the 'top-down' test

End of 20X0	*A*	*B*	*C*	*Building*	*Research centre*	*M*
	RM	RM	RM	RM	RM	RM
Carrying amount	100	150	200	150	50	650
Impairment loss arising from the 'bottom-up' test	-	(30)	(3)	(13)	-	(46)
Carrying amount after the 'bottom-up' test	100	120	197	137	50	604
Recoverable amount (Schedule 2)						720
Impairment loss arising from 'top-down' test						0

83. Therefore, no additional impairment loss results from the application of the 'top-down' test. Only an impairment loss of RM46 is recognised as a result of the application of the 'bottom-up' test.