INTERNATIONAL VALUATION STANDARDS COUNCIL

EXPOSURE DRAFT

Proposed Technical Information Paper 2

Depreciated Replacement Cost

Comments to be received by 31 May 2011

February 2011

Exposure draft

Proposed Technical Information Paper 2

Depreciated Replacement Cost

(published February 2011)

This Exposure Draft is published by the International Valuation Professional Board (IVPB) for comment. The International Valuation Professional Board is an independent technical body of the International Valuation Standards Council (IVSC) responsible for the development of benchmark educational standards and guidance, and for the development of technical guidance to support the application of the International Valuation Standards.

Comments on this Exposure Draft are invited before 31 May 2011. All replies may be put on public record unless confidentiality is requested by the respondent. Comments may be sent as email attachments to CommentLetters@ivsc.org or by post to the **International Valuation Professional Board, 41 Moorgate, London EC2R 6PP, United Kingdom**.

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Note for Respondents

The IVSC publishes the International Valuation Standards ("IVS") that contain high level principles for the conduct of valuation and are aimed at promoting confidence in and understanding of valuations by those who rely upon them. Although the IVS identify different valuation applications and methods commonly used for valuing different types of asset, their role is not to provide detailed guidance.

In order to assist valuation professionals in identifying best practice a series of Technical Information Papers ("TIPs") are produced. TIPs do not form part of IVS and are published separately. Although the TIPs are designed to promote consistency of practice and support the application of the principles in the IVS, they are not intended to be mandatory. The International Valuation Professional Board, ("IVPB") is responsible for producing TIPs.

It is proposed that this exposure draft will replace the current GN8 "The Cost Approach for Financial Reporting" published in IVS 2007.

The intent of this Exposure Draft is to seek views from interested parties. The IVPB seeks comment on the proposed Technical Information Paper and would like respondents to express a clear overall opinion of the Exposure draft. Responses to the specific questions are also invited.

Questions for Respondents

The International Valuation Professional Board invites responses to the following questions. Not all questions need to be answered but to assist analysis of responses received please use the question numbers in this paper to indicate to which question your comments relate. Further comments on any aspect of the Exposure Draft are welcome.

1 It is proposed that this Exposure Draft will replace the current GN8 "The Cost Approach for Financial Reporting - (DRC)". As the name suggests GN8 only covers the use of the cost approach for financial reporting purposes. This exposure draft proposes that a properly applied cost approach can be applied in a wide variety of circumstances.

Do you agree with the argument that the cost approach, if properly applied, can be used as a method to arrive at market value for a variety of purposes other than financial reporting?

2 This Exposure Draft identifies depreciated replacement cost as the most common method of valuation under the Cost Approach. An alternative view is that this is the only method of applying the cost approach.

Which of these views do you support? If you believe that there are other valuation methods that fall under the Cost Approach, please describe them.

3 GN8 in the 2007 edition of IVS identifies the three main types of deduction for obsolescence as physical deterioration, functional obsolescence and external obsolescence. In this Exposure Draft external obsolescence has been replaced with economic obsolescence. Supporters of the proposed change argue that the term economic obsolescence is most commonly used to describe this form of obsolescence. Those who support the existing definition argue that the term external obsolescence more clearly requires all factors that arise from changes to the environment in which the asset operates to be considered, regardless of whether they have a direct economic impact.

Which of these views do you support?

4 The exposure draft provides that where the purpose of the valuation is governed by regulations that preclude adjustment for all forms of obsolescence, for example valuations for tariff setting purposes of regulated monopoly assets, the outcome does not represent market value and should not be described as such.

Do you agree that a cost approach valuation that does not identify and quantify all forms of obsolescence is not a measure of market value?

Exposure Draft

Proposed Technical Information Paper 2 Depreciated Replacement Cost

Technical Information Papers

Technical Information Papers (TIPs) provide technical guidance for valuation professionals on generally accepted best practice. A TIP does not provide valuation training or instruction.

A TIP may give indications and examples of generally accepted best practice, including appropriate valuation methods and criteria for their use. It may also indicate that some approaches or methods are not normally considered appropriate in certain situations. However, a TIP will not direct that a particular approach or method should or should not be used in any specific situation. Responsibility for choosing the most appropriate methods is the responsibility of the valuer based on the facts of each valuation task.

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Introduction

1 The depreciated replacement cost (DRC) method is the most common valuation method under the cost approach[1]. It can be applied to a wide range of asset types. It is frequently used when there is either very limited or no evidence of sales transactions. It may be used to estimate a variety of different bases of value[2].

DRC – overview

2 The cost approach estimates value using the economic principle that a buyer will pay no more for an asset than the cost to obtain an asset of equal utility, whether by purchase or by construction[3]. It is based on the principle of substitution, ie that unless undue time, inconvenience, risk or other factors are involved, the price that a buyer in the market would pay for the asset being valued would not be more than the cost to assemble or construct an equivalent asset.

3 The DRC method is a common application of the cost approach. In assessing what it might be prepared to pay for the subject asset, a potential purchaser may consider as an alternative to acquiring the subject asset, the cost to construct a similar asset having the same functionality. This represents the maximum that a potential purchaser would be prepared to pay for the subject asset if it were new at the date of valuation. Often the asset being valued will be less attractive than the alternative that could be purchased or assembled because of age or obsolescence. Where this is the case, adjustments will need to be made to the cost of the alternative asset. These adjustments are collectively known as depreciation.

When to use the DRC Method

4 The DRC method is most commonly used for the valuation of specialised assets. This is because transactions involving the sale of specialised assets are relatively infrequent and when they do occur, the assets are often sold as part of a going concern business. In such situations, the values attributable to each individual asset may not be agreed by a buyer or seller as part of the transaction and in any event are typically not disclosed.

5 Specialised assets may belong to various classes, including structures, buildings and installations, as well as intangible assets.

6 While specialised assets are often used to generate cash flows (i.e. to produce benefits or economic returns for the owner), the cash flows attributable to individual specialised assets are often not separable from those of the entity or business. Even where a cash flow can be identified for a small group of assets, identifying the cash flow attributable to individual assets within the group may also be problematic.

[1] Draft New International Valuation Standards Framework February 2011

[2] Ibid: - I

[3] Ibid – I

7 For this reason it is often difficult to apply the income approach as the primary approach to the valuation of individual specialised assets. The income approach can however provide a useful method to identify economic obsolescence at the business level.

8 It is also important to recognise that the fact that an asset can be regarded as specialised should not automatically lead to the conclusion that a DRC method should be adopted. To the extent it is possible to apply other valuation approaches it is appropriate to consider these as either primary or cross-checking methods.

9 The DRC method may also be an appropriate method when the asset has recently been acquired new or has been newly constructed.

10 Use of the DRC method is not normally appropriate if the asset being valued is clearly redundant or obsolete as the fundamental premise of the cost approach that a buyer would require an asset of equal utility would not apply.

Replacement Cost

11 The first step in applying the DRC method is to establish the nature of the equivalent asset that the hypothetical buyer would consider as an alternative to the asset being valued. This then determines whether a replacement cost or a reproduction cost should be used in estimating the cost of the alternative asset. In this TIP these terms have the following meanings:

Replacement cost - The current cost of a similar new asset having the nearest equivalent utility as the asset being valued.

Reproduction cost - The current cost of reproducing a new replica of the asset being valued using the same, or closely similar, materials.

12 Replacement cost is normally the most appropriate basis of cost assessment as most buyers would only be willing to pay for an alternative asset providing the equivalent utility to the asset being valued (the "subject asset"). Any features of the subject asset that are redundant or that provide no economic or other benefit to a buyer would not be part of the specification of the alternative to which it is being compared (the "equivalent asset").

13 It is appropriate to use the reproduction cost in situations where the reproduction cost of the subject asset is lower than its replacement cost or where the equivalent utility could only be provided by a replica of the subject asset. An example where the latter might be the case is if the subject asset was nearly new, or if its exact design and features were an integral part of the benefit that would accrue to an owner. An example of the latter would be an iconic building where the design was of greater importance than the functionality of the accommodation within it. In these circumstances, reproduction would be the only form of replacement acceptable to a market participant. Such situations are quite rare in practice.

14 Where the actual cost of acquiring or constructing the subject asset exists and there is a reliable record of cost fluctuations between the date on which this cost was fixed and the valuation date, this can be used to provide an appropriate indication of

replacement cost. It should be noted however that indexation of historic costs can be inaccurate, especially over longer periods.

15 Historic costs may not be a reliable guide to replacement cost as these may include costs other than those attributable to the purchase, installation and commissioning of the subject asset. Historic costs may also represent the cost attributed to the asset following a business merger or other earlier purchase rather than the original cost of creating the asset.

16 Replacement costs should capture all of the costs that would be incurred at the date of valuation by a typical market participant seeking to create a similar asset. These costs can be broadly described as follows:

- Direct costs such as:
  - materials
  - labour
  - freight
  - duty, etc.
- Indirect costs such as:
  - design, legal and other professional costs;
  - engineering, procurement and construction management costs;
  - interest during construction; and
  - entrepreneurial profit margin.

17 To the extent that typical market participants fund the construction of a similar asset with some portion of debt, the interest during construction component is usually calculated having regard to:

- Typical market participant debt/equity ratios for similar construction projects. Interest during construction is calculated in respect of only that portion of the total constructions cost that would be funded by debt.
- Typical market participants' cost of debt.
- Typical construction periods for similar construction projects. This will determine the maximum period over which interest costs will be incurred.
- Typical draw down schedules on debt facilities over the assumed construction period for similar construction projects. Because the entire portion of the debt incurred will not usually be drawn down at the commencement of the construction project, it is necessary to reflect the approximate timing of debt draw downs to calculate the interest during construction.

18 In the context of the valuation of certain assets the inclusion of an "entrepreneurial profit margin" may be warranted. This element represents the amount of economic benefit required to motivate the asset owner to create the asset. Care should be taken however to ensure that this "entrepreneurial incentive" includes only those economic benefits directly related to the subject asset. It would be inappropriate to include economic benefits that relate to any other asset(s). To the extent the

economic benefit relates to a group of assets working in concert to generate income, this will likely be captured as part of goodwill.

Componentisation

19 An asset may be broken down (componentised) into multiple components. Componentisation is generally appropriate where:

- An asset has components that have useful lives that are materially different to other components of that asset
- The components are material to the value of the asset
- It is possible to reliably measure the value of the components

20 The level of componentisation adopted will also be dictated by the available information and the purpose for which the valuation is intended.

21 There are many approaches to componentisation adopted in practice varying from detailed cost segregation analyses to macro valuation approaches. Whilst there is no single correct approach to componentisation, a more granular (componentised) approach will be likely to produce a more robust valuation outcome than a macro approach.

Depreciation

22 It is important to understand that the word "depreciation" is used in a different context in valuation compared to financial reporting or tax law. In financial reporting depreciation is a charge made against income to reflect the use of an asset. This charge is spread on a systematic basis over the useful life of the asset to the entity. Certain tax regimes also provide for "depreciation charges" to be offset against taxable profits. These are distinct usages of the word and are subject to specific definitions and procedures set out in the relevant accounting standard or tax law. In the context of the DRC method, depreciation refers to adjustments made to the cost of an equivalent asset to reflect any comparative obsolescence that affects the subject asset and has no regard to the accounting policies or tax profile of the owner.

23 Depreciation may be all-encompassing or analysed separately for:

- Physical deterioration
- Functional obsolescence
- Economic obsolescence

Physical deterioration

24 Physical deterioration is the loss in value resulting from the reduction in the capacity of an asset to continue to provide the goods or services for which it was designed due to wear and tear, deterioration, physical stresses, and similar factors.

25 It can often be measured by considering the stage of the asset's anticipated total physical life from new that has been reached at the valuation date. Physical deterioration may be constant or vary over the life of the asset. This can result from variations in the intensity of use to which the asset is subjected at different stages of its life. Any such variation is likely to be reflected in the level of maintenance costs.

26 The physical deterioration of the asset is not viewed in absolute terms, but within the context of the impact on its ability to continue to provide the goods or services for which it was designed, otherwise known as its service potential. If the service potential of an asset is undiminished a degree of physical deterioration may not adversely affect the value.

Functional obsolescence

27 Functional obsolescence (sometimes called technical obsolescence) is the loss in value resulting from inefficiencies in the subject asset compared to a more efficient or less costly asset. Functional obsolescence often arises because of advances in technology. A machine may be capable of replacement with a smaller cheaper equivalent that provides a similar output; a modern building may be more energy efficient because of superior insulation and modern services.

28 Functional obsolescence can be measured by considering either the excess operating cost of the subject asset compared with a modern equivalent or the excess capital cost of replacing the subject asset compared with a modern equivalent.

29 Examples of excess operating cost in respect of machinery and equipment include:

- the subject asset may require more operators compared to a currently available replacement asset.
- The subject asset may have a lower rate of productivity compared to a currently available replacement asset.
- The subject asset may produce more scrap or waste material compared to a currently available replacement asset.

30 In each case the present value of the excess operating costs in terms of labour, inefficiency or consumption of raw materials is used to arrive at a measure of functional obsolescence.

31 An example of excess capital cost is where the subject asset is over-engineered for its required function. Over-engineering can arise where methods of construction or materials of construction have improved since the subject asset was originally put into service meaning that a modern replacement providing similar service potential would cost less (i.e. where replacement cost is lower than reproduction cost).

32 Another example of excess capital cost is where the subject asset has excess capacity

compared to the reasonably foreseeable demand. The cost-to-capacity method can be used to make the necessary functional obsolescence adjustment. Under the cost-to-capacity method the replacement cost of an asset with an actual or required capacity can be determined by reference to the cost of a similar asset with a different capacity. This methodology recognises that not all costs vary with size on a linear basis. For example, if the cost of a 2,000 hp locomotive is X it does not necessarily mean that the cost of a 4,000 hp locomotive is X times 2 or the cost of a 1,000 hp locomotive X divided by 2. The exponent (or cost-to-capacity factor) can be determined by analysing published and historical costs of similar assets of different sizes and capacities.

33 One asset's capacity may be limited by the capacity of another related asset and thus may be curable functional obsolescence.

34 Care should be taken to avoid double counting of depreciation. If the replacement cost is based on a modern equivalent this will already assume that any redundant features of the subject asset would not be replaced by a market participant thus making further adjustment for the functional obsolescence associated with these features unnecessary.

35 Optimisation is a term that is sometimes used to describe the process of adjusting the replacement cost to reflect that an asset may be functionally obsolete or over-engineered, or that the asset may have a greater capacity than that required. The concept of optimisation is one given some prominence in valuations of monopoly assets for regulatory pricing purposes in certain regimes.

Economic obsolescence

36 Economic obsolescence is the loss in value caused by factors which are external to the asset itself. Such factors often relate to the economics of the industry in which the business operates or the business in which the asset is employed.

37 Adverse changes in the economic environment, new legislation or regulation, or the fear or risk of such changes, increased raw materials or labour costs or reduced product sales receipts may also contribute to economic obsolescence. These factors may be specific to a particular location or may be more generally experienced throughout an industry sector.

38 Negative movements in gross margin (the difference between an operation's revenues and the cost of the raw materials it uses) may be an indicator of economic obsolescence.

39 Economic obsolescence can be calculated on a percentage basis by comparing the actual operating level of the asset to its rated capacity. The economic obsolescence adjustment is deducted after physical deterioration and functional obsolescence because economic obsolescence is independent of the asset(s).

40 Economic obsolescence may also be assessed for some assets by considering whether the going concern business could afford to pay a market rent for the assets and still generate a market rate of return having regard to the value of the asset.

41 Economic obsolescence may arise when external factors affect an entire business,(i.e. all tangible and intangible assets of the entity or cash generating unit, rather than individual assets). Where this is the case it can be measured using a discounted cash flow or other present value technique.

42 If economic obsolescence is measured by reference to the performance of the whole business, in order to estimate the value of an individual asset using the DRC method the economic obsolescence will have to be allocated to individual assets. Cash or cash equivalents do not suffer obsolescence and are not adjusted. Marketable assets (e.g. land, marketable financial assets, etc.) are not adjusted below their market value determined using the market approach. Illustrative examples of adjusting for economic obsolescence at the whole business level are included in the Annexe to this Exposure Draft.

43 The value of a specialised asset will not be below its value for an alternative use, including for scrap, salvage or recycling, less the costs of clearance including decommissioning and any decontamination required.

44 It is acknowledged that economic obsolescence is typically the most difficult form of obsolescence to identify and quantify. However its impact may be very significant. It would be inappropriate to report the outcome of a DRC valuation of a specialised asset as market value unless economic obsolescence is considered, measured and applied. Market evidence and the methods used to estimate economic obsolescence should be properly disclosed in the report.

Asset life

45 Depreciation of the replacement cost is often measured by comparing the remaining life of the subject asset at the valuation date with its expected total life.

46 The remaining life can be measured by time alone or by the number of units produced or consumed in a given period. The remaining life can also depend on either physical or economic factors, or a combination of both. The physical life is how long the asset, ignoring any potential for refurbishment or reconstruction, could be used before the asset would be completely worn out or beyond economic repair. The economic life is how long it is anticipated that the asset could generate returns or provide a financial benefit. The remaining life for valuation purposes will be the lower of the physical life and economic life where these do not coincide.

47 Some assets may have a residual value at the end of their remaining life as determined above. This may be equivalent to scrap or salvage value or a value that reflects the ability of the asset to contribute to the ongoing operation of a business with increased maintenance and operating costs.

48 In assessing the remaining life, it may be assumed that routine servicing and repairs are undertaken, but the possibility of materially extending the life of the asset by significant refurbishment or the replacement of components is disregarded except where this is part of the normal life-cycle of the asset.

49 For some classes of asset a regular pattern, or profile, of depreciation can be determined over the whole life of the asset, thus enabling the appropriate rate of depreciation at the valuation date to be determined. Typical depreciation profiles include:

- Straight-line: this deducts the same proportion of the original cost for each period of the estimated life of the asset.
- Diminishing value: this deducts a constant percentage rate from the cost at the start of the previous period over the estimated life of the asset.
- S-curve: this deducts different percentage rates for each period over the estimated life of the asset. An example would be where initial depreciation is higher, reduces in the middle years and then increases again towards the end of the asset's life.

50 Depreciation and estimates of the remaining life may be influenced by market trends, the intentions of market participants or both. The application of the DRC method should replicate the deductive process of a potential buyer with limited comparable sales for reference. Depreciation profiles adopted in a DRC method should therefore seek to reflect market dynamics.

51 For some assets market-derived depreciation profiles can be determined from a regression analysis of market sales prices for similar assets compared to replacement costs and capture by default the impact of all forms of obsolescence.

52 For some assets a units-of-production or cycles-based depreciation method may provide a better measure of the consumption of service potential. However this method has some limitations because values are typically required at the individual asset level. It is not always possible to measure units-of-production or cycles at this level because each different type of asset may be replaced on a cycle that reflects the rate at which that item deteriorates over time having regard to various factors such as intensity of use.

53 It is also often problematic to assess the life of individual assets (and complete facilities) measured in terms of units of production or cycles, and therefore, whilst it may be possible to determine the number of units produced or life consumed as at the date of assessment it may be difficult to determine the total number of units that will be produced over the entire life of the asset. There are also difficulties in applying a units-of-production or cycles-based method in respect of assets such as buildings, site improvements and non-production (service and support) assets.

Valuation considerations

54 All appropriate enquiries to obtain a full understanding of the economics of the industry or service line in which the subject asset is employed should be made. An understanding is also necessary to understand the relative advantages or disadvantages of the asset in relation to comparable assets utilised elsewhere in order to properly assess its remaining life, physical deterioration, economic and functional obsolescence.

Bases of value

55 The DRC method can be used to give an indication of value on a variety of bases. If the purpose of the valuation requires a market basis, such as market value or fair value for financial reporting purposes it is important that all the valuation inputs are based as closely as possible on market derived data. For example, the replacement cost should reflect the cost that a market participant would have to pay to acquire an equivalent asset providing the level of utility that a market participant would expect; deductions for obsolescence should be made by reference to the market and views of market participants. It is particularly important that proper regard is had to economic obsolescence based on metrics for the appropriate sector, not just on the financial performance of the current owner which may or may not be typical of market participants generally.

56 When a market basis of value is required it may also be necessary to consider whether the highest and best use of the subject asset is for the existing or an alternative use. If the asset potentially has a higher value for an alternative use the DRC method may not provide an appropriate measure of market value because a market participant would not be considering the cost of replacing the existing asset with an equivalent alternative but instead the economic benefits accruing from the alternative use.

57 An example of the above would be a specialised real property where changes in the locality since its original construction may mean that the property interest may be purchased by someone who would have no intention of continuing the current use but would use the site for a different purpose. Under this scenario the market value would be the higher of:

- the value of the land for the alternative use less the costs of closure, decommissioning and clearance of the existing buildings. The value of the land for the alternative use is likely to have been derived by using either a market approach or an income approach.
- The value of the whole of the specialised property derived using a DRC method, based on the cost of acquiring an equivalent alternative facility for the same use, less depreciation.

58. In this example care should be taken to avoid confusing the two approaches. It is particularly important to make a clear distinction between the value of the land element of the subject asset for the alternative use derived using other valuation methods and the cost of acquiring equivalent land suitable for replacing the existing asset under the DRC method.

59 In various circumstances a basis of value other than market value may be required to be estimated such that all forms of obsolescence will not need to be identified and quantified in respect of individual assets. For example, valuations for tariff setting purposes of regulated monopoly assets and certain statutory purposes are commonplace in many jurisdictions around the world and often stipulate a DRC method at their core but one that does not capture all forms of obsolescence. These include water and wastewater infrastructure, gas pipelines and distribution networks, power stations, rail infrastructure, telephone networks, etc. The outcome of such valuations does not provide a measure of market value and should not be described as such.

Illustrative examples of economic obsolescence

The examples in this annexe illustrate how economic obsolescence for an asset valued using a DRC method can be measured by reference to the whole business or business unit of which it forms part.

In both of the these examples the equity value of the company has been used as the comparative measure. It is equally possible to use the enterprise value as the comparative measure but in those circumstances debt is then excluded from the calculation and certain other adjustments are required.

In order to simplify the examples it has been assumed in each case that no identifiable intangible assets exist. To the extent economic obsolescence is identified it is likely that the value of any identifiable intangible assets would have already been impaired however in limited circumstances (such as a contract intangible) some value may be attributable to identifiable intangible assets and this would then impact the quantum of economic obsolescence to be applied to the tangible assets valued using the DRC method.

Scenario 1

In this scenario the valuer has been engaged to provide a market value for the tangible assets of Company A. Company A operates a special purpose minerals processing operation. The valuer establishes that certain tangible assets can be valued using the market approach and others using the DRC method. It has been determined that the company has no identifiable intangible assets.

In Step 1 the valuer initially finds that the indicated value of all assets valued using the DRC method is CU200,000,000[4] after adjustments for physical deterioration and functional obsolescence but is yet to identify whether any adjustment is required for economic obsolescence.

In order to determine whether any such adjustment is required, the valuer needs to establish the market value of any other assets and liabilities used by the company to generate revenues and the equity value of the company. The valuer establishes that the current value of the tangible assets valued using the market approach is CU50,000,000, the cash held is CU10,000,000 and the liabilities are (CU50,000,000). The total indicated net value of the assets and liabilities is therefore CU210,000,000.

In Step 2 the equity value of the company determined using a discounted cash flow method or capitalisation of earnings method is assessed at CU250,000,000.

In Step 3, the valuer compares the equity value of the company with the indicated values of all assets and liabilities of that company. The equity value of the company exceeds the indicated values of all assets and liabilities by CU40,000,000. The valuer concludes that no economic obsolescence adjustment is required in respect of the tangible assets valued using the DRC method.

[4] CU = "Currency Unit"

The fact pattern also indicates that there is goodwill of CU40,000,000 being the difference between the equity value and the value of the company's assets and liabilities.

Step 1

Assets/Liabilities	Valuation method	Initial indicated value (pre economic obsolescence)	Note
Tangible assets[1]	Market approach	CU50,000,000	Values established by reference to recent comparable sales
Tangible assets[2]	DRC	CU200,000,000	Economic obsolescence yet to be identified
Cash	Carrying value	CU10,000,000	Carrying value determined to approximate market value
Liabilities (including debt)	Carrying value	-CU50,000,000	Carrying value determined to approximate market value
Goodwill	Residual	?	Unknown until value of business determined
Net assets		CU210,000,000	

Step 2

Equity value	DCF/capitalisation of earnings	CU250,000,000	Mid-point of value range assumed to approximate market value

Step 3

Assets/Liabilities	Valuation method	Market value (post economic obsolescence)	Note
Tangible assets[1]	Market comparison	CU50,000,000	No adjustment made as value determined from the market
Tangible assets[2]	DRC	CU200,000,000	No economic obsolescence identified
Cash	Carrying value	CU10,000,000	No adjustment made as carrying value determined to approximate market value
Liabilities (including debt)	Carrying value	-CU50,000,000	No adjustment made as carrying value determined to approximate market value
Goodwill	Residual	CU40,000,000	Balance of equity value less value of identifiable assets and liabilities
Total		CU250,000,000	

Scenario 2

In the hypothetical scenario below the valuer has been engaged to provide a market value of the tangible assets of the same company. However long-term forecasts in respect of the price of the commodity produced by the company have fallen recently as a result of new low cost producers of the same commodity entering the market.

As in Scenario 1 the valuer initially finds that the indicated value of all assets valued using the DRC method is CU200,000,000 after adjustments for physical deterioration and functional obsolescence but is yet to identify whether any adjustment is required for economic obsolescence.

In order to determine whether any such adjustment is required, the valuer needs to establish the market value of any other assets and liabilities used by the company to generate revenues and the equity value of the company.

As in Scenario 1 the total indicated net value of the assets and liabilities is CU210,000,000.

In Step 2 the equity value of the company determined using a discounted cash flow method or capitalisation of earnings method is assessed at CU150,000,000 (reflecting the reduced earnings expected as a result of reduced commodity prices).

In Step 3, the valuer compares the equity value of the company with the indicated values of all assets and liabilities of that company. The indicated value of the assets and liabilities exceeds the equity value by CU60,000,000. The valuer concludes that an economic obsolescence adjustment is required in respect of the tangible assets valued using the DRC method equal to the difference between the equity value of the company and the indicated value of the assets and liabilities (CU60,000,000).

The fact pattern also indicates that there is likely to be no goodwill.

Scenario 2 Economic obsolescence/no goodwill

Step 1

Assets/Liabilities	Valuation method	Initial indicated value (pre economic obsolescence)	Note
Tangible assets[1]	Market approach	CU50,000,000	Values established by reference to recent comparable sales
Tangible assets[2]	DRC	CU200,000,000	Economic obsolescence yet to be identified
Cash	Carrying value	CU10,000,000	Carrying value determined to approximate market value
Liabilities (including debt)	Carrying value	-CU50,000,000	Carrying value determined to approximate market value
Goodwill	Residual	?	Unknown until value of business determined
Net assets		CU210,000,000	

Step 2

Equity value	DCF/capitalisation of earnings	CU150,000,000	Mid-point of value range assumed to approximate market value

Step 3

Assets/Liabilities	Valuation method	Market value (post economic obsolescence)	Note
Tangible assets[1]	Market comparison	CU50,000,000	No adjustment made as value determined from the market
Tangible assets[2]	DRC	CU140,000,000	Economic obsolescence identified (-CU60,000,000)
Cash	Carrying value	CU10,000,000	No adjustment made as carrying value determined to approximate market value
Liabilities (including debt)	Carrying value	-CU50,000,000	No adjustment made as carrying value determined to approximate market value
Goodwill	Residual	CU0	Balance of equity value less value of identifiable assets and liabilities
Total		CU150,000,000	