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International Accounting Standards Board

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These notes are based on the staff papers prepared for the IASB. Paragraph numbers correspond to paragraph numbers used in the IASB papers. However, because these notes are less detailed, some paragraph numbers are not used.

INFORMATION FOR OBSERVERS

Board Meeting:	**20 June 2008, London**
Project:	**Extractive Activities research project**
Subject:	**Accounting for reserves and resources and related assets (Agenda Paper 10)**

Purpose

1. The research project's Discussion Paper will identify, and invite public comment on, the key features of an accounting model for assets relating to minerals and oil & gas reserves and resources. This paper focuses on the key features – or building blocks – of the accounting model that might apply to the initial recognition of these assets.

2. The building blocks that are relevant to initial asset recognition include:

   (a) basic approach;

   (b) asset definition;

   (c) asset recognition; and

   (d) unit of account selection.

3. Accounting issues subsequent to initial recognition are not considered in this paper unless they have a significant influence on decisions made on the model to be used for accounting at initial recognition.

Section 1: Basic Approach

Focus on the asset definition and recognition criteria

4. Consistent with the *Framework*, the key issue is whether an asset exists that meets the recognition criteria. If there is no such asset then the income statement reflects the expensing of costs directly in the period incurred. On the other hand, if there is an asset that meets the recognition criteria then, under historical cost accounting, the costs incurred are capitalised (subject to impairment) and there is no current effect on income. The effect under a fair value measurement model would be similar in that the amount at which the asset is recorded would be a credit to income, directionally offsetting the period costs.

Current practice

5. It is common for entities in the minerals or oil & gas industries to disclose accounting policies for different phases of upstream extractive activities. These phases typically include the following:

   (a) prospecting;

   (b) exploration and evaluation;

   (c) development and construction;

   (d) production; and

   (e) closure.

   Some of these phases might be combined when the same accounting policy applies.

6. Accounting standard setters have also addressed accounting for extractive activities in terms of the phases of activity. IFRS 6 *Exploration for and Evaluation of Mineral Resources* is focused on two specific phases. FAS 19 *Financial Accounting and Reporting by Oil and Gas Producing Companies* separately addresses accounting for

the acquisition of properties, exploration, development and production as well as for support equipment and facilities.

7. This predominance of practice might suggest that the accounting for extractive activities should focus on the phase of activity. Under this approach, specific activities and/or types of costs incurred (e.g. exploration) would be prescribed as either being recognised as an asset or alternatively recognised as an expense. To incorporate this approach into an IFRS, the Board would need to identify all the relevant activities and/or costs and make a determination as to whether the costs qualify for recognition as an asset or should be expensed. Focusing on the phases of activity has the benefit of using language that industry participants commonly use to describe their business. This alignment between accounting and business operations is probably helpful to preparers and to users of financial statements in making the accounting policies understandable.

8. A difficulty with this approach is that undertaking an activity or incurring a cost does not, of itself, determine whether an entity has something of positive economic value. For instance, the activity may or may not have been successful or the cost incurred may or may not have an enduring benefit. Therefore an accounting model that sets a rule to, say, capitalise all costs incurred during a specific phase of upstream extractive activity will only be consistent with the definition of an asset when the facts and circumstances indicate that the costs incurred are generating an enduring benefit to the entity. This suggests that it is likely to be difficult to develop comparable (rather than simply uniform)[1] accounting requirements that are based on definitions of activities or phases.

9. An additional issue with this approach is the need to clearly define the different phases and activities to the extent that they result in different accounting treatments. However it may prove difficult to clearly define and delineate each activity or phase with sufficient precision that an accounting decision could be based on these definitions. For instance, the IASC Steering Committee on Extractive Industries' Issues Paper

[1] The IASB/FASB Conceptual Framework project's Discussion Paper on the qualitative characteristics of decision-useful information explains, at paragraph Q37, that:

> "*Comparability has sometimes been confused with uniformity. For information to be comparable, like things must look alike and different things must look different. An overemphasis on uniformity, for example, requiring all entities to use the same assumptions on economic factors such as the expected future dividend rate on their shares as inputs to a valuation model, may reduce comparability by making unlike things look alike. Comparability of financial reporting information is not enhanced by making unlike things look alike any more than it is by making like things look different.*"

Extractive Industries of November 2000 (the 2000 Issues Paper) notes that "The upstream phases in the mining industry and in the petroleum industry are quite similar even though the precise activities in a given phase vary between industries and even within the same industry" [emphasis added].[2] Similarly, PricewaterhouseCoopers notes in *Financial Reporting in the Mining Industry for the 21st Century* (1999) that "The points at which one phase ends and another begins are important when accounting for the costs of each phase. The phases often overlap, and sometimes several phases may occur simultaneously. Consequently, it is not always easy to determine the cut-off point for costs between the various phases".[3] KPMG's *Global Mining Reporting Survey 2006* also made a similar observation specifically in relation to accounting for development costs when it noted that "Significant accounting issues include consideration of what development costs should be capitalised and the determination of when development ends and production begins. Furthermore, development often continues after production has begun giving rise to further accounting issues such as accounting for deferred stripping costs, lay-backs in open pit mines and extension of drifts with underground operations."[4]

10. However this focus on phases of activity does not need to be fundamentally different from focusing on the asset definition and recognition criteria. For each phase, it is necessary to determine whether the activities result in something that meets the asset definition and recognition criteria. If the activities do result in this, then under the current historical cost model the expenditures are capitalised. The distinction between phases is often consistent with meeting the asset definition and recognition criteria. In FAS 19, a development well is defined as "a well drilled within the proved area of an oil or gas reservoir to the depth of a stratigraphic horizon known to be productive". FAS 19 takes the view that proved reserves are an asset (and that probable reserves are not an asset) and defines exploration and development consistent with that view. Similarly IFRS 6 defines development expenditures as "expenditures incurred… after the technical feasibility and commercial viability of extracting a mineral resource are demonstrable".

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2 2000 Issues Paper, paragraph 2.1
3 PwC 1999, paragraph 1.2
4 KPMG 2006, section 2.4.1

11. The project team's view is that the focus on phases of activity in accounting policy disclosures by entities and existing accounting standards can be consistent with the *Framework* approach of determining if an asset exists and if it meets the recognition criteria. However, focusing on phases of activity introduces unnecessary complexity as the phases have to be clearly defined and then each phase analysed to determine if it results in an asset that can be recognised. The project team believes that, in researching the accounting for extractive activities and in the eventual development of an IFRS, the focus should be on the asset definition and recognition criteria – that is, when is there an asset that can be recognised. That is not to say that the accounting model will ignore the phases of upstream extractive activities. As the next section illustrates, the phases may help in identifying items that might meet the asset definition and recognition criteria.

12. It is the reserve and resource classifications such as those promulgated by the Committee for Mineral Reserves International Reporting Standards (CRIRSCO) for the minerals industry and by the Society of Petroleum Engineers (SPE) for the oil & gas industry, rather than the phases of extractive activities, that are the primary basis for communicating information to users regarding the outcome of the upstream extractive activities undertaken by the entity to date. Therefore, in the project team's opinion, an accounting model that clearly links to the classifications of reserves and resources is most likely to provide useful information to users of financial reports. Once the accounting is determined, then expressing it in terms of the various phases may be useful application guidance and helpful to the preparers who have to apply the IFRS and to users of financial statements.

Identifiable items

13. The 2000 Issues Paper, at paragraph 4.8, provides a non-exhaustive list of types of assets that entities in the extractive industries may have, including:

    (a) rights to explore for, develop, or produce minerals and rights to receive royalties;

    (b) ownership of properties containing or likely to contain mineral reserves;

    (c) knowledge arising from exploration or similar activities and research and development designed to improve available technologies;

(d) individually identifiable self-constructed assets such as processing plants or wells; and

(e) assets that represent the cost of accessing known mineral reserves.

14. Current practice in presenting or describing these assets varies. This was noted in the KPMG 2006 survey, which found that companies use a variety of different captions on the balance sheet or notes to describe their mining assets, including mineral assets, mineral rights, mineral licences, mining interests, mine development, mine properties, mine infrastructure, mine plant and facilities, plant and equipment, land, shafts, mobile equipment, rehabilitation assets, and smelters and refineries. In the oil & gas industry, FAS 19, for example, refers to assets such as minerals interests in properties; uncompleted wells and related equipment and facilities; and wells and related equipment and facilities.

15. There is a common sequence of activities undertaken by entities engaged in upstream extractive activities. These start with prospecting and exploration. In the early stages of these activities, knowledge of the geology and the presence and extent of any mineral or oil & gas deposit in a particular location is usually limited – hence these uncertainties would mean that the value attributable to these activities is normally relatively low at this stage. Over time the exploration will increase the understanding of the deposit to the point where an assessment can be made as to whether there is a mineral or oil & gas resource that can be economically developed. Assuming the deposit is then developed and production undertaken, the development and production activities will continue to generate knowledge that will improve the entity's understanding of the deposit.

16. In the early stages, the entity has exploration rights and knowledge about the area to which the rights relate (i.e. the property) – these are intangible in nature. At the later stages, the entity has sufficient knowledge to recognise that there are minerals or oil & gas in the ground that are economically developable – these are tangible in nature. These minerals or oil & gas – which may be classified as minerals or oil & gas reserves – would be expected to subsume the intangible rights and knowledge, as these intangibles are not separable from the minerals or oil & gas reserves. Key questions that are addressed later in this paper are whether the intangibles should be recognised as

assets and at what point there is a minerals or oil & gas reserve that meets the criteria to be recognised as an asset.

17. The table below provides more detail on some of the items that are typically in existence or in use during the different phases of upstream extractive activities. The next section considers whether these items are capable of satisfying the definition of an asset. A later section then considers the unit of account that should be applied in accounting for these assets.

Table 1

<table>
<tr><th>Types of items / assets</th><th>Prospecting phase</th><th>Exploration and evaluation phase</th><th>Development and construction phase</th><th>Production phase</th></tr>
<tr><td colspan="5">a. Intangibles</td></tr>
<tr><td rowspan="2">Legal instruments / approvals necessary for undertaking upstream extractive activities (e.g. mineral rights)</td><td rowspan="2">Prospecting permits are sometimes required to undertake prospecting activities.</td><td>Exploration rights (and any other rights or approvals required to commence exploration activities in a defined area) must be held.

The legal rights associated with having exploration approval usually also provide the entity with exclusive and unconditional rights to apply for any future rights and approvals.</td><td>Mineral rights (and any other rights or approvals required to commence development of a mine or field and to construct related infrastructure) must be held.

Often there will be a series of rights and/or approvals that must be obtained throughout this phase.</td><td>A pre-requisite to full-scale production is that all rights and approvals to commence extraction of the minerals or oil & gas must be held.</td></tr>
<tr><td colspan="3">When a minerals or oil & gas reserve is recognised, the legal instruments / approvals asset is accounted for as part of the minerals or oil & gas reserve asset as it is not separable from it. (Refer paragraph 16 and Section 4 below.)</td></tr>
<tr><td>Information</td><td>Information may be obtained from:

• historical records and other publicly available data (e.g. some governments make information available to encourage exploration activity);

• an entity’s own prospecting activities (e.g. site surveys);</td><td colspan="2">Throughout these phases (and into production), information about the minerals or oil & gas deposit is being generated through drilling and analysis.

When a minerals or oil & gas reserve is recognised, the information asset is accounted for as part of the minerals or oil & gas reserve asset as it is not separable from it.
(Refer paragraph 16 and Section 4 below.)</td><td></td></tr>
</table>

Types of items / assets	Prospecting phase	Exploration and evaluation phase	Development and construction phase	Production phase
	or • third parties, via the purchase of prospecting information. Prospecting information may also be acquired from a third party.			
b. Tangibles				
Minerals or oil & gas deposit (the reserves and resources)		A deposit is known to exist but a development decision has not been made. Exploration and evaluation activities continue to increase knowledge about the deposit. The value of the deposit may increase or decrease depending on the results.	Development decision has been made. Development activities include drilling development wells (oil & gas) and removal of overburden or sinking shafts (mining). The value of the deposit will normally increase as a result of the development work.	Minerals or oil & gas asset is expensed over time, usually in proportion to production of the reserve.
Plant and equipment (indicative examples are…)	survey equipment motor vehicles	drilling rigs motor vehicles	processing plants platforms pipelines roads and railways site offices and similar facilities	processing plants platforms pipelines roads and railways site offices and similar facilities

Section 2: Asset definition

18. With the definition of an ‘asset’ under review as part of the IASB/FASB conceptual framework project, the following analysis is based on what are considered to be the core components of the conceptual definition of an asset – this is apparent from both the existing *Framework* definition of an asset and the proposed revised definition.

19. An asset is something that:

    (a) has enforceable rights that enables an entity to access or deny (or limit) the access of others to the economic resource (in other words, the economic resource can be controlled);

    (b) has positive economic value (in other words, future economic benefits are expected); and

    (c) presently exists.

20. The following analysis considers whether legal rights, information and reserves and resources can satisfy the definition of an asset.

Legal rights

21. Legal rights arising from legal instruments and approvals necessary for undertaking upstream extractive activities are expected to be either a form of:

    (a) prospecting rights, which generally speaking only entitles an entity to access an area for a relatively short period of time in order to carry out prospecting activities such as geological and geophysical tests;

    (b) exploration rights such as exploration permits, which generally speaking entitle the entity to conduct exploration activities and will give the entity the option to acquire or apply for minerals rights; or

    (c) mineral rights, which generally speaking entitle the entity to explore for, develop and produce minerals or oil & gas.

22. Mineral rights can vary in their nature. For instance, mineral rights may be acquired by:

(a) purchasing the minerals rights and thereby having outright ownership of the mineral property rights; or

(b) obtaining a lease or concession. A lease or concession is granted by the owner of the mineral rights (usually a government) and, in general terms, it provides the entity holding the lease or concession with the right to explore for, develop and produce minerals or oil & gas from the property. The terms of the lease or concession will vary in different jurisdictions. For instance, the duration of the lease or concession arrangement may be for as long as minerals or oil & gas are produced from the property or for a more limited period. Typically, royalties will be required to be paid, and these may be worked out on the basis of a percentage of sales or production. The payment of a signature bonus may or may not also be required when the arrangement is entered into. The lease or concession may impose conditions on the entity to undertake, at a minimum, specified activities within a particular time period and/or to spend a specified amount on those activities.

Entities may also enter into contracts, such as joint arrangements or production sharing contracts. Depending on the facts and circumstances of the contractual arrangement, this may give the entity access to minerals rights or alternatively a right to future cash flows. This paper considers the accounting implications for mineral rights. The analysis should not change depending on the form of mineral right. However, this analysis does not specifically apply to the accounting for contractual arrangements where the entity has a right to future cash flows only (and not mineral rights). These arrangements are not addressed in this paper

Can the rights arising from legal instruments satisfy the definition of an asset?

Enforceable rights?	The rights conferred under these legal instruments (e.g. property titles, leases, or contracts) would be legally enforceable. For exploration and mineral rights, even though the entity may not be legally entitled to commence exploration, development or production activities when only holding these legal instruments, the holder of these legal instruments would be expected to have the unconditional right to apply for any outstanding rights or approvals necessary to commence those activities. The legal rights would also preclude other entities from commencing those activities. For prospecting rights, the entity would be expected to have, at a minimum,

	privileged access to the area to conduct prospecting activities.
Positive economic value?	Provided the legal instruments are still in effect and valid, they should have positive economic value. Value is embodied in unexpired duration of time that the legal rights remain in existence, which allows the entity to have access to an area and to continue to perform the activities permitted by the rights (e.g. exploration activities, development activities).
Presently exist?	The legal instruments exist at the time they have legal effect and will remain in existence until they cease to have effect.
CONCLUSION	These rights meet the definition of an asset. This conclusion is consistent with IAS 38 *Intangible Assets*. Prospecting, exploration and mineral rights are identifiable assets, since they are separable and they also arise from contractual or legal rights.

Accounting for rights and approvals

23. In many circumstances, even though an entity may hold all relevant legal rights (e.g. exploration rights or mineral rights), the entity may not be legally entitled to commence exploration drilling or the extraction of minerals or oil & gas until it has obtained various approvals. See, for example, Appendix A which outlines the approval processes in the Australian state of Victoria for conducting exploration and mining activities. These approvals usually need to be obtained from government (or their agencies), and include environmental and workplace health and safety approvals. In the project team's opinion, these approvals are not separate assets. They do not satisfy the test for identifiability under IAS 38.12 as they are not separable and do not arise from contractual or other legal rights. Furthermore, the approvals would not satisfy the asset definition as the future economic benefits arising from the receipt of the approval cannot be obtained unless the entity also holds the relevant legal rights. Rather, the approvals can be viewed as improvements or enhancements of the legal rights asset because the receipt of the approval would remove an explicit or implicit condition or restriction on the ability of the holder of the legal rights to utilise the legal rights. This is not an extractive industries specific issue. For instance, a new factory may require a workplace health and safety approval from a government agency before it can be commissioned for use. The receipt of this approval is not a separate asset, but it removes a restriction on the ability of the owner of the factory to realise future economic benefits from its use.

24. In other circumstances, the mineral rights (e.g. production sharing agreements in some countries) may cover thousands of square kilometres with many potential mineral deposits. Accounting for geographically broad exploration rights is considered further in Section 4 of this paper (about unit of account selection).

Information asset

25. The information being considered here is knowledge relating to geology of an area and, in particular, information about whether, and to what extent, minerals or oil & gas may be present or absent in that area. This information will be generated throughout the life of a project, commencing at either the prospecting or exploration phases and continuing on through the production phase.

Can information satisfy the definition of an asset?

Enforceable rights?	If an entity has legal rights to a property, those rights also mean the entity controls the benefits of information relating to the property that has been internally generated or acquired from third parties. The information might be considered an enhancement of the legal rights rather than something separate from them. Where the entity does not have legal rights to the property (e.g. during the prospecting phase), then the information would only qualify as an asset of the entity if the entity kept the information secret. This view is consistent with IAS 38.14, which states "Market and technical knowledge may give rise to future economic benefits. An entity controls those benefits if, for example, the knowledge is protected by legal rights such as copyrights, a restraint of trade agreement (where permitted) or by a legal duty on employees to maintain confidentiality".
Positive economic value?	Knowledge of the geology obtained through activities such as drilling and analysis of the drilling results has positive economic value. This information has most value when the knowledge being obtained indicates the presence of an economically recoverable quantity of minerals or oil & gas. Arguably, even information that indicates that no minerals or oil & gas are present in an area has some positive economic value.
Presently exist?	The information must have been generated internally or acquired.
CONCLUSION	Present information about a property for which the entity has legal rights meets the definition of an asset. Where the entity does not have legal rights to the property then the information would only qualify as an asset if it remains secret and is not available to other entities. If the information suggests the property does not contain sufficient minerals or oil & gas to be produced, this will affect recognition of the asset and/or its measurement.

Mineral reserves and resources

26. Broadly speaking, mineral and oil & gas reserves and resources are the in-place[5] minerals or oil & gas located on a property that has reasonable prospects for eventual economic extraction.[6] The reserves and resources definitions are subdivided into classifications such as proved reserves, probable reserves, possible reserves, inferred resources, and contingent resources. The different classifications do not represent different assets – they represent the volumes associated with different degrees of certainty about the size and economic producibility of quantities of in-place minerals or oil & gas.

Can reserves and resources satisfy the definition of an asset?

Enforceable rights?	To control reserves and resources, the entity must have the legal rights to extract the minerals or oil & gas from the ground. In some cases, an entity with the mineral rights relating to the reserves and resources may not be legally entitled to extract the minerals or oil & gas until it has also obtained various approvals from governmental authorities or other parties. Common examples are environmental and workplace health & safety approvals. Therefore, to control reserves and resources, there is a question as to whether the entity must hold: • all rights and approvals to commence extraction of the minerals or oil & gas (View A); or • the core rights and approvals associated necessary to extract the minerals and oil & gas with all outstanding approvals expected to be received during the ordinary course of business (View B).
Positive economic value?	The positive economic value is embodied in future cash flows that may be generated from extracting the minerals or oil & gas.
Presently exist?	The reserves and resources must be discovered. Also, the relevant rights to the minerals or oil & gas must be current (i.e. not expired).

[5] In-place minerals or oil & gas refer to the minerals or oil & gas that have not yet been extracted and are still located in or near the earth's crust.

[6] The references to reserves and resources in this paper are to the definitions of:
(a) 'mineral reserves' and 'mineral resources' in the *International Reporting Template for the public reporting of Exploration Results, Mineral Resources and Mineral Reserves* (July 2006) promulgated by the Committee for Mineral Reserves International Reporting Standards (for simplicity, this is hereafter referred to as the CRIRSCO system); and
(b) 'reserves' and 'marginal contingent resources' in the *Petroleum Resource Management System* (March 2007) prepared by the Oil and Gas Reserves Committee of the Society of Petroleum Engineers (for simplicity, this is hereafter referred to as the SPE system).
The recent findings from the SPE/CRIRSCO convergence review (see Comparison of Petroleum and Minerals Reserves and Resources Classification Systems, as presented in March 2008 IASB agenda paper package) concluded that the CRIRSCO and SPE classifications of reserves and of mineral resources / marginal contingent resources are comparable classifications.

CONCLUSION	Mineral or oil & gas reserves and resources can meet the definition of an asset. Because of the different views on when the entity has control of the reserves and resources, an issue requiring further consideration is identifying when reserves and resources initially satisfy the asset definition. This is discussed further in paragraphs 27-37 below.

When does an entity have control of reserves and resources?

27. There are two possible interpretations about what may constitute control in the context of a minerals or oil & gas reserve or resource.

28. View A is that control of reserves and resources refers to having the absolute right to extract the mineral or oil & gas from the ground. This would imply that all the rights (including permits, licences and approvals) necessary for development and production would have to be in place, including governmental and environmental approvals, agreements with landowners and others with rights (such as indigenous peoples). Under this view, without holding all the rights and approvals to commence extracting the mineral or oil & gas, an entity does not yet have the capacity to benefit from the reserves and resources as it does not yet have the right to produce and sell (or use) the mineral or oil & gas. Indeed if the outstanding rights are not forthcoming, the entity may never have the capacity to benefit from the reserves and resources.

29. View B is that control of the reserves and resources can be evidenced by the entity having:

    (a) legal rights that are sufficient to both provide with entity with legal title over the reserves and resources for the purpose of developing and producing the minerals or oil & gas (e.g. a lease or concession) and to deny other entities access to those reserves and resources; and

    (b) received approvals that, in substance, will dictate whether or not the entity can reasonably expect to exercise its legal rights to develop and produce the minerals or oil & gas (e.g. if there are environmental concerns regarding a project proceeding, environmental approval might need to be granted before an entity can be confident that it will be able to commence development and production); and

    (c) the unconditional ability to apply for any outstanding rights or approvals that are ancillary in nature and are expected to be obtained on a timely basis.

While there may be some uncertainties about the outstanding rights and approvals, these uncertainties would be expected to only affect the timeframe and costs that may need to be incurred to obtain those rights and approvals. Therefore, this uncertainty should only affect the recognition and measurement of the asset. It should not have a material affect on the assessment of whether there is an asset – if it did, arguably condition (b) above has not really been satisfied.

30. In the project team's opinion, View A takes a narrow view of control since, for example, it contemplates that a reserves and resources asset may not exist until immediately prior to production in cases when the final approval to proceed to production cannot be received until the development project is complete and is inspected). This deferral of the identification of a reserves and resources asset is not considered to faithfully represent the underlying economic substance of the rights held by the entity. In contrast, View B draws a distinction between the rights and approvals that, in substance, provide evidence of the entity's ability to control the reserves and resources, and the other 'procedural' rights and approvals that the entity expects to obtain in the ordinary course of business.

31. The project team sees View B as being consistent with the rational economic behaviour of entities and financial statement users. Entities often incur substantial costs on developing a property in advance of final approvals, which may only be obtainable after the money has been spent. These costs are incurred because the entity believes it has the right to apply for, and the expectation it will receive, the outstanding approvals and thereby gain unconditional control of the property. The following announcement to the Australian Securities Exchange (ASX) by Woodside Petroleum Limited provides an example of the size and nature of investment decisions that may be made prior to holding all rights and approvals to extract minerals or oil & gas.

The announcement to the ASX, *Woodside Approves Pluto LNG Project,* of 27 July 2007, stated that:

> The Board of Woodside Petroleum Ltd. has approved development of the Pluto Liquefied Natural Gas (LNG) Project, subject to receipt of final environmental and other regulatory approvals.

> … To date approximately A$796 million has been spent on all phases of the Pluto field and LNG Project.[7] The Board approved additional funding of up to A$11.2 billion for project on a 100% basis. Later works, requiring additional funding approval, will include compression and the tie-in of the Xena field.
>
> … The Pluto LNG Project was sanctioned subject to environmental and other regulatory approvals being obtained with acceptable conditions. Environmental approvals from the State and Commonwealth governments are expected soon. These approvals will need to be obtained by September 2007 to enable the agreed schedule with customers to be satisfied. Heritage approvals have already been received. …

The subsequent announcement to the ASX, *Pluto Receives Environmental Approval*, of 12 October 2007, stated:

> Woodside has been advised by the Commonwealth Minister for the Environment and Water Resources that environmental approval for the Pluto LNG Project has been granted.
>
> Commonwealth environmental approval is the last of the key State and Federal environmental and heritage approvals required for the project to proceed. This approval allows for construction of the Pluto LNG Project to be commenced.
>
> Other regulatory approvals continue to be received in line with expectations.

32. The project team notes that under the View B interpretation of control, if the entity is not subsequently successful in obtaining all of the rights and approvals necessary to be legally entitled to extract the minerals or oil & gas, this would be an indicator of impairment and the asset may be written down (in accordance with IAS 36 *Impairment of Assets*) or derecognised.

The reserve and resource classification systems' view on control

33. The emphasis on control also exists within the classification of minerals and oil & gas reserves and resources under the CRIRSCO system and the SPE system, noting that both systems contemplate a view of control that is more consistent with View B.

CRIRSCO view

34. The CRIRSCO system does not require an entity to have absolute authority to mine before being able to recognise a resource or reserve. Rather the CRIRSCO definitions of mineral resources and mineral reserves are based on the expectation that the necessary rights and approvals to mine will be forthcoming. This is implied by the definition of a 'mineral resource', which requires that there must be "reasonable

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[7] The *Pluto Project Approval* presentation which accompanied the announcement stated that "Expenditure from drilling Pluto-1 to the end of July 2007 is forecast to be around $800 million. This covers exploration, appraisal, studies, front-end-engineering and procurement of some long lead items" (page 4).

prospects for eventual economic extraction". The CRIRSCO system also does not explicitly indicate the legal rights that must be held before a mineral reserve can be recognised, although it indicates that criteria that should be considered when reporting mineral reserves or mineral resources include "the security of the tenure held at the time of reporting along with any known impediments to obtaining a licence to operate in the area".[8] For mineral resources to convert to mineral reserves, the CRIRSCO definition of 'mineral reserves' requires an assessment of realistically assumed legal, environmental, social and governmental factors to be able to demonstrate that, at the time of reporting, extraction could reasonably be justified and, therefore, that a reserve can be recognised. Each of these factors may influence whether an entity can control the reserves.

35. The intent behind allowing an entity that reasonably expects to receive any outstanding approvals to recognise a mineral reserve is understood to relate to expectations that ancillary rights and approvals will be obtained in the ordinary course of business. The CRIRSCO guidelines allow the Competent Person[9] making the estimate to use their judgment in considering the materiality of any unresolved matter that is dependent on a third party on which extraction is contingent. The CRIRSCO guidelines go on to list criteria that should be considered in making reserves estimates, which includes "the status of title and approvals critical to the viability of the project, such as mining leases, discharge permits, government and statutory approvals".[10]

36. *The SME Guide for Reporting Exploration Results, Minerals Resources and Mineral Reserves* (and also known as the 2007 SME Guide), which is prepared by the Society for Mining, Metallurgy and Exploration in the USA, provides guidance that elaborates on the principle in the CRIRSCO system in relation to control.[11] Paragraph 56 of the SME Guide says:

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8 CRIRSCO International Reporting Template, page 23

9 "Competent Person' is defined in CRIRSCO (paragraph 10) as "A 'Competent Person' is a person who is a Member or Fellow of a recognised professional body relevant to the activity being undertaken, and who is subject to enforceable Rules of Conduct. A Competent Person must have a minimum of five years experience relevant to the style of mineralisation and type of deposit under consideration and to the activity which that person is undertaking."

10 CRIRSCO International Reporting Template, page 27

11 The SME Guide 2007 is a CRIRSCO-style reporting standard. However unlike other CRIRSCO-style reporting standards such as the JORC Code in Australia and the SAMREC Code in South Africa, the SME Guide is not used to set the public reporting requirements for reserve and resource information in the USA. In the USA, the relevant regulatory reporting system is the SEC Industry Guide 7 *Description*

> For a mineral deposit to be considered a Mineral Reserve, it is required that legally enforceable mineral title sufficient to allow exploration, development and extraction is controlled by the reporting entity at the time of determination. If the reporting entity is leasing or sub-leasing the mineral, the lease or sub-lease should be from an entity which has control of the necessary mineral titles. There must be no known material obstacles to mining, such as those which have caused shut down of mines or processing plants, or failure to get permits to operate. There must be a reasonable expectation that all permits, ancillary rights and authorizations required for mining, and to the extent applicable processing, can be obtained in a timely fashion, and maintained for ongoing operations.

Commentary accompanying this paragraph then states:

> The reporting entity must complete a review of all legal and permitting requirements and document the results of this review. Local environmental laws and processes must be taken into account. To demonstrate reasonable expectation that all permits, ancillary rights and authorizations can be obtained, the reporting entity must show understanding of the procedures to be followed to obtain such permits, ancillary rights and authorizations. Demonstrating earlier success in getting the necessary permits can be used to document the likelihood of success. If permits are required, but there is no defined procedure to obtain such permits, reasonable expectation of success may be questioned. …
>
> It is recognized that some permits cannot be obtained until after a reserve has been declared. There might be sound business reasons why obtaining some permits should be postponed. It is also recognized that waiting for all permits to be on hand could result in critical information not being released to the investors in a timely fashion. …

SPE view

37. In the case of oil & gas reserves and resources, the SPE system states that reserves assessments are directed at the unit of account being the intersection of the reservoir (i.e. the in-place volumes of oil & gas), the project (i.e. the project to recover a portion of the in-place volumes and deliver an estimated quantity of marketable product) and the lease (i.e. the ownership and fiscal terms associated with the lease or property containing the reservoir). Similar to the approach adopted in the CRIRSCO system, the SPE system does not require an entity to have absolute authority to extract the oil & gas before being able to recognise a resource or reserve. The guidelines that accompany the definition of 'reserves' explain that for a project to be included in the reserves classification, "there must be a reasonable expectation that all required internal and external approvals will be forthcoming".[12] Further commentary explains that a criterion to be used to determine commerciality includes "evidence that legal, contractual, environmental and other social and economic concerns will allow for the actual implementation of the recovery project being evaluated".[13]

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of property by issuers engaged or to be engaged in significant mining operations, which is not a CRIRSCO-style reporting standard.

12 PRMS, page 24

13 PRMS, page 6

Plant and equipment

38. IAS 16 *Property, Plant and Equipment* would apply to plant and equipment relating to extractive activities. This paper considers whether some plant and equipment assets should be recognised separately in accordance with IAS 16 or whether they should form part of a larger unit of account that also includes the reserves and resources asset identified in Table 1 – this is considered in Section 4 below.

Section 3: Asset recognition

39. Section 1 indicates that the assets that exist during phases of upstream extractive activities can be seen as forming a continuum. This starts with an intangible asset consisting of legal rights to explore and possibly produce minerals or oil & gas. As exploration and evaluation activities occur information (or knowledge) is generated. At some point the intangible assets relating to the legal rights and information are transformed into a tangible asset – minerals or oil & gas that is economically recoverable. Section 2 indicates that legal rights, information, and minerals or oil & gas reserves and resources are each capable of satisfying the definition of an asset.

40. This raises two issues with respect to recognition:

    (a) When along this continuum should an asset first be recognised?

    (b) At what point does the intangible asset of legal rights and information become the tangible asset of the minerals or oil & gas in the ground?

Asset recognition

41. With the recognition criteria for an 'asset' under review as part of the IASB/FASB conceptual framework project, the following analysis on asset recognition is based on two different scenarios.

42. The first scenario applies the existing asset recognition criteria (as per paragraph 89 of the existing *Framework*), being:

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

    (b) the asset has a cost or value that can be measured reliably.

43. The second scenario contemplates an emerging approach, which uses the Board's recently confirmed decision to remove the probable future economic benefits recognition criterion from the recognition of liabilities (refer the February 2008 edition of IASB *Update* regarding Liabilities – amendments to IAS 37) and applies that decision to asset recognition. Under this emerging IAS 37 approach, probability would

be a factor for measurement and recognition would occur by meeting only one criterion – that the asset has a cost or value that can be measured reliably.

Recognition of the intangible assets

Legal rights

44. A legal rights asset should be capable of being recognised as an asset when it is initially acquired. This applies to all types of legal rights – prospecting rights, exploration rights and minerals rights. The point of initial recognition is the same under either recognition criteria scenario for the reasons outlined in IAS 38.25, which states:

> Normally, the price an entity pays to acquire separately an intangible asset will reflect expectations about the probability that the expected future economic benefits embodied in the asset will flow to the entity. In other words, the entity expects there to be an inflow of economic benefits, even if there is uncertainty about the timing or the amount of the inflow. Therefore, the probability recognition criterion in paragraph 21(a) is always considered to be satisfied for separately acquired intangible assets.

45. The project team believes that all of the abovementioned legal rights would be acquired through a transaction. (The research project's Discussion Paper can be used to validate whether this view is accurate.) The character of the transaction from which the legal rights are acquired may differ, but in each instance it is expected that the rights will have been acquired through a transaction with another entity or a government.

46. The legal rights asset should be capable of being measured reliably at initial recognition. IAS 38.26 notes that "the cost of a separately acquired intangible asset can usually be measured reliably". The project team agrees that the view expressed in IAS 38 is appropriate for legal rights such as exploration rights and mineral rights. The cost of the rights acquired can differ substantially depending on market mechanism for acquiring the rights. For instance, in Australia, a mineral exploration right may be acquired by the physical act of 'pegging' an exploration area (i.e. staking a claim) and then applying for an exploration permit through the local jurisdiction's mining department. The cost of acquiring this exploration permit may be a nominal amount that broadly corresponds to the cost to the mining department in processing the entity's application for the exploration permit. Another process for acquiring exploration rights in some jurisdictions, especially in the oil & gas industry, is to auction new exploration blocks to the highest bidder. In this case, the amount paid by the winning bidder would represent

an initial assessment of the likelihood that economically recoverable oil & gas may exist on that property.

47. Typically the cost and fair value attributable to a transaction will be synonymous. This may not always be the case for legal rights assuming the measurement objective for legal rights at initial recognition is to be fair value (or some other current valuation). Cost and fair value are most likely to differ where a 'pegging' process is applied to acquire mineral rights. The fair value of an exploration right would be expected to take into account the prospectivity of the property. It would also take into account the cost of meeting any expenditure or other exploration commitments that are attached to the legal rights and that must be undertaken else the rights are forfeited as well as other factors such as the taxation or royalty regime that may apply to any eventual production of minerals or oil & gas on that property. The discussion below on the fair value measurement of information is equally relevant to the question of whether the fair value of legal rights assets can be measured reliably in circumstances like these.

Information

48. The information asset represents the information generated primarily from exploration and evaluation activities.[14] The question being considered here is when, and how much of, that information is capable of being recognised as an asset.

49. Under the existing *Framework's* recognition criteria, one view (View A) is that the probable future economic benefits threshold can only be satisfied for information assets when the exploration and evaluation activities are assessed as being more likely than not to be 'successful' – that is, when minerals or oil & gas is discovered and a project to develop and produce the minerals or oil & gas is expected to generate a positive net present value. This interpretation is likely to result in much of the information generated during exploration and evaluation activities not being capable of satisfying the recognition threshold. This is acknowledged in the PricewaterhouseCoopers publication, *Financial reporting in the mining industry** (June 2007), which discusses the application of the *Framework's* recognition principle to exploration expenditure and evaluation expenditure.

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[14] As noted earlier in the paper, information about the property continues to be generated through the development and production phases, however the value attributable to the information is expected to be reflected in the tangible reserves asset.

For exploration expenditure, the publication states:

> Exploration expenditure is often made in the hope (rather than the expectation) that there will be future economic benefits. Success rates tend to be low. It is difficult for an entity to demonstrate that the recovery of exploration expenditure is probable. As a result, exploration expenditure has to be expensed if the IASB Framework is applied. However, this does not mean that all exploration expenditure is written off under the IASB Framework. For example, it may be appropriate to recognise an asset in respect of exploration activities:
>
> - around an existing mine, where the entity has substantial knowledge about the mineral deposit and has constructed the infrastructure and/or processing facilities needed to exploit the additional resources that it expects to find; or
>
> - in an area with a proven history of return on the amounts spent.[15]

For evaluation expenditure, the publication states:

> Evaluation activities are further advanced than exploration and are therefore more likely to meet the criteria for recognising an asset. However, each project needs to be considered on its merits. The amount of evaluation work required before the entity can conclude that a viable mine exists, and hence a future economic benefit is probable, can vary according to the particular circumstances of each area of interest. Factors to be considered include:
>
> - the entity's existing level of knowledge about the area of interest and the extent to which the infrastructure assets and processing facilities needed to exploit the mineral deposit already exist. This will depend on whether the evaluation activity relates to:
>
> – a greenfield site (one where the entity does not have any mineral deposits that are already being mined or developed); or
>
> – a brownfield site (one adjacent to a mineral deposit that is already being mined or developed); or
>
> – extension drilling for a mineral deposit that is already being mined or developed;
>
> - the scale of the project's estimated net present value and the sensitivity of the net present value to changes in the key assumptions. This will depend on the nature and quality of the mineral deposit, and also the extent of the up-front capital costs needed to develop the mine;
>
> - the availability of the funding needed to undertake the project. This can be a major issue for smaller mining entities;
>
> - the level of risk associated with the project, including political risk and operational risk;
>
> - the existence of any barriers that might prevent the project from proceeding (such as securing water supplies, obtaining environmental approvals or developing the required technology); and
>
> - management's experience and track record.[16]

50. Under this view, an information asset is most likely to satisfy the probable future economic benefits threshold when the information relates to 'brownfield' sites or to

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15 PwC, *Financial reporting in the mining industry** (June 2007), page 12

16 PwC, *Financial reporting in the mining industry** (June 2007), pages 12-13

additional exploration and evaluation activities undertaken at existing mines or fields. For information generated from exploration and evaluation activities undertaken at 'greenfield' sites, the probable future economic benefits threshold may only be satisfied when an entity proceeds to commence developing a mine or field, in which case it is likely to have recognised a reserve. Therefore, information assets relating to greenfields sites would be unlikely to be separately recognised, as the future economic benefits embodied when the information can satisfy the probable future economic benefits threshold would be reflected in the reserves asset that has been recognised.

51. However, probable future economic benefits may be interpreted more broadly to include the potential proceeds if the entity decided to sell the property (View B). For instance, where there has been a discovery on a property, but it is too early to determine whether extraction of the minerals or oil & gas is economically recoverable, it could be argued that the information provides the property with 'real option' value. Conceivably, real option value could exist at, or soon after, discovery and could be realised either through the entity proceeding to evaluate, develop and produce the deposit or through the sale of the property rights. Under this view, the real option value might only decrease to zero once further assessments confirm that it is not expected to be economically viable for the entity or any other market participant to develop and produce the minerals or oil & gas deposit. Consequently, until that time or until a reserve is declared, the information arising from exploration can result in economic benefits flowing to the entity either from future development or from sale of the property. Under this alternative view the initial recognition of information assets would be the same under the existing *Framework* and the emerging IAS 37 approach, assuming a reliable measurement can be obtained (see paragraphs 58-61 below)

Comparison of Views A and B with IAS 38

52. Although the research project is not necessarily constrained to developing possible accounting models for pre-production activities that are consistent with existing literature other than the *Framework*, it is helpful to also consider accounting for information obtained from upstream extractive activities from the perspective of the requirements in IAS 38 for internally generated intangible assets.

53. Internally generated information would include exploration carried out directly by the entity or by others on its behalf (such as a contractor or the operator in a joint venture). It includes exploration carried out after the acquisition of exploration rights or of an exploration property, consistent with paragraph 42 of IAS 38.

54. IAS 38 identifies a research phase and a development phase. Costs incurred during the research phase are immediately recognised as expenses. Paragraph 57 discusses the development phase and states:

> An intangible asset arising from development (or from the development phase of an internal project) shall be recognised if, and only if, an entity can demonstrate all of the following:
>
> (a) the technical feasibility of completing the intangible asset so that it will be available for use or sale.
>
> (b) its intention to complete the intangible asset and use or sell it.
>
> (c) its ability to use or sell the intangible asset.
>
> (d) how the intangible asset will generate probable future economic benefits. Among other things, the entity can demonstrate the existence of a market for the output of the intangible asset or the intangible asset itself or, if it is to be used internally, the usefulness of the intangible asset.
>
> (e) the availability of adequate technical, financial and other resources to complete the development and to use or sell the intangible asset.
>
> (f) its ability to measure reliably the expenditure attributable to the intangible asset during its development.

55. These criteria use the phrase ‘use or sell’. Considering ‘use’ first, properties that do not meet the criteria to be recognised as a reserve asset would not meet criterion (b) since the intention to develop the property has not been demonstrated. There will also often be questions about the technical feasibility and the capacity of the entity (in terms of the entity’s access to adequate technical, financial and other resources) in order to be able to realise the benefits. The ‘use’ criteria would therefore suggest that an information asset cannot be recognised. View A above reaches the same conclusion.

56. However, there is an active market for resource properties in general. Many resource properties at various stages of exploration are bought and sold, sometimes for significant amounts. Considering the criteria in IAS 38 paragraph 57 in the context of ‘sell’ it can be argued that the criteria are met, as follows:

(a) the property can be sold ‘as is’ so technical feasibility of completing the asset is not relevant;

(b) while the entity may not have the current intention of selling the property, attempting to do so is always a possibility and if exploration results are not sufficiently encouraging this will likely be done;

(c) the entity will generally have the legal right to sell the property and the existence of an active market would facilitate this;

(d) a market for exploration properties exists;

(e) the technical, financial and other resources necessary to sell a property are not of a size to impede or prevent a sale; and

(f) exploration and development costs are measured as part of the normal accounting process.

Certainly there are some properties that have sufficiently unfavourable exploration results that they could not be sold, and there may be some where the legal right to sell the property does not exist – but, in general, entities are able to sell resource properties.

57. The analysis under IAS 38 has similarities to the use of real option value in View B, whereby the future economic benefits embodied in the information may be able to be realised by full sale or partial sale, such as through a farm-in arrangement. Therefore recognition of an information asset would be based on the ability of the entity to sell that asset, whether or not it had such an intention.

Can an information asset be measured reliably?

58. The project team's view is that there appears to be conceptual justification for recognising exploration property assets relating to the information generated from exploration and evaluation activities.

59. If exploration assets were to be recognised, further research would need to be undertaken in respect of the measurement of these assets. This is particularly important if View B is preferred as it would result in an asset being recognised if it exists (i.e. satisfies the asset definition) and provided it can be measured reliably.

60. Cost of the information should be able to be measured reliably at initial recognition, noting though that the cost of obtaining information would potentially require cost

allocation and apportionment decisions to be made depending on the extent to which the costs incurred are directly attributable to the information asset. This is no different from measuring the cost of a self-constructed asset in accordance with IAS 16.

61. In the current value or fair value model, the reliable measurement of exploration assets will need to be considered further. Determining the fair value or current value of an information asset will often be very difficult and subjective. Fair value measurement issues associated with reserves and resources have been discussed with the Board in previous meetings. However the valuation of the information assets / exploration properties is more subjective and uncertain than the valuation of properties that have reserves, because their valuation is made with much less information available.

Impairment testing

62. The project team believes that the impairment issue is the most critical issue in determining whether to recognise an exploration asset. An exploration decision is made on a go-forward basis and sunk costs are not relevant to this decision. It is possible for a decision to develop a property to be rational even though the total amount spent exploring and developing a property exceeds its recoverable value.

63. Regardless of whether the measurement attribute for information assets is fair value or historical cost, some of the issues with fair valuing these assets will be encountered in the subsequent measurement of the assets in a historical cost model. A consequence of applying View B (which is based on identifying real option value) is that an impairment assessment under IAS 36 may be required each reporting period until the economic performance of the asset is reasonably assured. This is because IAS 36's indicators approach to identifying when an asset should be tested for impairment includes indicators of economic impairment and physical impairment. Conceivably, this could require the recoverable amount for the exploration asset to be determined at each reporting period (which would be expected to be based on fair value less costs to sell). This would effectively introduce a de-facto fair value measurement of minerals or oil & gas assets, albeit one-sided in that it would generally only result in a write-down the value of the asset; there would be no upwards revaluation (unless the value of the asset subsequently increases because an impairment is reversed). So even applying View B within a historical cost measurement model will bring with it some of the problems

64. The alternative approach would be to restrict the impairment indicators for exploration assets to indicators of physical impairment. For example, IFRS 6 includes the following indicators:

(a) expiry of exploration rights;

(b) no further work budgeted or planned; and

(c) discontinuance of exploration on the property.

IFRS 6 also requires a test for impairment when sufficient data exists to indicate the carrying amount is unlikely to be recovered from development or sale. This modification of the IAS 36 requirements was not supported by at least 2 Board members at the time of voting to make IFRS 6.

Implications

65. Assuming an information asset can be measured reliably (which would be expected to occur at least in the case of historical cost measurement), it would result in an asset being recognised for most exploration activities. This could lead to a change in existing accounting policies for many mining entities and those oil & gas entities that use successful efforts accounting, as costs that are currently expensed under successful efforts accounting such as unsuccessful drilling and seismic work might be capitalised rather than immediately written down if the information those activities generate has positive real option value. This does not mean that all costs incurred to generate information would be capitalised. For instance, an asset would not be recognised where lack of exploration success made it unlikely that the information or the property rights could be sold. In a historical cost environment, it is expected that impairment writedowns (or possibly de-recognition) of these assets will be a frequent occurrence given the high levels of risk and uncertainty associated with exploration and evaluation activities. Further consideration will need to be given to calculating recoverable amounts for these assets.

66. The project team's view on the treatment of exploration assets is based on a conceptual analysis. However, recognising exploration assets may not be consistent with the accounting required in IFRSs for other intangible assets, such as technology and pharmaceutical research projects which are accounted for under IAS 38. Unless a logical distinction can be made between exploration assets and other intangible assets, a decision to recognise exploration assets may have implications for the accounting for other intangible assets. One distinction suggested by anecdotal evidence in the financial media is that it may be more common for exploration assets to be bought and sold compared with many other intangible assets.

Recognition of the tangible asset – the reserves and resources

67. Identifying the point of initial recognition of the reserves asset is relevant because it also marks the point along the continuum when the intangible assets – the legal rights and the information – will cease to be separately recognised. (There may be some limited exceptions – see paragraph 109 in Section 4.)

Recognition approaches

68. The probable future economic benefits recognition criterion (per Scenario 1) requires considering questions such as:

    (a) when is it probable that economic benefits will flow to the entity?

    (b) what conditions must be met?

    (c) what degree of confidence (or certainty) is required and what knowledge does the entity need to possess to provide this degree of confidence?

69. There are two main approaches available for applying the probable future economic benefits criterion to the recognition of tangible reserves and resources asset:

    (a) Approach A – let the criterion take precedence; and

    (b) Approach B – use the minerals and oil & gas reserves and resources classifications to implement the criterion.

Approach A – rely on the principle

70. Relying only on the *Framework's* recognition criterion in determining the point of initial recognition is an approach adopted in several other IFRSs. For instance, the following standards provide limited amplifying guidance on applying the meaning of probable to specific types of assets:

    (a) IAS 16 *Property, Plant and Equipment*, which states that "An entity evaluates under this recognition principle all its property, plant and equipment costs at the time they are incurred" (refer paragraph 10);

    (b) IAS 38 *Intangible Assets*, which states that, for intangible assets other than internally generated intangibles and research and development,[17] "An entity shall assess the probability of expected future economic benefits using reasonable and supportable assumptions that represent management's best estimate of the set of economic conditions that will exist over the useful life of the asset" (refer paragraph 22);

    (c) IAS 40 *Investment Property*, which states that "An entity evaluates under this recognition principle all its investment property costs at the time they are incurred" (refer paragraph 17); and

    (d) IAS 41 *Agriculture*, which states that "The future benefits are normally assessed by measuring the significant physical attributes" (refer paragraph 11).

71. An advantage of leaving the application of the probable recognition criterion to the judgement of the preparers and auditors of financial reports is that the recognition of mineral assets would be treated consistently with the recognition of many other non-financial assets under IFRSs, such as property, plant and equipment, and biological assets. On the other hand, there is a corresponding risk that different interpretations of 'probable future economic benefits' may emerge between entities, commodities or jurisdictions, which would detract from comparability. This risk is likely to be more pronounced in the case of reserves and resources assets because they are subject to

[17] The project team considers the specific requirements in IAS 38, paragraph 57 for accounting for the development phase of internally generated intangible assets are broadly analogous to the conditions that support the reserves classification under the SPE and CRIRSCO systems. In that sense, the development

greater levels of uncertainty than for assets such as property, plant and equipment and biological assets. Unlike many other assets, minerals and oil & gas assets are subject to volumetric uncertainty and the judgements made on (technically) recoverable volumes of minerals or oil & gas together with other uncertain assumptions, including economic assumptions, will determine whether the minerals or oil & gas is economically recoverable and, therefore, whether the asset has probable future economic benefits.

72. Without accompanying guidance or requirements, the range of interpretations regarding when the probable future economic benefits threshold would be satisfied in relation to minerals or oil & gas assets could become unacceptably diverse.

Approach B – use the reserves and resources classifications

73. The CRIRSCO and SPE reserve and resource definitions provide a comprehensive classification system for minerals and oil & gas deposits. The questions outlined in paragraph 68 above for determining whether probable future economic benefits exist are addressed within the reserve and resource classification system. For instance, to make a judgement about the existence of probable future economic benefits for a minerals or oil & gas property, the preparer or auditor would require knowledge of the geological aspects of the reserve and resource as well as economic and other considerations that would influence whether the property will be developed and that a net economic benefit will be realised by the entity. These are the same factors that are used in the CRIRSCO and SPE definition systems to determine the classification of minerals and oil & gas reserves and resources.

74. The project team believes that the probable future economic benefits recognition threshold would be satisfied no later than the time when the definition of a mineral reserve or oil & gas reserve is satisfied. When an entity declares a reserve, it has effectively communicated its intention to develop and produce minerals or oil & gas from the property. Also implicit with the decision is that the project will generate an economic return (otherwise a rational entity would not invest in the project). For example, CRIRSCO requires that a mineral reserve be "economically mineable" – implying that extraction of the reserve has been demonstrated to be viable under reasonable financial assumptions. This is normally determined by a series of

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phase requirements are akin to using the reserve classification to identify the point of initial recognition of

A ‘pre-feasibility study’, as defined by CRIRSCO,[18] is:

> …a comprehensive study of the viability of a mineral project that has advanced to a stage where the mining method, in the case of underground mining, or the pit configuration, in the case of an open pit, has been established, where an effective method of mineral processing has been determined, and includes a financial analysis based on reasonable assumptions of technical, engineering, legal, operating and economic factors and evaluation of other relevant factors which are sufficient for a Competent Person, acting reasonable, to determine if all or part of the Mineral resource may be classified as a Mineral Reserve.

A ‘feasibility study’, also defined by CRIRSCO,[19] is:

> …a comprehensive study of a mineral deposit in which all geological, engineering, legal, operating, economic, social, environmental and other relevant factors are considered in sufficient detail that it could reasonably serve as the basis for a final decision by a financial institution to finance the development of the deposit for mineral production.

75. The difference between a pre-feasibility study and a feasibility study is explained in the SPE/CRIRSCO comparison document,[20] which states that:

> The end point of a Pre-Feasibility study will normally provide sufficient confidence to indicate that a project is most likely viable, based on a quantity of Proved and/or Probable Reserves, while the Feasibility study will demonstrate this to a level of accuracy required to make the investment commitment. Approval to proceed with construction generally occurs following a Feasibility study.

76. Similarly, the SPE definitions require that an oil & gas reserve be ‘commercially recoverable’ – implying that the degree of commitment is such that the accumulation is expected to be developed and placed in production within a reasonable time frame. The SPE system[21] also contemplates an assessment similar to a feasibility study, stating:

> Discovered recoverable volumes (Contingent Resources) may be considered commercially producible, and thus Reserves, if the entity claiming commerciality has demonstrated firm intention to proceed with development and such intention is based upon all of the following criteria:
>
> • Evidence to support a reasonable timetable for development.
>
> • A reasonable assessment of the future economics of such development projects meeting defined investment and operating criteria.

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a minerals or oil & gas asset.

18 CRIRSCO, Appendix 1 General terms and equivalents, page 31

19 CRIRSCO, Appendix 1 General terms and equivalents, page 31

20 SPE/CRIRSCO comparison, page 18

21 PRMS, page 6

> • A reasonable expectation that there will be a market for all or at least the expected sales quantities of production required to justify development.
>
> • Evidence that the necessary production and transportation facilities are available or can be made available:
>
> • Evidence that legal, contractual, environmental and other social and economic concerns will allow for the actual implementation of the recovery project being evaluated.

77. Consequently, the project team believes that the reserves classification in the CRIRSCO and SPE systems provides a clear indication that it is (at least) probable that future economic benefits should flow to the entity in exploiting the minerals or oil & gas deposit, either through production or through sale of the property. The following observations made by PricewaterhouseCoopers, in *Financial reporting in the mining industry**, seem to provide some support for this view:

> A final feasibility study is often needed before the entity can demonstrate that future economic benefits are probable. …Some mining entities have adopted a policy under which all expenditure on individual exploration and evaluation projects is expensed until a final feasibility study has been completed – presumably to introduce a degree of objectivity into the treatment of such costs.
>
> There are also many situations where a final feasibility study is not required to demonstrate economic feasibility; …This view is supported by the fact that many of the codes in use around the world to estimate a mining entity's reserves and resources do not require the preparation of final feasibility study before resources can be designated as proved and probable reserves.

78. [Paragraph omitted from Observer Note]

79. The resources classifications (specifically, minerals resources and marginal contingent resources) assume that there are reasonable prospects for the eventual economic extraction of the mineral or oil & gas. Reasons why a minerals or oil & gas deposit is classified as a resource include:

    (a) studies of the modifying factors / contingencies have not been undertaken or completed; [22]

    (b) economic conditions have to change (but there is a reasonable expectation that the relevant conditions will eventually change); [23]

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[22] CRIRSCO/SPE comparison, Appendix A: SPE_CRIRSCO Classification and Guidelines Mapping, comments on Contingent Resources, page 3

[23] CRIRSCO/SPE comparison, Appendix A: SPE_CRIRSCO Classification and Guidelines Mapping, comments on Contingent Resources, page 3

(c) project is not committed for development due to one or more contingencies (but there is a reasonable expectation that these contingencies will eventually be removed); or

(d) there is not the requisite level of geological confidence (this applies to inferred mineral resources).[24]

80. In the project team's opinion, this indicates that, overall, the 'reasonable prospects of eventual economic extraction' is a lower threshold than 'probable future economic benefits'. However, in some circumstances, mineral resources and marginal contingent resources classifications might satisfy the probable future economic benefits threshold, and thereby a minerals or oil & gas asset could be capable of being recognised as an asset on the balance sheet. One example quoted by an industry participant related to some gold mines developed in Nevada, USA where the mineral deposits found were so rich that the probable future economic benefits threshold would be expected to be satisfied even after only a preliminary assessment by an experienced evaluator. In addition, even though assessments of technical feasibility and external economic factors relating to a minerals or oil & gas deposit may be favourable, the timeframe to development can influence whether a deposit is classified as a reserve or a mineral resource / marginal contingent resource. For instance:

(a) the SPE system[25] comments that:

> A reasonable time frame for the initiation of development depends on the specific circumstances and varies according to the scope of the project. While 5 years is recommended as a benchmark, a longer time frame could be applied where, for example, development of economic projects are deferred at the option of the producer for, among other things, market-related reasons, or to meet contractual or strategic objectives. In all cases, the justification for classification as Reserves should be clearly documented.

(b) under the CRIRSCO system, the SPE/CRIRSCO comparison document[26] explains that:

> Although the completion of feasibility studies does not require a decision to mine, in practice any feasibility study that has not been implemented within five years would require a restudy and quantities would either be retained as Mineral Reserves; 'refreshed' on an annual basis, or downgraded to Mineral resources pending that restudy.

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24 CRIRSCO/SPE comparison, pages 10-11
25 PRMS, section 2.1.2, page 6
26 CRIRSCO/SPE comparison, page 23

In an accounting context, a decision to defer development and production may directly influence the measurement of the minerals or oil & gas asset (either on a fair value / current value basis or a historical cost less impairments basis), however it will not directly affect asset recognition unless the decision to defer means that it is no longer probable that the asset will generate future economic benefits. As there does not appear to be a clearly defined cut-off within the mineral resource and marginal contingent resource categories that equates to probable future economic benefits and that is common between the CRIRSCO and SPE systems, determining how much of a mineral resource or marginal contingent resource that is capable of being recognised as an asset would be left to the judgement of management.

81. If probability is not a recognition criterion, it is more likely that a minerals or oil & gas asset would be capable of being recognised within the resources classifications. However, the extent to which resources could be recognised as an asset would also depend on whether the legal rights relating to the resources are sufficient to provide the entity with control of the resources. This might not always be the case, as the factor that could be preventing the resource being converted into a reserves asset is that a key right or approval necessary to be legally entitled to extract the minerals or oil & gas might not be held by the entity at the reporting date.

Recognition according to asset characteristics

82. Another factor that may be relevant to the recognition of a tangible minerals or oil & gas asset is to consider when, on the continuum, the recognition of a minerals or oil & gas asset is likely to generate the most useful information.

83. The asset at the beginning of exploration is a very different asset from that when development is complete and production is occurring. Although the (tangible) minerals or oil & gas has always been there, in the earlier phases of extractive activity operations, the prevailing uncertainty means that the quantity and quality of the minerals or oil & gas were not reliably measurable and so the tangible asset could not be recognised. Nevertheless, at that time, the entity has an asset comprising the legal rights and information (refer Section 2), which may be capable of recognition. Given the wide range of uncertainty between an early stage exploration property and one in production, some distinction seems necessary. Different terminology might be used. For example,

84. If minerals or oil & gas properties are to be divided into two (or more) classes, the question is how to do this in a way that is meaningful for users of financial reports. Industry has resolved this in reporting quantities of minerals or oil & gas using the CRIRSCO and SPE definitions. While there are other sub-categories, mineral and oil & gas quantities are reported under two main categories – reserves and resources. Essentially, reserves are sufficiently certain that the entity either intends to develop the property or has already done so, while for resources there is not sufficient knowledge or certainty that the property will be developed and thus produce future cash flows. There is an obvious advantage in having consistent categories for volumetric and financial reporting. Moreover the distinction that drives the industry definitions is a meaningful one for accounting. The major increase in certainty about the likelihood of future cash flows along the continuum from exploration to production is an entity's decision to develop a minerals or oil & gas property. Thus, the distinction between properties that have been or will be developed and those that may (or may not) be developed is a critical one for the purposes of communicating useful information.

Project team view on initial recognition of the tangible minerals or oil & gas asset

85. For these reasons, the project team proposes that the threshold for initial recognition of a minerals or oil & gas asset should be linked to the recognition of a reserve generally. It is not proposing to link recognition to specific categories of reserves that are classified according to the level of confidence in recovery (e.g. a proved reserve or a

probable reserve). This is because the categories of reserves (and possibly also resources) are considered to be relevant to the measurement of the asset (either in terms of impairment in a historical cost measurement model or in terms of the valuation of the asset if a fair value / current value[27] is applied), but not for identifying the point of initial recognition of the tangible asset.

86. Using the reserve classification provides a comparable basis for initial recognition of tangible minerals or oil & gas assets, and all these minerals or oil & gas deposits that meet the reserves classification would also satisfy the probable future economic benefits threshold for asset recognition. Furthermore, disclosures accompanying the financial statements would include reserve disclosures that provide volumetric information consistent with the basis used to support the recognition of the minerals or oil & gas asset. As one advisory panel member has previously commented:

> I am strongly of the view that preparers, users and auditors would benefit from as clear a linkage as possible between the reserves and resources definitions employed in the sector and the accounting requirements.

Reliable measurement

87. For a reserves asset to be recognised, it must have a cost or value that can be measured reliably. There are three measurement methodologies being considered for measuring reserves and resources assets, being a historical cost basis, fair value basis or some other current value basis.

88. This paper is not considering measurement issues for reserves assets, which will be the subject of further research, but earlier research noted that a fair value or other current value measurement of reserves and resources is an estimate that would be based on unobservable inputs and therefore can be heavily influenced by the preparer's judgement. Some users, preparers, and auditors have expressed concern regarding whether these assets can be measured reliably at fair value or current value. That said, the project team considers that there are greater prospects for the fair value or current value to be reliably measurable for a reserves asset than for the intangible assets identified above, given factors such the existence of detailed plans for developing and

[27] For instance, the current value measurement basis could be the valuation of only proved reserves that belong to the unit of account. The current value of the unit of account would therefore be expected to equal the sum of the current value of proved reserves belonging to each property within the unit of account.

operating the mine or field which would be expected to be supporting evidence for satisfying the reserves definition.

89. If it is determined that reserve assets should be measured at historical cost, the view of the project team is that historical cost can be reliably measured, as evidenced by existing practices and by feedback previously received from members of the Advisory Panel. All Advisory Panel members who responded to the question: "can the cost of reserves/resources always be reliably measured?" were of the view that historical costs should be capable of being reliably measured. Some members noted that historical cost measurements may be subject to some uncertainties and include subjective judgements – for instance, allocating costs that span more than one field (e.g. where a significant lease bonus was paid for a lease that is found to contain more than one field). However, it was noted that these difficulties should normally not preclude the ability to obtain a reliable measurement of the historical cost. Consequently, for the purposes of this paper, the conclusion is that reserves assets are capable of meeting the reliable measurement criterion.

Section 4: Unit of account selection

Context

90. The unit of account determines the level of detail/aggregation at which assets and liabilities are recognised and presented in the financial statements. The project team understands that the selection of a unit of account for a particular asset or liability is often a pragmatic decision that is influenced by factors such as:

    (a) adherence to generally accepted accounting principles so that the unit of account fits within the broader accounting system; and

    (b) meeting the information needs of users of financial reports, which might include the provision of information that is sufficiently granular that assets which generate independent cash flows or are subject to particular risks can be separately identified.

91. Unit of account selection is largely a historical cost issue, as the size of the unit of account can influence the initial recognition and measurement (by determining the extent to which costs incurred are initially capitalised or expensed) and subsequent measurement (via depreciation and impairment calculations being determined at the unit of account level). In contrast, the size of the unit of account is not expected to have much, if any, impact in either a fair value measurement or other current value measurement environment. This is because the fair value (or current value) of a unit of account that comprises several separate properties should equal the sum of the value attributed to the separate properties, unless there are material synergies associated with the properties. For example, it is possible that the synergies could be the portfolio effect of having, say, a bundle of exploration properties rather than a single exploration property.

92. The existing *Framework* provides limited guidance to assist with the identification and selection of the unit of account for reserves and resources. Paragraph 82 states that "Recognition is the process of incorporating in the balance sheet or income statement an item that meets the definition of an element…". An item that does not meet the definition of an element should therefore not be recognised in financial statements. However, the existing *Framework* does not provide any specific guidance for

identifying what is the 'item' that should be recognised on the balance sheet. This may change though, as the scope of the IASB/FASB conceptual framework project includes unit of account matters.

93. Various IFRSs deal with unit of account selection, which perhaps reflects the view that units of account should be identified on a standard-by-standard basis. A summary from the IFRSs on unit of account selection is included in Appendix B to this paper. Although it is specific to each IFRS, the project team has reviewed the IFRSs and identified the following core principles that may influence the selection of a unit of account for reserves assets and exploration properties:

    (a) if an item's cash flows are largely independent of the cash flows of other items, this indicates that the item should be a separate unit of account;

    (b) the unit of account should include items that are integral to, and are not separable from, the reserves and resources;

    (c) separate units of account are required when the subsequent accounting is different – for instance, when different items have different useful lives;

    (d) like items may be aggregated provided the aggregation is based on significant attributes; and

    (e) individually insignificant items may be aggregated.

94. In reviewing the IFRSs, it was also clear that the need to exercise judgement is central to unit of account selection. Depending on the accounting topic, this judgement may be exercised (to varying degrees) primarily by the Board in developing the IFRS or by the preparers of financial reports.

Unit of account considerations for upstream extractive activities

95. There are two dimensions to consider in selecting a unit of account for an exploration property asset and a reserves asset – they are the:

    (a) geographic boundaries of the asset – the possible bases include: individual mine/field, individual geological area (e.g. a sedimentary basin), or individual country or continent; and

(b) components of the unit of account that are to be recognised as a single asset – the possible bases include: the minerals or oil & gas deposit or the deposit plus any associated infrastructure.

96. The classifications of reserves and resources (e.g. proved reserves, probable reserves) to be accounted for is not considered to be a unit of account issue. This is because the reserve and resource classifications do not represent different 'items' – they are different estimates of the same item, being the in-place minerals or oil & gas, which are referred to in this paper as the reserves asset.

Geographic dimensions

97. There is a range of possible geographic boundaries that could be applied to define the unit of account for exploration properties and reserve assets. The possible boundaries could be set by reference to:

(a) geopolitical characteristics – such as each country or group of countries in which the entity operates (full cost accounting is an example of this);

(b) geological characteristics – such as:

(i) if a wider unit of account is preferred – a basin or a geologic province (which the 2000 Issues Paper's glossary of terms defines as "a large area, such as a major portion of a continent, with common geologic features (broader than an area of interest)"); or

(ii) if a narrower unit of account is preferred – an area of interest (which the 2000 Issues Paper's glossary of terms defines as "a geologic anomaly or structure that may warrant detailed exploration");

(c) legal characteristics – that is, a contiguous area for which the relevant legal rights are held through a lease or contract etc; or

(d) economic characteristics – an area that is managed separately and/or has independent cash flows.

Assessment of geopolitical characteristics

98. In the project team's opinion, defining the geographical boundaries of a unit of account for an exploration property and reserve asset purely according to geopolitical attributes would be counter to the principle that like items may be aggregated provided the aggregation is made according to significant attributes. This is because, although it would potentially enable assets that share the same geopolitical risks to be aggregated, it ignores the fact that the assets may be subject to very different geological risks. It may also lead to exploration or extraction activities being accounted for together even though they may be otherwise unrelated, for instance, if they are operated independently and generate independent cashflows. For this reason, a unit of account defined only according to geopolitical attributes is not preferred for either an exploration property or a reserves asset.

Assessment of units of account for reserves assets

99. In considering the other characteristics listed above (geological, legal and economic), the project team believes that the unit of account for a reserves asset should be no greater than a contiguous area or areas for which legal rights are held and which is managed separately and has largely independent cash flows. Typically this will consist of a single geological structure; hence the unit of account is unlikely to include areas with vastly different geological attributes. However some oil & gas fields have two or more separate horizontal pools – that is, there are physically separate pools at different depths below the same surface area. These are covered by one set of legal rights for production of the oil and/or gas and are managed as a single operation.

100. This would require that physically separate locations (i.e. ones for which the legal rights held are not contiguous) would be separate units of account even if they are managed as a single unit. Since they are physically separate they will likely have different lives and other economic characteristics. While they may be aggregated for impairment testing if their cash flows are not independent, they represent separate units of account.

101. Similarly there might be a single large property (i.e. defined according to a single set of legal rights) for which two different areas are managed separately and have independent cash flows. These represent two units of account, as they are separate cash generating units and accordingly IAS 36 would require them to be treated separately in testing for

impairment. In the project team's opinion, a unit of account for initial recognition and measurement purposes should not exceed the unit of account that would otherwise apply for subsequent measurement purposes. In other words, the cash-generating unit concept in IAS 36 effectively provides a ceiling for unit of account selection.

102. In practice, the project team considers that the geographic dimension of a unit of account for reserve assets would usually be expected to be a single mine or field.

Assessment of units of account for exploration properties

103. Exploration requires a slightly different approach due to its specific characteristics. Exploration programs for a geographic area covered by a single set of legal rights or by legal rights for adjacent areas are also usually managed as a single exploration program. As legal rights for exploration often cover a large geographic area, it means that by treating the entire area covered by the legal rights as a single unit of account, there will not be a direct correlation between the geographic dimensions unit of account for the exploration property and the resultant unit of account for the reserve asset.

104. Such a large unit of account should not necessarily be used for the duration of an entity's exploration and evaluation activities in that area. This is because it could result in the capitalisation of exploration costs in areas of the exploration property where no reserves were found and potentially include those costs into the cost of reserves that are found elsewhere on the property. Consequently, unsuccessful exploration and evaluation costs may not be expensed on a timely basis.

105. The project team thinks that it may be appropriate to treat an entire exploration property or neighbouring properties as a single unit of account during the initial exploration phase. At this time, the exploration activities may include obtaining general seismic data and other work to gain knowledge about the area and identify prospective areas where detailed exploration is warranted. Following these initial exploration activities, drilling or other more detailed exploration will occur on specific areas within the overall exploration property. It is only at this time in the conduct of exploration activities that it would become possible to refine the size of the unit of account. Success in one or more of these drilling programs might lead (eventually) to the recognition of a minerals or oil & gas reserve. This would suggest that the unit of account for an exploration property at the drilling stage should be consistent with that which would be used for a future

minerals or oil & gas reserve – that is, the property defined by reference to both legal attributes, being the mineral rights (when obtained) for the contiguous areas, and by economic attributes, being the unit that is managed as a single operation and/or generates largely independent cash flows. Any costs for initial exploration rights and the seismic and other early stage exploration that is not specific to this unit of account could be allocated on a reasonable basis to a separate exploration property unit of account that does not include the area covered by the reserves asset.

106. The above description of the unit of account is intended to set an upper limit. Entities with extractive activities may have reasons to choose a smaller unit of account, just as entities in other industries choose different units of account according to their specific circumstances. There does not seem to be a reason to prevent entities with extractive activities from choosing a smaller unit of account, at least until the conceptual framework project addresses this issue.

107. The project team also acknowledges that the above paragraphs provide only a general framework. Entities will have to apply this framework to their own circumstances and may not do so consistently. However, given the variety of circumstances of different entities, it is not considered practical to provide more detail.

Asset components

108. The asset components dimension relates to identifying whether, from a functional perspective, various assets are considered to be integral to and/or inseparable from other assets within the unit of account.

Exploration property assets

109. In some circumstances, an exploration right may continue to exist after an entity has obtained the corresponding mineral rights for that area and a reserve asset has been recognised. Both legal rights would individually satisfy the definition of an asset and would be separately identifiable under IAS 38.12, and so conceptually this would suggest that both assets be recognised as separate units of account (assuming they satisfy the asset recognition criteria). Pragmatically though, the project team thinks that the exploration right asset should only continue to be recognised separately from the mineral rights where the exploration rights remain valid, they cover a wider area than

that covered by the mineral rights, and exploration in those other areas is continuing. In all other cases, the exploration rights should cease to be separately recognised once the mineral rights have been acquired.

110. A second unit of account consideration is whether a legal rights asset (or assets) and the corresponding information (knowledge) asset should be treated as a single unit of account. IAS 38 indicates that this information is identifiable in that it "is separable, i.e. is capable of being separated or divided from the entity and sold, transferred, licensed, rented or exchanged, either individually or together with a related contract, asset or liability, regardless of whether the entity intends to do so"[28] In this case, the related contract or asset would be the exploration or mineral rights. However, IAS 38 only indicates that the information should not be reflected in goodwill, it does not indicate whether it warrants separate recognition or recognition as part of the exploration or mineral rights.

111. Conceptually, information obtained from upstream extractive activities is an intangible asset that can be separate from the exploration or mineral rights. However, the project team considers that there is limited practical benefit in maintaining a distinction between these assets because they are interrelated – that is, the rights asset allows the entity to control the information as only the rights holder can benefit from the information, and the information asset adds value to the rights asset and can be viewed as an enhancement or betterment to that asset rather than a separate asset. Nevertheless, the project team acknowledges that it may be appropriate for an entity to separately recognise its legal rights and information assets if it chooses to do so because it believes it will provide relevant information.

112. Information obtained or acquired prior to the entity holding the exploration or mineral rights can be separately recognised provided the information is kept secret. For instance, in the prospecting phase, the entity usually has no rights to the property to which the prospecting information relates. Therefore an entity's control over the information generated from its prospecting activities is maintained by preventing others from gaining access to it. The information will cease to be an asset of the entity if other entities gain unrestricted access to it.

[28] IAS 38, paragraph 12(a)

Reserves asset

113. The assets that are considered to be potential candidates for collectively forming a single unit of account for reserves assets are those assets that are utilised in upstream minerals or oil & gas operations to produce the minerals or oil & gas. These assets fall into two main groupings:

    (a) the minerals or oil & gas deposit (the reserves asset); and

    (b) infrastructure assets.

114. The minerals or oil & gas deposit may be undeveloped, in development, or developed. Development works are necessary to be able to access the reserve and resource so that production can commence. In general terms, these development works may be described as a betterment of the reserve and resource as a result of completing work such as:

    (a) for minerals properties: sinking shafts and underground drifts, making permanent excavations, building roads and tunnels, and removing overburden and waste rock in order to gain access to and be able to produce the minerals or oil & gas; and

    (b) for oil & gas properties: gaining access to and preparing a well location for drilling, constructing platforms or preparing drill sites from which to drill wells, and drilling wells to gain access to and to be able produce the minerals or oil & gas.

115. A characteristic of development works is that they should be integral to and inseparable from the minerals or oil & gas property. In that sense, development works are an improvement or enhancement of the minerals or oil & gas property asset rather than being capable of being recognised as a separate asset. In other words, development works should enhance the cash flows that can be generated from the asset rather than being capable (in practice or in theory) of generating future economic benefits separate from the minerals or oil & gas property.

116. Infrastructure assets are assets such as equipment, machinery and facilities, which are used to extract, store, treat and transport the minerals and oil & gas. An entity may have infrastructure assets that are dedicated to a single mineral or oil & gas property or

alternatively the infrastructure may be used by several properties. For instance, an entity may have two mines on separate properties that share a treatment plant. Therefore, the composition of assets that make up the unit of account can also have a geographic dimension.

Possible units of account

117. The mineral or oil & gas reserves asset is the foundation of the possible unit of account options. This means that the composition of a unit of account is therefore dependent on the extent to which infrastructure assets are included within the same unit of account. The possible unit of account options for a minerals oil & gas property are:

    (a) the reserves and resources associated with a specific property *plus* any development works to access the deposit *plus* any infrastructure used to produce the deposit; or

    (b) the reserves and resources associated with a specific property *plus* any development works to access the deposit but *excluding* infrastructure assets (e.g. plant and equipment) that are physically and commercially separable from a property's reserves and resources. Therefore, any infrastructure asset used to access or produce the deposit and that is separable from the reserves and resources is treated as a separate asset.

Considerations

118. Factors that may influence the selection of a unit of account for reserves assets include:

    (a) The impact on depreciation if the individual items have different lives. In a historical cost measurement environment, many assets associated with a minerals or oil & gas property are amortised over the quantity of reserves to reflect the depletion (i.e. extraction) of the mineral or oil & gas from the ground. This depreciation/amortisation basis however will not be suitable for all of these assets. Some items may have a shorter life (e.g. mine vehicles); others may have a longer physical life and are able to be commercially redeployed for use in other locations. The components accounting approach in IAS 16.44 indicates that if components of an asset have different useful lives, then they should be accounted for, and depreciated, separately.

(b) Some assets associated with a minerals or oil & gas property may become impaired or may be disposed of separately from the other assets within the property. Were this to happen and the asset is not separately identified, the unit of account might not facilitate recognition of the impact of the impairment or disposal event.

(c) The carrying amount of some individual assets may have information value, which might suggest that they should be separately disclosed. Although many users interviewed for the research project's 2007 user survey indicated that they generally consider the reserves, development and infrastructure to be a single asset for analytical purposes, some users saw merit in separately recognising and measuring infrastructure assets and other plant in the following circumstances:

(i) when those assets generated separate – and material – cash flows, such as a treatment plant that processes material from mines owned by other entities as part of a commercial arrangement;

(ii) if the infrastructure asset is one of the property's most valuable assets (e.g. a dragline for a coal mine) and potentially could be applied for use elsewhere;

(iii) when predicting the future cash flows relating to taxation obligations, the separate recognition of infrastructure assets can provide useful information as these assets can have implications for royalty or Production Sharing Contract (PSC) obligations. The analyst noted that these assets would need to be measured at historical cost to be useful as the royalty / PSC agreements use historical costs; and

(iv) lenders indicated that separate recognition of infrastructure or other separable assets (e.g. vehicles) would be useful because it identifies which assets are owned by the entity and therefore might be sold off separately by the lender if the need arose. Unlike other users, however, lenders would be able to obtain this information directly from management if it is not available from the financial statements.

119. As mentioned earlier, the principle of the cash-generating unit in IAS 36 also provides a constraint on what assets can be included in the unit of account. While it is possible

that, depending on the facts and circumstances, the cash-generating unit may comprise more than one property (e.g. because an infrastructure asset is shared), it is also possible that there may be more than one cash-generating unit associated with the property (e.g. if a mine and a treatment plant are located on the same property and the treatment plant also processes ore from other mines on commercial terms). One Advisory Panel member from the oil & gas industry made the following observation about the relationship between infrastructure assets and the cash-generating unit:

> The related infrastructure assets to gain access to rights and concessions, to develop and produce oil and gas reserves, such as well equipment, flow lines, offshore platforms, etc. are integral and dependent upon the cash flows of the reserves and resources. However, these infrastructure assets are separable from the reserves and resources themselves. In some limited situations these infrastructure assets may provide independent cash flows to accommodate excess capacities when those opportunities arise from other external parties. But the primary, overarching investment decision predicated that these facilities were integral to and dependent upon the cash flows of the reserves and resources. There can, however, be situations later in the maturity or life cycle of the field where some of these infrastructure assets, such as offshore platforms and floating production storage and offloading facilities have alternative uses.

Project team view

120. The blanket inclusion of all infrastructure assets associated with a reserves asset cannot be supported if the abovementioned principles and constraints are applied. The matter for consideration is therefore which infrastructure assets should not be included in the same unit of account as the reserves asset. The project team notes that the extent to which infrastructure assets are interrelated to the reserves assets will depend on the facts and circumstances pertaining to individual minerals or oil & gas properties. It is difficult, and undesirable, for an IFRS to therefore prejudge which assets can and cannot form part of the same unit of account as the reserves asset. Professional judgement will be required to be exercised if an entity's minerals or oil & gas assets are to be faithfully represented in the entity's financial statements. Nevertheless, the IFRS can set some boundaries within which professional judgement is exercised.

121. The project team considers that the boundaries would be:

    (a) infrastructure assets that generate largely independent cashflows are excluded from the unit of account – in other words, the unit of account can be no greater than a cash-generating unit, as determined in accordance with IAS 36;

    (b) infrastructure assets that are physically and commercially separable are excluded from the unit of account – in other words, this applies to assets which could

realistically be moved to other operations and the movement of these assets could be economically justified. In contrast, assets that are commercially inseparable include assets that, although being physically separable, may be more economic to abandon or decommission than to physically move them to a new location. Examples might include assets that are dedicated to the property because either:

(i) they are not readily movable (e.g. offices, concentrator, dedicated rail facilities etc); and/or

(ii) are specialised so there is no other economic use for the assets; and

(c) infrastructure assets that have different useful lives from the reserves are excluded from the unit of account.

122. These criteria would only apply to infrastructure assets that are material in nature. This would mean that some tangible and physically separable assets such wiring, lighting and pumps in an underground mine could be treated as being inseparable from the property and therefore development works. This is because it is unlikely that these items would be removed from the underground mine and redeployed to another underground mine on a different property. In a sense, these assets are like consumables.

123. When there is an expectation that an asset will be disposed of (other than by sale, which should be covered by paragraph 121(b) above) or will become impaired, separate recognition of this asset should commence at that time so that the loss on disposal or impairment can be recognised. This could arise when an asset becomes physically impaired as a result of an event that is independent of the reserves assets. For example, the rail facilities could be damaged during severe weather.

124. In the project team's opinion, this would be the highest level unit of account that should be permitted. Entities could account for their assets at a lower level if they so choose.

APPENDIX A

The regulatory approval process for mining projects in the Australian state of Victoria

The following is a very simple explanation of project approval processes in Victoria. Other Australian States use different terms and slightly varying procedures but are essentially similar.

TO DRILL ON AN EXPLORATION LICENCE

1. Apply for an Exploration Licence (EL)
2. ELA advertised in local and general newspaper
3. Objections (if any) assessed by Department
4. If EL covers Crown land then a Right To Negotiate (RTN) agreement or Indigenous Land Use Agreements (ILUA) is required with native title claimants (if any)
5. Minister for Resources grants EL
6. Licensee can commence low impact exploration (no drilling)
7. Work Plan (including location of drill sites) submitted to Department
8. If EL covers Restricted Crown land then consent of the Minister for Environment required
9. Rehabilitation Bond lodged
10. Compensation agreements with land holders registered
11. Work plan approved
12. The hole is drilled

TO DIG ON A MINING LICENCE

1. Apply for a mining licence (MIN Application)
2. MIN Application is advertised in local and general newspaper
3. Objections (if any) are considered by Department
4. If MIN Application covers Crown land then a RTN agreement or ILUA is required with native title claimants (if any)
5. Minister for Resources grants MIN
6. Mark-out the licence boundaries
7. If on agricultural land then prepare a statement of economic significance
8. Draft work plan in consultation with Department of Sustainability and the Environment (DSE), Department of Primary Industries (DPI) and Council officers
9. Work plan endorsed by DPI
10. Rehabilitation bond assessed by DPI
11. Apply for planning approval, either:
    - apply for a planning permit from local municipal council; or
    - submit an Environment Effects Statement (EES) to the Minister for Planning
12. Planning approval granted
13. Work plan approved
14. If MIN covers Restricted Crown land then consent of the Minister for Environment required
15. Rehabilitation bond lodged
16. Compensation agreements with land holders registered
17. Work Authority granted and registered
18. The hole is dug

Source: the Minerals Council of Australia's Submission: Taskforce on Reducing the Regulatory Burden on Business, December 2005 (see Attachment A: The Victorian Regulatory System, page 40)
http://www.minerals.org.au/__data/assets/pdf_file/0005/11003/MCA_Regulation_Sub.pdf

APPENDIX B

Guidance in IFRSs on identifying units of account

1. Identifying the unit of account is separately addressed in the following IFRSs dealing with non-financial assets:

   (a) IAS 16 *Property, Plant and Equipment*;

   (b) IAS 17 *Leases*;

   (c) IAS 36 *Impairment of Assets* (in respect of subsequent measurement only);

   (d) IAS 38 *Intangible Assets*;

   (e) IAS 40 *Investment Property*; and

   (f) IAS 41 *Agriculture*.

2. The common principles for determining the unit of account that emerge from these accounting standards:

   (a) judgement is required – see, in particular, IAS 16.9;

   (b) assets that are separable should be accounted for separately – see, in particular, IAS 16.58 and IAS 38.12;

   (c) items that are integral to another asset may be recognised as part of that other asset – see, in particular, IAS 17.17 and IAS 40.50;

   (d) like items may be aggregated provided the aggregation is made according to significant attributes – see, in particular, IAS 41.15;

   (e) individually insignificant items may be aggregated – see, in particular, IAS 16.9 and IAS 16.46; and

   (f) significant components of an item should be identified separately if the subsequent accounting of the components will be different (e.g. when depreciable assets have different useful lives or are depreciated using different methods) – see, in particular, IAS 16.43.

3. IAS 36 applies to subsequent measurement when the asset is tested for impairment and not all of the asset's carrying amount is recoverable. Through the cash-generating unit (CGU) concept, IAS 36 contemplates using a higher-level unit of account than that which may have applied to the initial recognition and measurement of an individual asset when it is not possible to estimate the recoverable amount of the individual asset.

4. The key features of the CGU concept in IAS 36 are as follows:

   (a) "an asset's CGU is the smallest group of assets that includes the asset and generates cash inflows that are largely independent of the cash inflows from other assets or groups of assets" (paragraph 68);

   (b) "Identification of an asset's cash-generating unit involves judgement" (paragraph 68);

   (c) "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 entity considers various factors including how management monitors the entity's operations (such as by product lines, businesses, individual locations, districts or regional areas) or how management makes decisions about continuing or disposing of the entity's assets and operations" (paragraph 69);

   (d) "If an active market exists for the output produced by an asset or group of assets, that asset or group of assets shall be identified as a cash-generating unit, even if some or all of the output is used internally" (paragraph 70); and

   (e) "Cash-generating units shall be identified consistently from period to period for the same asset or types of assets, unless a change is justified" (paragraph 72)