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GUIDANCE MANUAL

ACCOUNTING AND FINANCIAL REPORTING FOR ENVIRONMENTAL COSTS AND LIABILITIES

PART 2. ENVIRONMENTAL ACCOUNTING, LIABILITIES AND COSTS IN FINANCIAL STATEMENTS

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2. ENVIRONMENTAL ACCOUNTING, LIABILITIES AND COSTS IN FINANCIAL STATEMENTS

The objective of this section is to introduce participants to the field of environmental accounting and reporting.

This section includes presentations on:

- the need to account for environmental costs and liabilities
- recognition of environmental costs
- recognition of environmental liabilities
- measurement of environmental liabilities
- disclosure and verification

The section does not cover the recognition and measurement of costs that are external to the entity, such as those that may arise from air and water pollution, that are not currently absorbed by the entity. However, it should be noted that the boundaries of internal costs are not static. Legislation and other measures can impose an obligation on an entity to undertake specific action for which there was previously no such obligation.

The UN ISAR Group, the International Accounting Standards Committee (now Board - IASB) and standards setting bodies in several countries have issued Statements of Objectives, Principles of Accounting and Reporting or Conceptual Framework Statements. The positions issued or being developed on accounting for environmental costs and liabilities are considered to be in accordance with these statements.

The 2002 edition of the manual has been updated to include technical accounting developments that have taken place since the release of the UNCTAD Position Paper in 1998 and additional teaching materials used by trainers during the UNCTAD workshop series. Particular reference is made to International Accounting Standard (IAS) 37 on Provisions, Contingent Liabilities and Contingent Assets.

It may be questioned whether standards developed in this context are necessarily fully appropriate when the objective is providing information on enterprises environmental stewardship and management accountability. It is proposed that the basic concepts that have been developed for financial accounting and reporting are appropriate but additional disclosure may be desirable.

Of particular relevance are the definitions of 'liabilities' and 'assets'. The various standards on 'contingencies' are also frequently referred to as a benchmark when considering measurement of and reporting environmental liabilities. Expansion of these definitions to incorporate environmental issues is addressed within the following sections.

The Need to Account for Environmental Costs and Liabilities

Accounting for the environment has become increasingly relevant to enterprises (whether they be businesses, non-profit organisations or Government enterprises, such as municipalities and crown corporations) because issues of the availability/scarcity of natural resources and pollution of the environment have become the subjects of economic, social and political debate throughout the world. Steps are being taken at the national and international level to protect the environment and to reduce, prevent and mitigate the effects of pollution. As a consequence, there is a trend for enterprises to disclose to the community at large data concerning their environmental policies, environmental management programmes and the impact of environmental performance on their financial performance.

Accounting and reporting for the environment has become increasingly relevant to the stakeholders of an enterprise because how an enterprise's environmental performance affects its financial health is of increasing concern to investors, creditors, governments and the public at large. In particular, disclosure of environmental data can be used to assess an enterprise's financial and environmental risk and that of its stakeholders.

What are the benefits of environmental accounting and reporting?

An enterprise which recognises its environmental responsibilities, and which institutes appropriate and effective systems of environmental management to ensure inter alia both competitiveness and compliance will minimise its exposure to future financial risk/loss arising from environmental incidents. At the same time:

- such an enterprise should be able to secure lower insurance premiums, reflecting the reduced risk

- a favourable environmental risk rating may secure the enterprise better borrowing terms – either when issuing corporate debt or borrowing or when issuing new equity

- pure compliance costs should not result in a market penalty unless, $ for $, an enterprise can be demonstrated to be incurring higher compliance costs than its sector peers (however, in the absence of any requirement to disclose such compliance costs, the market may be forced to rely on proxy measures).

An enterprise which, in addition to recognising and responding to its statutory environmental responsibilities, also determines to be at the leading edge in terms of utilising environmentally friendly technologies or moving towards a more sustainable mode of operations should reap additional benefits such as:

- increased staff/employee commitment
- lower/eliminated 'green' taxes, levies and fines
- lower operating costs and waste disposal costs
- improved corporate profile
- increased market opportunities (including public sector public procurement opportunities).

Research has identified numerous cases where cost savings can be achieved through the exploitation of opportunities to reduce environmental impacts and costs, to recycle what was formerly considered waste, or to access new markets without sacrificing the original base position. It is, however, quite a different thing to suggest that environmentally derived financial benefits will automatically flow through into superior share price performance. Many different factors affect 'the bottom line', among them the level of environmental costs. Analysts and fund managers may rate an enterprise positively in terms of its environmental exposure but may be dissatisfied if an excessive proportion of sales is earned overseas. An enterprise subject to adverse currency movements may also be subject to negative impact on its share price despite superior environmental performance and increased revenues and profits generally.

How can environmental data disclosures be used?

Environmental data can help to:

- interpret corporate management’s ability to manage environmental issues and integrate environmental issues into general long-term strategic issues
- to compare progress between enterprises and over time
- to judge the entity's exposure to risk and that of its potential business partners.

How an enterprise's environmental performance affects its financial health and how financial information relating to such performance can be used to assess environmental risks, and the management of such risks, are often matters of concern to investors and their advisers. Similarly, owners and shareholders of an enterprise are particularly interested in its environmental performance because of the potential impact environmental costs may have on the financial return on their investment in the enterprise. Creditors look for evidence that an organisation is actively and effectively managing its environmental performance and liabilities. Banks in particular, face the possibility of having to take on the responsibility for rectifying environmental damage should a debtor default on a loan for which it has pledged land as security; the amount involved may be significantly greater than that of the original loan. Environmental performance is increasingly considered by those involved in mergers and acquisitions who face the risk of inheriting others environmental liabilities, in particular the identification of, and provision for, contaminated land.

In the area of accounting, initiatives are being taken to facilitate the collection of data pertaining to an enterprise's environmental costs and liabilities and to increase awareness of the financial implications of environmental issues.

However, a Canadian Institute of Chartered Accountants Task Force on Environmental Costs and Liabilities noted that:

- while environmental liabilities fall under the definition of liabilities (set out in various Statements of Concepts and Objectives), they were generally not being reported; even when reported, there were inconsistencies in measuring the liability and in the type and amount of information that was disclosed

- financial information comparability may suffer from the absence of specific guidance dealing with the accounting for environmental liabilities and costs

- a large number of entities that were required to set up the liability or provisions for site restoration costs avoided doing so on the basis that such costs could not be reasonably determined

- there was confusion about when an environmental cost meets the definition of an asset

- environmental costs are often different from other costs because they may produce future benefits that are not strictly economic.

In order to improve the quality of accounting and reporting for environmental costs and liabilities there is a need to consider how the traditional financial accounting frameworks can be drawn on to produce useful information on environmental transactions and performance. The information provided should be presented in such a manner as not to jeopardise business confidentiality in sensitive areas or the competitive position of the enterprise.

Recognition of Environmental Costs

The objective of this section is to introduce and elaborate upon recommendations by the Intergovernmental Working Group of Experts on International Standards of Accounting and Reporting detailed within the Position Paper 'Accounting and Financial Reporting for Environmental Costs and Liabilities'.

As noted previously this third edition of the manual includes technical updates for the period 1998-2002.

Define an environmental cost?

Environmental costs comprise the costs of steps taken, or required to be taken, to manage the environmental impacts of an enterprise's activity in an environmentally responsible manner, as well as other costs driven by the environmental objectives and requirements of the enterprise.

An enterprise, which is engaged in an environmental business such as the treatment of waste, could argue for example that all costs incurred by the enterprise should be included as environmental costs. This is clearly not the intention as it would be a contradiction to the definition of environmental costs. Similarly in the case where a group of enterprises contains a separate legal entity, which is involved in, say the environmental protection business, the costs of goods and services provided by this entity to third parties would not qualify as environmental expenditure in the consolidated accounts of the group. However, the costs of goods and services provided by this entity to other enterprises included in the consolidation may qualify as environmental expenditure.

Environmental costs should be recognised in the period in which they are first identified.

In some cases an environmental cost may relate to damage that has occurred in a prior period.

Can you think of any examples of environmental costs?

For example:

- environmental damage to property prior to acquisition
- an accident or other activities in a prior period which now require clean up
- clean up of property disposed of in a prior period
- costs of disposing or treating hazardous waste created in a prior period.

Accounting standards generally preclude environmental costs from being treated as a prior period adjustment unless there is a change in accounting policy or unless there was a fundamental error. The examples referred to above would therefore generally not qualify as prior period adjustments.

If environmental costs meet the criteria for recognition as an asset, they should be capitalised.

An asset is a resource controlled by an enterprise arising from past events and from which future economic benefits are expected to (directly or indirectly) flow to the enterprise.

Environmental assets are environmental costs that are capitalised because they satisfy the criteria for recognition as an asset.

They should be amortised to the income statement over the current and appropriate future periods.

When should environmental costs be capitalised?

Environmental costs should be capitalised if they relate, directly or indirectly, to future economic benefits that will flow to the enterprise through:

- **increasing the capacity or improving the safety or efficiency of**

other assets owned by the enterprise

- **reducing or preventing environmental contamination likely to occur as a result of future operations**
- **conserving the environment**

Some costs may not directly increase economic benefits to the enterprise but may be necessary if the enterprise is to benefit from its other assets. In most instances environmental costs that are capitalised are related to another capital asset and should be included as an integral part of that asset, and not recognised separately. For example, the removal of asbestos from a building.

It would be inappropriate to recognise asbestos removal as a separate asset as it does not result in a separate future economic benefit. Alternatively, a piece of machinery that removes pollution from the water or atmosphere, has a specific or separate future benefit and therefore should be recognised separately.

Environmental costs that do not meet the criteria for recognition as an asset should be charged to the income statement immediately.

Many environmental costs do not result in a future benefit or are not sufficiently closely related to future benefit to enable them to be capitalised.

Can you think of any examples of environmental costs that may be expensed?

For example:

- the treatment of waste products
- the clean up costs relating to current operating activities
- the clean up of damage incurred by the reporting enterprise itself in a prior period
- ongoing environmental administration
- environmental audits
- fines and penalties for non-compliance with environmental regulations
- compensation to third parties for environmental damage.

The primary difference between those bodies which have issued guidance on defining environmental costs is whether fines, penalties and compensation to third parties relating to environmental activities or inactions should be included in the definitions of environmental costs/expenditures. Fines, penalties and compensation are different from other types of environmental costs in that they provide no benefit or return to the enterprise – separate disclosure is therefore appropriate.

It is evident that what constitutes an environmental cost is, to some extent, judgmental and it will be up to the individual enterprise to decide what comprises environmental costs in particular circumstances using the guidance provided. It is suggested that to avoid misleading the user of accounts due to possible overlap with other costs and benefits the enterprise provides a brief description of what constitutes environmental costs.

Norsk Hydro ASA and Subsidiaries Annual Report 2000

Notes to the Consolidated Financial Statements

Note 1: Summary of Significant Accounting Policies

Environmental Expenditures
Environmental expenditures which increase the life, capacity or result in improved safety or efficiency of a facility are capitalised.

Expenditures that relate to an existing condition caused by past operations are expensed.

Eastman Kodak Company Annual Report 2000

Notes to the Financial Statements

Note 1. Significant Accounting Policies

Environmental Costs
Environmental expenditures that relate to current operations are expensed or capitalised, as appropriate.

Note 8: Commitments and Contingencies

Environmental Expenditures for pollution prevention and waste treatment for continuing operations at various manufacturing facilities were as follows:

(in millions)	**2000**	**1999**	**1998**
Recurring costs for managing hazardous substances and pollution prevention	$72	$69	$75
Capital expenditures to limit or monitor hazardous substances and pollutants	$36	$20	$25

See extensive narrative for details of fines and penalties

British Gas Plc (UK) Annual Report and Accounts 1998

Profit and Loss Account

Turnover	£8,601 m
Operating costs	(7,624) m
Exceptional charges: environmental costs	(200) m

Notes to the Accounts

Exceptional charges: environmental costs (p46)
The 1995 results include a further provision of £200m for dealing with the Group's obligations with regard to contaminated old gas manufacturing sites. The bulk of this provision, estimated by the Group's surveyors, relates to costs that are expected to be incurred as a result of the introduction of the Landfill Tax. The further survey work, undertaken during 1995, coupled with the Groups increasing experience of remediation work undertaken to date, has also been taken into account. It should be noted that the survey work programme continues and that exact costs, nature and timing of the remediation work remains uncertain. In the future, changing environmental legislation will impact the final cost of remediation.

Recovery and Impairment

When an environmental cost that is recognised as an asset is related to another asset, it should be included as an integral part of that asset and not recognised separately.

When an environmental cost is capitalised and included as an integral part of another asset, the combined assets should be tested for impairment and where appropriate written down to its recoverable amount.

Similarly capitalised costs recognised as separate assets should also be tested for impairment.

Whist the recognition and measurement of environmental impairment involves the same principles as other forms of impairment the uncertainties may be greater. In particular for example taking account of the stigma effect of environmental pollution on the value of neighbouring properties.

How would you treat the following costs?

1. Tanker oil spill
   a. Clean up waterways and beach front
   b. Re-enforce tankers hull to reduce risk of future spill
2. Rusty chemical storage tank
   a. Remove rust that developed during ownership
   b. Apply rust prevention chemical
3. Air pollution caused by manufacturing activities
   a. Acquire & install pollution control equipment
   b. Pay fines for violation of the 'Clean Air Act'
4. Lead pipes in office building contaminate drinking water
   a. Remove lead pipes & replace with copper pipes
5. Soil contamination caused by pipes operating a waste dump
   a. Refine soil on dump property
   b. Install liner
6. Water well contamination caused by chemical leak into wells that will be used for future beer production
   a. Neutralise water in wells
   b. Install water filters
7. Underground gasoline storage tanks leak and contaminate company's property
   a. Refine soil
   b. Encase tanks to prevent future leaks from contamination of surrounding soil
8. Air in Office Building Contaminated with Asbestos Fibre
   a. Remove asbestos.

Note:
Answers to the above questions may vary due to differences in interpretation of technical (engineering) solutions. The above exercise can be reproduced using regional examples and/or local issues. For example, question 6 may not be appropriate in some cultures and should be replaced by a more appropriate example.

Recognition of Environmental Liabilities

The objective of this section is to examine how to identify, recognise and measure environmental costs and liabilities for disclosure in the financial statements.

The section includes technical updates to the UNCTAD's position to reflect the publication of IAS 37 Provisions, Contingent Liabilities and Contingent Assets. As noted previously while IAS 37 is not an environmental accounting standard it uses environmental issues to illustrate the general treatment of liabilities and provisions in the annual report and accounts.

The recognition of an environmental liability (or a provision for an environmental liability) is considered to be governed by the characteristics and criteria for a liability.

It should be noted that in some countries environmental liabilities are classified as 'provisions'. Provisions need to be distinguished from other liabilities such as trade creditors and accruals. The distinguishing feature is that, in the case of provisions, there is uncertainty over either the timing or amount of the future expenditure. This may be the case for certain but not all environmental liabilities. The term environmental liabilities used here covers both those costs that are certain and those for which there is some uncertainty.

Define an environmental liability?

Environmental liabilities are obligations relating to environmental costs that are incurred by an enterprise and that meet the criteria for recognition as a liability.

A liability is a present obligation of the enterprise arising from past events, the settlement of which is expected to result in an outflow from the enterprise of resources embodying economic benefits.

ISAR's definition of a liability noted above is word perfect with IAS 37 however the standard does not define an environmental liability.

An environmental liability would normally be recognised when there is an obligation on the part of the enterprise to incur an environmental cost. ISAR guidelines note that an obligation does not have to be legally enforceable for an environmental liability to be recognised. An enterprise may have a constructive obligation to incur a cost.

One step forward under FRS 12 and IAS 37 is the extension of a enterprise's obligations to include not only by its legal obligations but also its constructive obligations.

A Legal Obligation

An enterprise may be required by legislation (or contract terms) to clean up contamination. For an illustration see *IAS 37 Appendix Recognition Example 2A: contaminated land legislation virtually certain to be enacted.*

A Constructive Obligation

An enterprise is obliged to clean up contamination under an obligation constructed by:

- enterprise statements of management policy or intention such as a public announcement
- standard industry practice
- public expectations

Consultative obligations give management little discretion to avoid economic outflows of economic benefits. Reputations would be at stake if enterprises did not live up to their commitments. For example research conducted with the banking sector has shown that some banks in Switzerland and the UK have cleaned up contaminated sites, which have resulted from security taking, beyond legal requirements. One reason provided for this action was to avoid a risk to their reputation of later being associated with the sale of contaminated land.

For an illustration see *IAS 37 Appendix Recognition Example 2B: contaminated land and constructive obligation*

An enterprise should not be precluded from recognising an environmental liability simply because its management at a later date is unable to meet the commitment. If this does occur it should be disclosed in the notes to the financial statements together with reason why the enterprise's management is unable to meet their commitment. In rare situations where it is not possible to estimate an environmental liability this fact, together with the reason, should be disclosed in the notes to the financial statements.

Where environmental damage relates to the enterprise's own property, or to environmental damage to other property caused by the enterprise's operations or activities for which there is no obligation on the enterprise's part to rectify – (due to the absence of an obligation at the balance sheet date) the extent of the damage should be disclosed in the notes to the financial statements or in a section outside the financial statements.

When there is a reasonable possibility that such damage may have to be rectified in some future period a contingent liability may have to be disclosed.

Owners and shareholders are entitled to know the extent to which there is environmental damage to the enterprise's own property, as well as to the property of others. The introduction of new environmental legislation or the sale of the property to a third party could result in an obligation arising. Where title to the property is held as security on a loan the lender has a right to know if a property is contaminated. It is suggested that an enterprise disclose the extent to which its own property has been damaged environmentally and the extent to which its operations have caused environmental damage to other property which it is under no obligation to rectify.

Long-Lived Assets

Costs relating to site restoration or the closure or removal of long-lived assets which the enterprise is under an obligation to incur should be recognised as an environmental liability at the time of identifying the need to undertake the remedial action relating to such site restoration, closure or removal, and not deferred until the activity is completed or the site is closed.

Eastman Kodak Company Annual Report 1998

Notes to the financial statements
Note 1: Significant Accounting Policies (p 43)

Environmental Costs
Remediation costs that relate to an existing condition caused by past operations are accrued when it is probable that these costs will be incurred and can be reasonably estimated.

Note 8: Commitments and Contingencies (p 44)

(in millions US$)	1998	1997	1996
Site remediation costs	4	2	3

In the case of long-term decommissioning costs, however, an enterprise may choose to provide for such costs over the life of the related operations.

British Petroleum plc (UK) Annual Report and Accounts 1997

Accounting Policies (p. 29)

Decommissioning
Provision is made for the decommissioning of production facilities in accordance with local conditions and requirements on the basis of costs estimated as at the balance sheet date. The provision is allocated over accounting periods using a unit-of-production method based on estimated proved reserves.

Accounting Policies (p. 29)

Environmental Liabilities
Liabilities for environmental costs are recognised when environmental assessments or clean-ups are probable and the associated costs can be reasonably estimated, Generally, the timing of these provisions coincides with the commitment to a formal plan of action or, if earlier, on divestment or on closure of inactive sites.

Notes on Accounts
18 Intangible Assets (p. 38)

Net book amount (£ millions)	Exploration Expenditure
At 31 December 1997	15041
At 31 December 1996	866

26 Other Provisions (p. 42)		
Net book amount (£ millions)	Decommissioning	Environmental
At 1 January 1997	1,485	634
Exchange adjustments	14	1
Charged to income	66	(31)
Utilised/deleted	(5)	(39)
At 31 December 1997	15560	565

In some industries it has been acceptable practice to provide for long term decommissioning costs over the life of the related operations, for example, with respect to the decommissioning of drilling platforms or nuclear power plants.

The reason for applying this practice is often pragmatic:

- it may avoid excessive volatility in reported income and financial position brought about by changes in the estimate of such costs

- gradual build-up corresponds better to a suitable matching of income and expenditure. If this exception is followed the enterprise should disclose in the notes to the accounts an accounting policy note which explains this practice as well as the amount of the full provision needed to cover all long term de-commissioning costs under the heading of contingent liabilities.

As illustrated in the previous extract in this section it has been common practice in industries with long-lived assets to provide for environmental costs over the life of the related operations.

Under IAS 37 (effective 1 July 1999) it is no longer possible to spread such costs over the life of the operation (extraction) or deferred costs until the activity is completed or the site is closed. The purpose of this development is to highlight the need to recognise an environmental liability at the time the damage is caused and the need for future restoration is required.

The extract below illustrates the resulting change in accounting and reporting by British Petroleum since the release of IAS 37 (and FRS 12).

British Petroleum plc (UK) Annual Report 2000

Accounting Policies

Decommissioning
Provision for decommissioning is recognized in full at the commencement of oil and natural gas production (in the next part of this section reference is made to BP's measurement of its environmental liabilities).

Future site restoration costs which relate to damage incurred in prior periods which were necessary to prepare an asset or activity for operation and which are recognised as an environmental liability at the time the related damage is incurred (identified) should be capitalised (and amortised to the income statement over the life of the related operations).

In many situations environmental damage has to be incurred before an enterprise can commence a particular activity and also throughout the life of that activity. Enterprises are frequently required to undertake restoration once the activity has been completed. Such restoration costs would be accrued when the environmental damage to which they relate is incurred. The amount would also be capitalised and amortised to the income statement over the life of the related operations.

WMC Ltd Annual Report to Shareholders 1998

Notes to the Financial Statements (p 6)

Note 1. Summary of Accounting Policies

e Fixed and Deferred Assets

Exploration and Evaluation Expenditure
Exploration and evaluation expenditure is written off as incurred, except when such costs are expected to be recouped through successful development and exploitation, or sale, of an area of interest. In addition exploration assets recognised on acquisition of an entity are carried forward provided that exploration and/or evaluation activities in the area have not yet reached a stage which permits a reasonable assessment of the existence or otherwise of economically recoverable reserves, and active and significant operations in relation to the area are continuing.

The expenditure carried forward when recovery is expected represents an accumulation of direct net exploration and evaluation costs incurred by or on behalf of the Group, together with an appropriate portion of related overhead expenditure, in relation to separate areas of interest for which rights of tenure are current.

If it is established subsequently that economically recoverable reserves exist in a particular area of interest, resulting in a decision to develop a commercial mining operation, then in that year, the accumulated expenditure attributable to that area , to the extent that it does not exceed the recoverable amount for the area concerned, will be transferred to mine development. As such it will subsequently amortised against production from that area. Any excess of accumulated expenditure over recoverable amounts will be written off against profit and loss.

WMC Ltd Annual Report to Shareholders 1997

Notes to the Financial Statements

1 Summary of Accounting Policies (p 8)

g. Provisions
Rehabilitation
Where practicable, rehabilitation is performed progressively and charged to costs as a part of normal activity.

In addition, an assessment is made at each operation of the undiscounted cost at balance date of any future rehabilitation work which will be incurred as a result of currently existing circumstances and a provision is accumulated for this expenditure charged on a proportionate basis to production over the life of the operation or activity concerned, or where the applicable life concerned exceeds twenty years, on a proportionate basis to production on a twenty year basis (Olympic Dam thirty year basis). The estimated cost of rehabilitation is re-assessed on a regular basis. Rehabilitation costs include reclamation costs, dismantling and removal costs, removal of foundations and roads, the clean up of polluted materials, and re-vegetation of areas affected by operations, and monitoring of sites. Any changes in estimates are dealt with on a prospective basis.

22. Current Liabilities – Provisions include 'Rehabilitation' (p 26)

26. Non-current Liabilities – Provisions include 'Rehabilitation' (p 27)

35. Contingent Liabilities – Ascertainable, unsecured (p 41)

As disclosed in the accounting policy Note l(g), an assessment is made at each operation for future rehabilitation work which will be incurred as a result of currently existing circumstances and a provision is accumulated for this expenditure charged on a proportionate basis to production over the lesser of the life of operation or twenty years. At 31 December 1998, WMC had accrued rehabilitation provisions of $82.5 million (June 1997: $94.4 million). The Company estimates that, as at 31 December 1998, the total rehabilitation costs that would be incurred upon the disposal or abandonment of its mineral properties would be $250.4 million (June 1997: $191.6 million). resulting in a contingent liability of $167.9 million.

Recognition of Recoveries

An expected recovery from a third party should NOT be netted against the environmental liability, but should be separately recorded as an asset UNLESS there is a legal right of set off.

Where the amount is netted because there is a right of set off the gross amounts of both environmental liability and the recovery should be disclosed.

In most cases an enterprise would remain liable for the whole liability in case the third party fails to pay and the enterprise is liable for the full cost.

George Wimpey plc Annual Report 1997 (p. 40)

20 Other Provisions

(£ millions)	Group	Parent
At 31 December 1997	36.1	5.5
Comprising:		
- remedial work and land reinstatement	5.3	1.8
- reversal of interest swaps	3.1	3.1
- rental guarantees	15.9	-
- withdrawal from overseas operations	1.8	-
- other	10.0	0.6
	36.1	5.5

Expected proceeds from the sale of related property and salvage proceeds should not be netted against an environmental liability.

For an asset with limited life, salvage and residual values are normally taken into consideration in arriving at amount amortised.

Measurement of Environmental Liabilities

Liabilities should only be recognised in financial statements if they are probable. The various 'contingencies' standards have been used to guide what is probable.

When there is difficulty estimating the amount of an environmental liability a reasonable estimate should be provided. Details of how the estimate was arrived at should be disclosed in the notes.

Not formally recording a liability relating to the probable amount of future costs because it cannot be reasonably estimated is unsatisfactory because there is a danger that judgement might be biased by a desire to omit liabilities in order to present a better picture of financial condition.

An accounting standard that is frequently referred to in the context of environmental liabilities is 'accounting for provisions contingencies' e.g. (IAS 37), primarily because there is often uncertainty over the amount or timing of the event that will be required to settle an enterprise's obligations.

When measuring a liability, uncertainty may exist regarding the:

- **extent and type of hazardous substance at a site**
- **range of technologies that can be used for remediation**
- **evolving standards as to what constitutes acceptable liability.**

The estimate may be based on information that provides a 'range of loss', and the 'best estimate' within the range should be provided.

Zeneca Annual Report and Accounts 1997

Accounting Policies (p44)

Environmental Liabilities
Zeneca is exposed to environmental liabilities relating to its past operations, principally in respect of soil and groundwater remediation costs. Provisions for these costs are made when expenditure on remedial work is probable and the cost can be estimated within a reasonable range of possible outcomes.

Where practical experts should be used to arrive at the estimate, known developments, both technical and in legislation, should be taken into consideration. Any anticipated technological developments that have not been proven should not be taken into account.

Where it is not possible to arrive at a best estimate at least the 'minimum estimate' should be recognised.

It would be a rare situation when no estimate can be made. In such a case, the fact that no estimate can be provided and the reasons therefore should be disclosed in the notes to the financial statements.

Liabilities Not Settled in the Near Term

A number of approaches have been proposed for measuring liabilities relating to future site restoration, or closure and removal, costs and of other situations where expenditures relating to the settlement of the liability are not expected to be incurred for a considerable period of time.

For environmental liabilities that will not be settled in the near term ISAR expresses a preference for measuring the liability at the PRESENT VALUE of the estimated future expenditures that will be needed, based on the current cost of performing the required activities and existing legal and other requirements.

This approach requires additional information about the time value of money and factors that may affect the timing and amount of cashflows.

Eastman Kodak Company Annual Report 1998

Note 1. Significant Accounting Policies Environmental Costs

Environmental expenditures that relate to current operations are expensed or capitalised, as appropriate. (p42)

Note 8: Commitments and Contingencies (p43)

The Company expects the above expenditures (recurring and remediation costs and capital expenditures) to increase in the future. However, it is not expected that these costs will have an impact which is materially different from 1998's environmental expenditures on financial position, results of operations, cash flows or competitive position.

ISAR recommend that uncertainty inherent within the approach is minimised as follows.

- Present value discount rate – based on risk-free rate such as government securities
- Advances in technology that are expected to take place in the near term would be taken into account but those of a longer term nature would not be considered
- Expected inflation should be taken into account
- The amount of the environmental liability would be reviewed each year and adjusted for any changes made in the assumptions used in arriving at the estimated future expenditures

- Measurement of new or additional obligation will be based on factors relevant to the period in which that obligation arises.

Advocates of the approach believe that the relevance of this method outweighs the uncertainties when considered against the alternative.

Measuring the liability at the full CURRENT COST amount is also considered acceptable.

The proponents of the full Current Cost approach consider it to be inherently more reliable than the Present Value approach because of the absence of uncertainties about future events.

This is also the approach that would normally be used for environmental liabilities that will be settled in the near term.

IAS 37 requires that, where the effect of discounting is material, the amount of a provision should be the present value of expenditures expected to be required to settle the obligation.

IAS 37 does not specify whether the present value is based on Current costs (as preferred by ISAR) or anticipated future costs, although by referring to "expenditures expected to be required" it could be inferred that it would be based on anticipated future costs. The other two positions considered acceptable by ISAR are not permitted under IAS 37. An illustration of changes in recent accounting practice under IAS 37 is shown below.

Long-Term Decommissioning Costs

For long-term decommissioning costs providing for the ANTICIPATED FUTURE EXPENDITURE OVER THE LIFE OF THE RELATED OPERATIONS is also considered acceptable. The approach used should be disclosed. Where the provisioning approach is used the estimated amount of the full provision needed to cover the long-term decommissioning costs should also be disclosed (as noted previously acceptable practice in some industries).

Providing additional depreciation is not an acceptable method of accounting for environmental liabilities.

Northern Electric plc Accounts 2000

Notes to the Accounts

Accounting Policies

Abandonment Costs

A full provision has been created for future abandonment costs and a related abandonment asset has been established within fixed assets. The estimated costs of abandonment are held at the present value of the expected ultimate obligation, on the assumption that the facilities will be fully removed where appropriate and are based on the estimates provided by operators. Amortisation of the abandonment asset is carried out on a unit of production basis, calculated field by field using the same reserve quantities as are used for depreciation purposes. It is assumed that certain abandonment costs will be allowable for petroleum revenue tax and corporation tax purposes when incurred.

The British Petroleum plc (UK) Annual Report and Accounts 1997

Accounting Policies:

De-commissioning
Provision is made for decommissioning of production facilities in accordance with local conditions and requirements on the basis of costs estimated as at the balance sheet date. The provision is allocated over accounting periods using a unit-of-production method based on estimated proved reserves.

As noted previously under IAS 37 it is no longer possible to spread such costs over the life of the operation (extraction) or deferred costs until the activity is completed or the site is closed. The purpose of this development is to highlight the need to recognise an environmental liability at the time the damage is caused and the need for future restoration is required.

With this in mind changes in provisions may be necessary to allow for changes during the time period involved. Provisions should be reviewed and adjusted as necessary at each balance sheet date to reflect current best estimates and discounting. Change due to discounting are to be recognised as "interest expense" and separated from other interest disclosed on the face of the profit and loss account. The extract below illustrates the resulting change in accounting and reporting by British Petroleum. For a further illustration see *IAS 37 Appendix Recognition Example 3 Offshore Oilfield*.

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Accounting Policies

Decommissioning

Provision for decommissioning is recognized in full at the commencement of oil and natural gas production. The amount recognized is the present value of the estimated future expenditure determined in accordance with local conditions and requirements. A corresponding tangible fixed asset of an amount equivalent to the provision is also created. This is subsequently depreciated as part of the capital costs of the production and transportation facilities. Any change in the present value of the estimated expenditure is reflected as an adjustment to the provision and the fixed asset.

Note 26: Other Provisions

	Decommissioning	Environmental
At 1 January	2,785	917
Exchange adjustments	(133)	(10)
Acquisitions	484	1,222
2000 New provisions	139	228
Unwinding of discount	110	55
Utilized/deleted	(384)	(281)
At 31 December 2000	3,001	2,131

Disclosure

Environmental accounting as noted above is often a judgmental process.

Disclosure of information relating to environmental costs and liabilities is important for the purpose of CLARIFYING and providing further EXPLANATION of the items included in the balance sheet or the income statement.

Disclosures can be included in the financial statements, including the notes to the financial statements or, in certain cases, in a section of the report outside the financial statements themselves.

A key consideration for disclosure is whether an item of information or an aggregate of such items is material. Considerations of material should include not only the significance of the amount but also the significance of the nature of the item.

Environmental Cost Disclosures

An argument commonly raised against separate disclosure of environmental costs charged to income in the current period is that it is very difficult to determine the amount involved. In particular, it is difficult to distinguish environmental costs from other costs, such as operating costs and to assemble the information. Ultimately a judgement must be made as to the items that constitute environmental expenses.

Environmental costs- What should be disclosed?

ISAR recommendations:

- **Types of items identified as environmental costs should be disclosed**
- **Amount of environmental cost charged to income**
  - **distinguishing between operating and non-operating costs, and**
  - **analysed in a manner appropriate to the nature and size of the enterprise and/or types of issues relevant to the enterprise**
- **Amount of environmental costs capitalised during the period disclosed in the notes.**
- **An environmental cost recorded as a:**
  - **Fine or penalty for non-compliance with environmental regulation and/or compensation to third parties as a result of loss or injury caused by past environmental pollution – no benefit or return to the enterprise, or a**
  - **Extraordinary item ... should be separately disclosed.**

Environmental Liabilities Disclosure

There seems to be support among those that have issued documents on environmental financial accounting that there should be disclosure of the amount of environmental liabilities and valuation methods. Disclosure will assist users of the information in their assessment of the nature, timing and extent of an enterprise's commitment to future financial resources.

Environmental liabilities- What should be disclosed?

Environmental liabilities should be separately disclosed either in the balance sheet or notes to the financial statements.

The basis of measurement should be disclosed.

For each material class of liabilities:

- **A brief description of the nature of the liability**
- **A general indication of the timing and terms of their settlement**
- **Any significant uncertainty over the amount of liabilities or timing of settlement and the range of possible outcomes... should be disclosed.**

Where the present value approach has been used, consideration should be given to disclosing all assumptions critical to estimating the future cash outflows including:

- Current cost estimate of settling the liability
- Rate of inflation
- Future cost of settlement
- Discount rate(s)

Environmental Benefits

A common criticism of those advocating that enterprises undertake a broader and more verifiable environmental disclosure is that enterprises are only ever presented with the Cost Perspective and seldom see (or seek to see) the potential benefits.

There are very few enterprises who have tried to report publicly on the financial benefits of their environmental activities.

Accounting Policies

There would appear to be general agreement regarding the disclosure of accounting policies relating to environmental costs and liabilities. ISAR, IASC (now IASB) and the standard setting organisations of most countries have issued general positions or statements of accounting policies and these can be applied to the disclosure of accounting policies relating to environmental liabilities and costs.

Any accounting policies that specifically relate to environmental liabilities and costs should be disclosed.

General

To enable the user of the information to assess an enterprise's current and future prospects regarding the impact of environmental performance on the financial position of the enterprise. ISAR propose that the following is disclosed:

Nature of costs and liabilities

- **A brief description of any environmental damage**
- **Any laws or regulations forming the basis of remediation**
- **Any reasonably expected change to laws, regulation, technology reflected in amount provided.**
- **Type of issues pertinent to an enterprise and its industry. Formal policy and programmes adopted or there absence noted.**
- **Improvements in key areas made since the policy was introduced or the last five years, whichever is shorter.**
- **Extent to which environmental protection measures have been in response in government legislation and the extent to which government requirements have been achieved.**
- **Any material proceedings under environmental laws.**

It would be advisable to disclose any government incentives, such as grants or tax concessions provided with respect to environmental protection measures.

Other Guidelines on Disclosure

A number of countries such as the UK, Canada and the US call for certain disclosures outside the financial statements such as:

Guidelines	Example
Operating and Financial Review	UK
Management's Discussion and Analysis	Canada & US*
Other filings:	US Securities & Exchange Commission
	Stock Exchange of Thailand (SET) listing

*The US has the most extensive non-financial statement requirements relating to disclosure of environmental information. However many SEC requirements relate to the enactment of US environmental legislation.

UK Accounting Standards Board Statement of Best Practice on the Operating and Financial Review, specifically advocates a

> *"discussion identifying the principal risks and uncertainties in the main line of business, together with a commentary on the approach on managing these risks and, in qualitative terms, the nature of the potential impact on results".*

One example considered relevant depending upon the nature of business is "environmental protection costs and potential environmental liabilities".

In Canada the Ontario, Quebec and Saskatchewan Provincial Securities Acts require the filing of an Annual Information Form by companies registered with the Securities Commissions of those Provinces which include:

> *"the financial and operational effect of environmental protection requirement on the capital expenditure , earnings and competitive position of the issuer for the fiscal current year and any expected impact on future years".*

It should be noted that the ISAR requirements include this requirement.

US Securities and Exchange Commission

Regulations requiring disclosure on environmental matters include:

- description of business
- legal proceedings
- management's Discussion and Analysis.

Can you think of any local disclosure requirements affecting enterprises in your region? If so, can you give an example of a disclosure?

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Financial Review (p25)

Environmental Investment
Operating and capital expenditure on the prevention, control, abatement or elimination of air, water and solid waste pollution is often not incurred as a separately identifiable transaction. Instead, it forms part of a larger transaction, which includes, for example, normal maintenance expenditure. The figures for environmental operating and capital

expenditures in the table are therefore estimates, based on the definitions and guidelines of the American Petroleum Institute.

Capital expenditure on pollution abatement was at much the same level as in 1996 and similar levels are expected in the foreseeable future. In addition to capital expenditure, the table shows the charges to current profits to create provisions for future environmental remediation. Expenditure against such provisions is normally incurred in subsequent periods and is not included in environmental operating expenditure reported for such periods.

Provisions for environmental remediation are made when a clean-up is probable and the amount reasonably determinable. Generally, their timing coincides with commitment to a formal plan of action or, if earlier, on divestment or on closure of inactive sites.

The extent and cost of future remediation programmes are inherently difficult to estimate. They depend on the scale of any possible contamination, the timing and extent of corrective actions, and also BPs share of the liability. Although the cost of any future compliance could be significant, and may be material to the results of operations in the period in which it is recognised, we do not expect that such costs will have a material effect on BPs financial position or liquidity. We believe our provisions are sufficient for known requirements; and we do not believe that our costs will differ significantly from those of other companies engaged in similar industries or that our competitive position will be adversely affected as a result.

In addition, we make provisions over the useful lives of our oil and gas producing assets and related pipelines to meet the cost of eventual decommissioning. The charge for decommissioning made in 1997 is shown in the table opposite and further' details of our environmental and decommissioning provisions appear in Note 26 on the Accounts on page 42.

The following extract has been added to highlight the changes in accounting and reporting as a result of the development of IAS37/ FRS 12.

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Financial Summary

Environmental Expenditure

Operating and capital expenditure on the prevention, control, abatement or elimination of air, water and solid waste pollution is often not incurred as a separately identifiable transaction. Instead, it forms part of a larger transaction which includes, for example, normal maintenance expenditure. The figures for environmental operating and capital expenditure in the table on page 28 are therefore estimates, based on the definitions and guidelines of the American Petroleum Institute.

Environmental operating and capital expenditures were higher in 2000, principally due to the inclusion of ARCO and Burmah Castrol. Similar levels of operating and capital expenditures are expected in the foreseeable future. In addition to operating and capital expenditures, we also create provisions for future environmental remediation. Expenditure against such provisions is normally incurred in subsequent periods and is not included in environmental operating expenditure reported for such periods. Included within special items is a charge of $170 million relating to environmental liabilities at certain US sites. This charge appears within operating expenditure ($50 million) and new provisions for environmental remediation ($120 million).

Provisions for environmental remediation are made when a clean-up is probable and the amount reasonably determinable. Generally, their timing coincides with commitment to a formal plan of action or, if earlier, on divestment or on closure of inactive sites.

The extent and cost of future remediation programmes are inherently difficult to estimate. They depend on the scale of any possible contamination, the timing and extent of corrective actions, and also the group's share of the liability. Although the cost of any future remediation could be significant, and may be material to the result of operations in the period in which it is recognized, we do not expect that such costs will have a material effect on the group's financial position or liquidity. We believe our provisions are sufficient for known requirements; and we do not believe that our costs will differ significantly from those of other companies engaged in similar industries, or that our competitive position will be adversely affected as a result.

In addition, we make provisions over the useful lives of our oil- and gas-producing assets and related pipelines to meet the cost of eventual decommissioning. Provisions for environmental remediation and decommissioning are usually set up on a discounted basis, as required by Financial Reporting Standard No. 12, 'Provisions, Contingent Liabilities and Contingent Assets'. Further details of our environmental and decommissioning provisions appear in Note 26 in the Accounts, on page 48.

Verification

Reporting of various environmental issues and topics have given rise to a range of professional services, which are often referred to as 'environmental audit' services. However, there are important practical and conceptual differences between those services offered which preparers and users of environmental reports should consider.

Information is verifiable only if there are criteria available against which actual information can be verified objectively.

The ISAR recommendations provide criteria against which the audit of environmental considerations *within financial statements* can be considered.

In addition, the International Federation of Accountants (IFAC) has released an International Audit Practices Statement (IAPS) offering practical guidance on the Consideration of Environmental Matters in the Audit of Financial Statements.

The IAPS concentrates on issues such as:

- consideration of relevant environmental laws and regulations
- obtaining sufficient knowledge of the business in relation to relevant environmental matters
- using the work of environmental experts.

The document has two useful appendices:

1. Questions that the auditor may ask in obtaining knowledge of the business, including an understanding of the enterprise's controls with respect to environmental procedures.
2. Procedures that auditors may perform..

The International Audit Assurance Standards Board (IAASB) (formerly IAPC) is currently reviewing a potential standard for the verification of environmental reports (anticipated 2003).