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This paper's primary purpose is to discuss accounting for closure and post-closure costs. However, it also takes in miscellaneous issues related to accounting for landfills.

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## ACCOUNTING FOR LANDFILLS GUIDANCE

Accounting for landfills is proving to be more problematic than first anticipated. The prime area of difficulty continues to be that relating to closure and post-closure costs.

Some key points:

- ▲ In order to correctly account for closure and post-closure costs it is necessary to match the right accounting treatment to each of the different possible scenarios. The table on the next page and the flowchart on Page 3 outline the accounting treatments that are to be used in the various scenarios
- ▲ This is not just an FRS-15 related issue. In some cases it becomes an FRS-3 related issue
- ▲ Audit New Zealand has further developed its views on how to calculate the asset for operational landfills. We will still accept an approach based on our earlier advice, but we will now also accept an alternative approach to calculating the asset

## OTHER GUIDANCE

- ▲ [SOLGM Accounting for Environmental Obligations: Guidelines for Applying FRS-15: Provisions, Contingent Liabilities and Contingent Assets](#), June 2001
- ▲ [Ministry for the Environment, Landfill Full Costing and Charging Guide](#) – A Guide for Landfill Managers to Help in Assessing the Full Costs of Developing and Running a Landfill, June 1996

In this paper we do not seek to cover or repeat all of the material that is covered in these two documents – instead we would encourage you to refer to them as a complementary reference.

The SOLGM paper deals with many of the issues associated with accounting for landfills but does not address the issue of the initial recognition adjustment required for first-time compliance with FRS-15 in respect of an operational landfill for which a provision has previously been recognised. We discuss this issue in detail further below.

The Ministry for the Environment *Landfill Full Costing Guide* (the *Guide*),

issued in 1996, provides useful information on landfill full costing – but entities should be aware that, as it pre-dates FRS-15, it might not be consistent with that standard’s requirements. The Ministry is currently revising the Guide and expects to issue the updated version later this year.

## SCENARIOS AND THE ASSOCIATED ACCOUNTING TREATMENT

The following are some of the likely scenarios where landfill and contamination issues arise. We also discuss in the table how closure and post-closure costs should be accounted for under each scenario. Please also refer to the following page for a flowchart representation of this information.

Scenario	Required Treatment	Other Implications
New Landfill	Recognise a liability and asset.  An asset is recognised because FRS-3: <i>Property, Plant and Equipment</i> notes that the cost of an item of property, plant and equipment includes the cost of dismantling and removing the asset and restoring the site (paragraph 5.6).	
Operational landfill: no provision previously recognised	Recognise a liability and asset. This will require a Statement in Movements in Equity (SME) adjustment.	The value of the land is not impaired.  See <b>Note 1</b> below re issues to consider when landfills are measured under a modified historical cost system of accounting (i.e. a revaluation regime).
Operational landfill: a provision previously recognised	Ensure the correct liability and asset are recognised. This will require a Statement in Movements in Equity (SME) adjustment.  Refer to pages 2 and 3 of this paper for further details.	The value of the land is not impaired.  See <b>Note 1</b> below re issues to consider when landfills are measured under a modified historical cost system of accounting (i.e. a revaluation regime).
Closed (or “dead”) landfill: land owned (and no previously recognition of the issue)	Impair the land value.  If the impairment amount exceeds the carrying value of the asset then the additional amount (ie, the amount that exceeds the carrying value) would be recognised as a provision.	
Closed landfill: land is not owned, eg leased land (and no previously recognition of the issue)	Recognise a provision (ie, a liability).	
Other contaminated land: owned	Impair the land value.	
Other contaminated land: not owned.	Recognise a provision.	

## NOTE 1

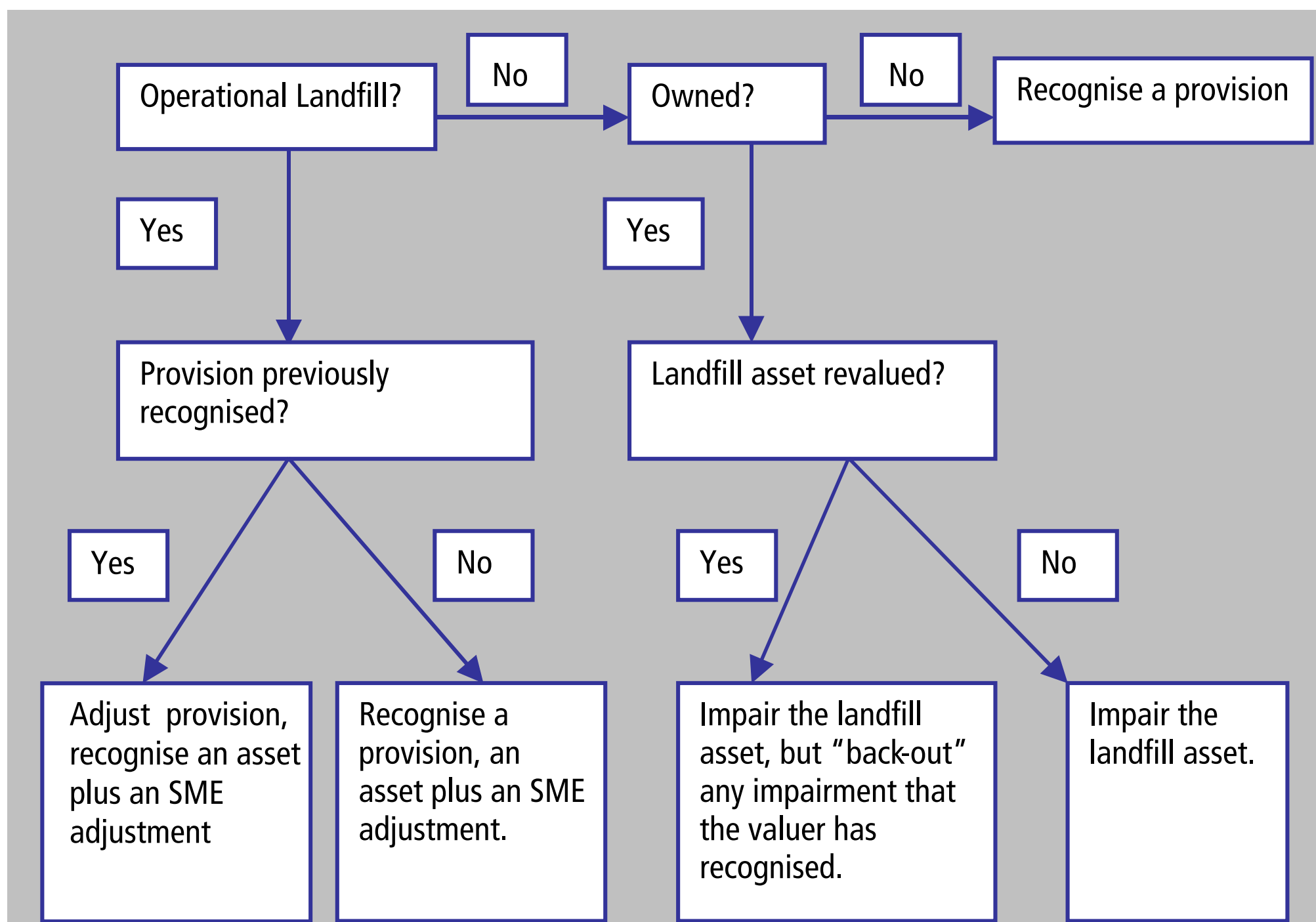
Where landfills are measured under a modified historical cost system of accounting (i.e. a revaluation regime), public entities will need to ensure the information on the different components (the “core” land, the costs to bring into use as a landfill, etc) of the landfill asset are provided as part of the valuation of the landfill. Entities will need to discuss with valuers how closure and post-closure costs of the landfill relate to the valuation. If closure and post-closure care costs are deducted within a landfill valuation, the entity will need to capitalise the costs back to the landfill asset.

### DIAGRAM 1: WHICH ACCOUNTING TREATMENT?

The following diagram seeks to outline which accounting treatment is to be used for particular scenarios. Please also refer to the table on the previous page for more detail regards each of the scenarios and the associated required accounting treatments.

Where we refer to a “provision” being recognised we are referring to a liability being recognised.

SME = Statement of Movements in Equity



## OPERATIONAL LANDFILLS

The purpose of this section is to discuss the accounting treatment required for first-time compliance with FRS-15: *Provisions, Contingent Liabilities and Contingent Assets* in respect of the closure and post-closure costs associated with an operational landfill – for the two following scenarios:

- ▲ Where a provision has been previously recognised, and
- ▲ Where no provision has previously been recognised.

## ISSUES

One of the major issues that has arisen is, in order to comply with FRS-15 for 30 June 2002 what adjustment is required?

## BACKGROUND

The SOLGM paper on Landfills deals with many of the issues associated with accounting for Landfills but does not address the issue of the initial recognition adjustment required for first-time compliance with FRS-15 in respect of an operational landfill.

## GAAP DISCUSSION

FRS-15 requires an against equity adjustment for the first time recognition of an FRS-15 based provision. FRS-15, paragraph 12.1 states:

*When an entity changes an accounting policy in order to comply for the first time with a requirement of this Standard, any revenue or expense must be recognised in the statement of movements in equity as an adjustment against equity at the beginning of the period in which the change is made.*<sup>1</sup>

The issue is where a provision has already been recognised but the provision has been calculated on a basis that is not consistent with FRS-15. This is the case for a significant number of local authorities that have previously recognised landfill provisions based on an "accrue as you go" liability for which the accrual has been based on a percentage of total volume basis. FRS-15 requires the full liability to be recognised at the point that an obligation is established. This necessitates the recognition of an asset reflecting the unutilised service potential of the landfill. This is discussed in detail in the SOLGM paper.

## WHAT IS THE FRS-15 INITIAL ADJUSTMENT?

The adjustment should be the amount required to ensure that the liability and asset that are recognised at 30 June 2002 are the amounts that approximately equal the asset and liability that would have resulted had we always accounted for the landfill under FRS-15.

## ILLUSTRATIVE DIAGRAM

Diagram 2 on the next page illustrates the movement in both the liability and asset balance over the life of the landfill.

## WHAT IS THE UNDERLYING LOGIC?

1. Liability? Yes
2. Amount? Present value to the current reporting date.
3. What is the Statement of Movements in Equity adjustment? Needs to be net of asset and liability less any previously recognised provision.
4. Why is there an asset? Because the landfill still has future economic benefits (FEBs).
5. What asset value should be recognised? Needs to reflect remaining FEBs.
6. How does one calculate the asset? We suggest, as per the following diagram, that one needs to calculate the remaining unamortised asset. To do this go back to the first point in time when the Council had either a constructive or legal obligation or else to the commencement point of the landfill, in order to determine "\$A". Then from this work out eg the 2002 amortised amount. In the following diagram we have illustrated 1960 as the point that we have gone back to.

The technically strongest position, (this position is a change from earlier Audit New Zealand communications), is to go back to the first point in time when the Council had either a constructive or legal obligation for closure and post-closure work. However, we will still accept the approach taken by any Council that wants to go back to the point in time when the landfill commenced (i.e., as per the advice we have previously communicated).

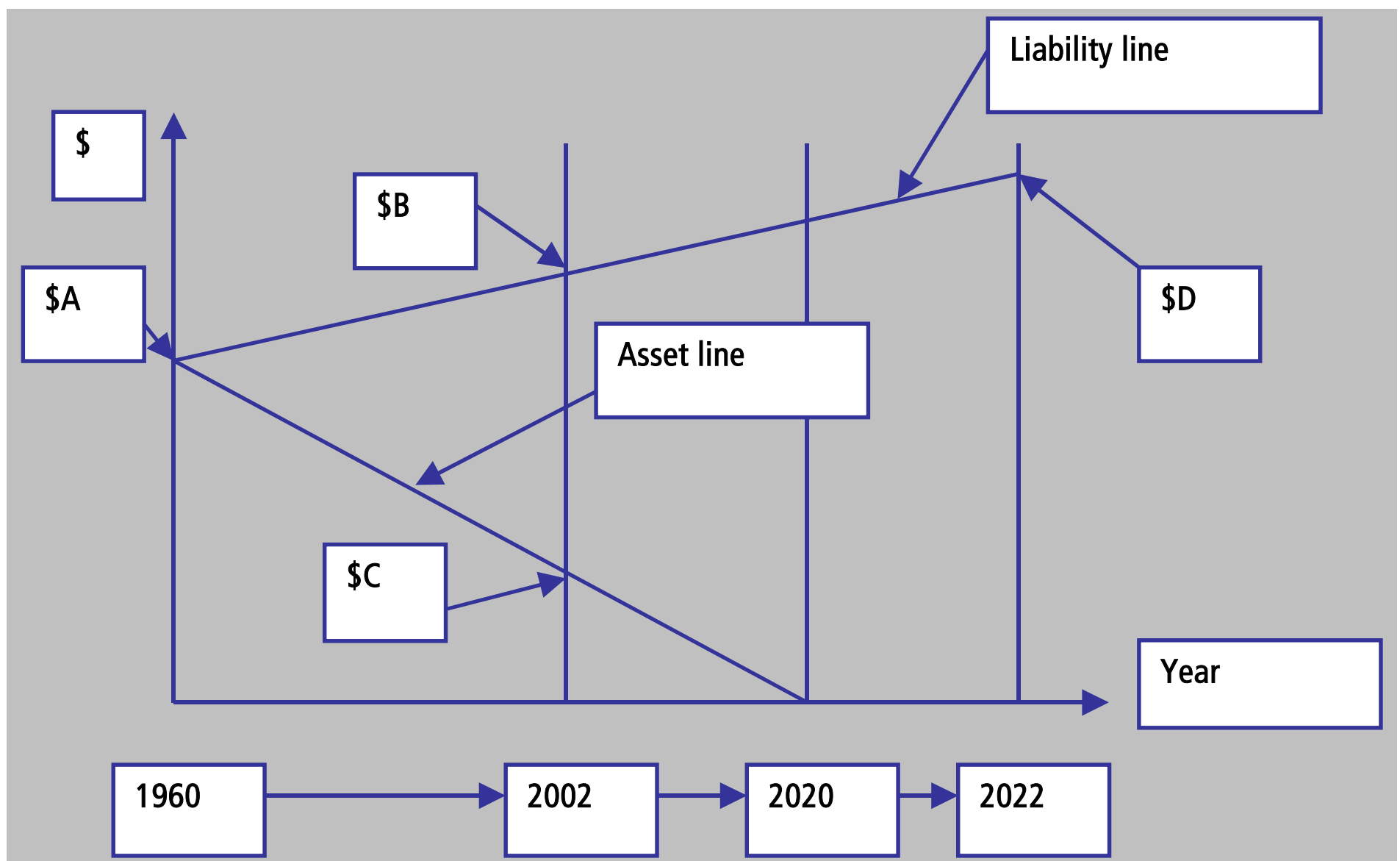
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<sup>1</sup> Extracted from ICANZ Members' Handbook, January 2002, FRS-15.

The logic for the changed approach is, such an obligation would not always have existed – so in terms of our current GAAP – but looking backwards – when would there have been a liability – either constructive or legal for closure and post-closure costs?

We are still simply trying to apply FRS-15 as if FRS-15 had always applied. We do not simply equate the asset to the liability because a proportion of the “future economic benefits” has been consumed.

## DIAGRAM 2



In terms of the life-cycle of the landfill:

- ▲ 1960: either when the Council first had a constructive or legal obligation or else when the landfill opened (depends on which point in time is used to determine the starting value of the asset).
- ▲ 2002: now.
- ▲ 2020: landfill expected to close.
- ▲ 2022: post-closure work has to be undertaken.

## KEY

The “asset” that we refer to below is that component of the total landfill asset that simply relates to the closure and post-closure expenses.

\$A = the original \$ value of the liability and asset in 1960 had FRS-15 been applied (although it does make a number of assumptions)

\$B = the \$ value of the liability at 30 June 2002 had FRS-15 been applied in 1960.

\$C = the \$ value of the “asset” at 30 June 2002 had FRS-15 been applied in 1960.

\$D = the cost of work to be done in 2022.

\$E = the \$ value of the existing provision in the financial statements. Where there is no previously recognised provision then this is \$nil.

## COMMENTARY

- ▲ The FRS-15 adjustment required in the 30 June 2002 financial statements = \$B-\$C-\$E
- ▲ The “asset” and liability are equal at the commencement of the landfill.
- ▲ The asset is amortised over the life of the landfill.

## CLOSED LANDFILLS

### SCENARIOS

The correct accounting treatment depends on whether the landfill land is owned by the reporting entity or not.

### ISSUES

- ▲ Accounting adjustments required to comply with GAAP at 30 June 2002
- ▲ Valuation of landfill land.
- ▲ Can FRS transitional provisions be used?
- ▲ Does the unwinding of the discount need to be reflected as an interest expense?
- ▲ Does the “interest expense” from any unwinding need to be funding in terms of the Local Government Act?

For the last three issues listed above the following scenario addresses some of these questions (but be aware the facts need to match your scenario).

### SCENARIO “A”

For the following scenario:

- ▲ A closed landfill
- ▲ The Council owns the land
- ▲ Land is recognised on a revaluation basis
- ▲ The valuation does not reflect clean-up of closure/post-closure costs.

then the journal entries to reflect closure and post-closure costs are:

Dr ... entry as per normal FRS-3 revaluation rules  
Cr ... landfill asset

This is consistent with the SOLGM guidance.

We explored the option as to whether there were any grounds for utilising the FRS-3 transitional provisions (in terms of the “debit” leg of journal entries). For operational landfills FRS-15 allows the use of SME adjustments under the FRS-15 transitional provisions. It seems “inconsistent/unfair” that there isn’t a similar transitional provision for closed landfills for which the land is owned by the reporting entity.

After discussion within Audit New Zealand and also with certain OAG staff we have concluded that this is not an option given the specific wording in para. 12.8 of FRS-3. The adjustment that we are discussing is an “impairment loss” – para. 12.8 excludes these from the coverage of para. 12.8.

FRS-3 states:

#### **STANDARD**

*12.8 Where an entity changes an accounting policy in order to comply with the principles of this Standard for the first time, any revenue or expense that arises, **other than an impairment loss**, must be recognised in the statement of movements in equity in the period in which the change is implemented.*

#### **COMMENTARY**

*12.9 The requirement in paragraph 12.8 applies to changes in policies in respect of both assets subject to the requirements of this Standard and assets not subject to the requirements of this Standard but which are accounted for in accordance with the principles of this Standard. A change from net current value on an existing use basis (under SSAP-28) to fair value (under FRS-3) constitutes an accounting policy change. **The requirement in paragraph 12.8 does not cover the recognition of impairment losses and recoveries. These are to be accounted for in accordance with section 9 of this Standard.**<sup>2</sup>*

### **HOW MUCH SHOULD THE IMPAIRMENT VALUE BE?**

We are suggesting that the impairment adjustment would equal the quantum of the discounted closure and post-closure costs.

### **HOW WOULD A VALUER ASSESS THE VALUE OF THIS?**

The SOLGM guidelines indicate that one takes the "Present Value of Obligations" associated with the site off the open market value.

### **SHOULD THE IMPAIRMENT ADJUSTMENT BE DISCOUNTED?**

Yes, as per the SOLGM guidelines.

### **UNWINDING OF DISCOUNT**

We suggest as a practical approach that the adjustment is only reassessed every time a revaluation of the landfill occurs – which will be on a regular cycle unless in-between there has been a material change in the amount.

### **FUNDING OF "INTEREST"**

There is no "interest" to fund given that any adjustment over time is simply reflected as part of the FRS-3 revaluation adjustment – which in most cases would not be reflected in the annual budget figures and therefore not funded in terms of the LGA requirements.

## **MISCELLANEOUS LANDFILL ISSUES**

### **WHAT DISCOUNT IS TO BE USED?**

The amount of the provision should be the present value of the expenditures expected to be required to settle the obligation. The discount rate(s) must be a pre-tax rate(s) that reflect the current market assessment of the time value of money and the risks specific to the liability. If the expected expenditure has been weighted for the risks involved, a risk-free rate should be used to avoid double counting.

The OAG is planning to provide more specific guidance in the future on what discounts rates to use. In the interim we suggest a discount rate that falls between a risk-free rate (e.g., relevant Government Stock rates) and your incremental borrowing rate will suffice.

### **COMPONENTS**

A landfill asset will have several components:

<sup>2</sup> Extracted from ICANZ Members' Handbook, May 2002, FRS-3.

- ▲ Land cost; and for a new landfill this may include two further elements:
  - The cost of the purchase of the “core” land
  - Any “premium” amount which reflects the market demand due to the limited availability of appropriate land, and therefore the likelihood that the land is more valuable to the entity as a landfill than in some alternative use.
- ▲ Landfill development costs; this may also have sub-components with different useful lives.
- ▲ Other property, plant and equipment
- ▲ Closure and post-closure costs.

## THE APPROPRIATE ACCOUNTING TREATMENT FOR LANDFILL ASSET COMPONENTS

The appropriate accounting treatment for the components of the landfill asset is as follows:

The “core” land	This land should be accounted for like any other land owned by the public entity. That is, it is recorded at cost or revaluation and not depreciated.
Any premium paid for the acquisition of the land	This should be depreciated over the useful life of the landfill to reflect the consumption of the cost of economic benefits.
The depreciable amount of the remaining components	These remaining components of the landfill should also be depreciated over the useful life of the component. The residual value, if any, should be expressed in terms of the amount expected at the date of making the estimate (i.e. in today's value, and not some future value that takes into account the effect of inflation).

## WHAT COSTS SHOULD BE INCLUDED?

In the case of landfills, the provision for closure and post-closure care will need to be assessed for each landfill site. The amount of the provision will depend on the conditions imposed by the resource consent and the specific management requirements of the site. The closure and post-closure care costs will normally include:

- ▲ The cost of removal of facilities no longer required, and general earthworks to restore the site.
- ▲ The cost of the equipment to be installed, and the facilities expected to be constructed, after the date the landfill stops accepting waste and during the post-closure period (such as drainage control features, leachate collection and treatment systems, water quality monitoring systems, landfill gas recovery and monitoring systems, etc.)
- ▲ The cost of intermediate capping activities (e.g. covering with topsoil and planting vegetation) as sections of the landfill become full and are closed.
- ▲ The cost of final capping activities.
- ▲ The cost of maintenance of final capping, vegetation and the various landfill systems.
- ▲ The cost of ongoing monitoring of leachate, ground water, stormwater, landfill gas, etc.

The Ministry for the Environment issued a *Landfill Full Costing Guide* in 1996. The *Guide* provides useful information on landfill full costing – but Appointed Auditors should be aware that, as it pre-dates FRS-15, it might not be consistent with the requirements of FRS-15. The Ministry is revising this Guide at present and expects to issue it later in 2002.

## TIMING OF RECOGNITION OF COSTS

In the case of an operational landfill, a provision is recognised for **only** those closure and post-closure care costs that the public entity is obliged to meet at balance date. An assessment must be made at each balance date to determine

the costs that the entity is obliged to meet and those it can still avoid by its future actions. To illustrate, when a new landfill is first opened, there will be an obligation to rehabilitate the site on closure (remove facilities, carry out general earthworks to restore the site, etc.). However, there will not be an obligation for the post-closure care of the site (monitoring of water quality, leachate, etc.) until waste begins to be dumped at the site. The timing of when the obligations for closure and post-closure care arise will depend on the specific management requirements of the site.

## **RELIABLE MEASURE AVAILABLE?**

A public entity recognises a provision where a reliable estimate of the amount of the obligation can be made. The circumstances in which an estimate cannot be relied upon will be extremely rare. It is anticipated that in almost all cases entities will be able to make estimates, using experts where necessary, that are sufficiently reliable for recognising provisions. In the case of provisions for landfill closure and post-closure care, the fact that the cash outflows can occur 20-30 years in the future does not make the estimate unreliable.

A situation can arise where a public entity, which is responsible for a large number of contaminated sites in its district, adopts a "worst-first" approach to investigating contaminated sites. As a result, the entity may not have sufficient information to determine the extent and amount of its obligations for clean-up of all contaminated sites. In such circumstances, it is not appropriate for the entity to exclude a provision for clean-up of the sites it has still to investigate, on the basis that it cannot make a reliable estimate of the amount of the obligation. It may, however, be appropriate for the entity to consider the probability of outflow of resources to settle the obligation. If the outflow is not probable, a provision would not be recognised but a contingent liability would be disclosed (unless the possibility of outflow is remote). Non-recognition of a provision may also be acceptable where the amount of the provision is considered to be immaterial. If this is the case, a general description of the investigative process the entity is undertaking may still be appropriate.

## **AMORTISATION OF CLOSURE AND POST-CLOSURE COSTS WHERE THERE IS METHANE EXTRACTION**

Over what period should closure and post-closure landfill costs be amortised - where associated methane extraction is occurring during the "post-closure" phase of the landfill. Should amortisation extend over a period that includes the period of methane extraction?

Our views are as follows:

- ▲ All closure and post-closure costs should be accounted for as a separate component(s).
- ▲ The amortisation period can be extended for costs that directly relate to the methane extraction.
- ▲ Amortisation should only be extended for those costs that are incremental to the normal costs of operating a landfill. Those costs that would have to be incurred for the landfill even if there wasn't gas extraction need to be amortised over the life of the landfill (i.e., up to the point of closure).

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