Project **Rate-regulated activities**

Topic **Measurement and expected cash flows**

Introduction

Objective of this paper

1. The objective of this paper is to provide further analysis to clarify the interaction between future expected cash flows and previously incurred specific costs in the recognition of regulatory assets and liabilities. As such this paper:

   (a) analyses the costs to cash flows to asset relationship,

   (b) discusses the effect of the rate of return, and

   (c) provides the examples to illustrate the analysis that the Board requested be included in the exposure draft to assist constituents.

2. Besides the examples set out within the paper, the staff presents further illustrative examples in Appendix A of:

   (a) how costs are included in the determination of rates (paragraphs A1-A5),

   (b) a regulatory asset arising from so-called 'balancing accounts' (paragraphs A6-A15), and

   (c) a regulatory liability arising from a gain on the sale of land (paragraphs A16-A20).

Costs to cash flows to asset relationship

Cause and effect relationship

3. The cause and effect relationship between an entity's costs and its rate based revenue stream provides evidence of the existence of an asset in accordance with the definition of an asset as set out in paragraph 49(a) of the *Framework*. A regulatory asset is a right to recover previously incurred costs through rates over

future periods as a result of action by a regulator. Thus, the asset is the right to identifiable cash flows to be received from the customer base.

4. The staff believes that this cause and effect relationship is important to the conclusion that a recognisable asset exists. It must be possible to trace the effect of costs the entity incurs to their effect on the rate to be charged to customers in future periods. That is, the right that arises as a result of regulation has to relate to identifiable future cash flows rather than a general expectation based on the existence of predictable demand. If there is not a cause and effect relationship from previously incurred costs, the staff agrees with those who argue that the effect of rate regulation is just the permission to charge customers a specified price in the future, which does not satisfy the definition of an asset.

5. Therefore, the regulatory asset is recognised as a result of regulatory action related to the entity's previously incurred costs and is measured on the basis of the future expected cash flows.

6. In practice, the ratemaking process relies on accurate cost and revenue data that reflect both costs incurred and amounts collected. The staff provides an example of how costs are included in the determination of rates in paragraphs A4-A5 of Appendix A.

Example of a regulatory asset

7. The staff presents below a simplified example of how the expected cash flows of a regulatory asset would be determined.

8. In this example we assume that the entity received the rate order from the regulator prior to recognising the regulatory asset. Consequently, the entity did not need to assess the probability of regulatory approval. The staff is aware that the example simplifies the calculation as it does not take into account variations such as volume of use or load conditions which would affect the units used and billed to customers in individual periods.

Following a major storm that severely damaged distribution towers, an entity operating rate-regulated activities received a rate order from its regulator that allows the recovery of the repair costs of 100 straight-line over 5 years with a yearly allowed return of 5%. The 5% return applies to the net carrying amount of the unrecovered costs year on year.

The table below shows the cash flows generated:

	Y1	*Y2*	*Y3*	*Y4*	*Y5*
Allowed storm costs	*20*	*20*	*20*	*20*	*20*
Allowed return	*5*	*4*	*3*	*2*	*1*
Total cash inflows	*25*	*24*	*23*	*22*	*21*

The regulatory asset is the total cash inflows received from customers generated by the incurrence of the repair costs and the allowance of the costs and return by the regulator.

Note: This example assumes that the repair costs would not qualify as an asset in accordance with IAS 16. Either the existing assets would have been written off and the replacement assets recognised as PP&E, or the repair costs would have been expensed directly.

Discount rate

9. Besides the probability weighted-average of all possible outcomes that is used to estimate the cash flows, in order to determine the amount to recognise, a discount rate needs to be applied to the cash flows that takes into account:

   (a) the time value of money; and

   (b) the risk specific to the asset for which the future cash flow estimates have not been adjusted.

10. The staff notes that at the Board meeting in April 2009 the Board agreed with the staff's recommendation that the risk of disallowance of incurred costs should be captured by the probability-weighted average of all possible outcomes. Consequently, this risk would not be one that is considered as part of paragraph 9(b).

11. The staff notes that the approach proposed in Paragraph 9 is consistent with both paragraph 55 of IAS 36 *Impairment of Assets* and paragraph 47 of IAS 37 *Provisions, Contingent Liabilities and Contingent Assets*.

12. The staff also notes that in some situations the rate of return set by the regulator may be a reasonable approximation of a discount rate that would be appropriate to use in the measurement of the regulatory assets and liabilities. However, the staff believes that this cannot always be assumed to be the case. Therefore, the staff proposes to include a reminder to this effect in the application guidance accompanying the standard.

Question 3 – Discount rate
For the reasons set out in paragraphs 9 to 12, the staff recommends the discount rate be determined on the same basis as in IAS 36 *Impairment of assets* and IAS 37 *Provisions, Contingent Liabilities and Contingent Assets*. Does the Board agree?

Effect of including amounts permitted by regulation in the cost of self-constructed assets

13. At its meeting in April 2009, the staff asked the Board whether it agreed with the staff's recommendation to permit entities in the scope of the standard to recognise as assets all amounts permitted by the regulator to be included in the cost of assets used in rate regulated activities. The staff's statement that such an entity was presumed first to have applied the requirements of all the other standards created considerable confusion about the implications of this recommendation.

14. This section of the paper includes:

    (a) an explanation of the issues,

    (b) a description of the alternatives and an example illustrating their effects

    (c) the arguments supporting each alternative, and

    (d) a question for the Board.

What is the issue?

15. As noted in Agenda Paper 9A for the April 2009 meeting, allowable costs are usually defined as the actual or estimated costs for which revenue is intended to provide recovery. In order to set rates to be charged in future periods, allowable costs must be estimated. However, in cost-of-service regulation, the estimates will later be 'trued up' to the actual amounts incurred. This is different from

other regulatory regimes in which such estimates are 'target' costs that are not subsequently adjusted to actual.

16. In cost-of-service regulation, regulators permit amounts to be included in the allowable cost of self-constructed assets that would not be permitted in accordance with IFRSs. As the Board discussed in its deliberations on the proposed IFRS 1 amendments for rate-regulated activities, these may include indirect overheads not permitted by IAS 16 and assumed financing costs (based on an assumed debt/equity ratio, assumed average interest costs and a reasonable return on shareholders' investments) not permitted by IAS 23 *Borrowing Costs*.

17. In the staff's view, there are two issues, one of recognition and one of presentation. As the presentation issue is less problematic, we will deal with it first.

18. As discussed in the previous section, the staff believes that the Board's conclusions regarding the existence of assets and liabilities, and therefore the scope of the standard, rest on the cause and effect relationship between the costs incurred by the entity and the right/obligation that results in increased or decreased future cash flows. IAS 23 requires capitalisation of the actual borrowing costs an entity incurs. Therefore, there is no need for the application of this standard to permit them to be recognised as part of PP&E.

19. The staff notes that although IAS 16 does not permit indirect overhead costs to be included in the cost of PP&E, the entity has actually incurred costs. Consequently, in the staff's view, if the regulator permits the indirect overhead costs to be recovered through rates, the entity would be able to recognise them as regulatory assets in accordance with the standard. Consequently, the staff thinks the issue for the indirect overhead costs is whether they could be presented as part of PP&E or whether they should be presented as part of regulatory assets. The staff intends to include this issue with the others to be discussed after this meeting, as set out in paper 9.

20. The recognition issue relates to amounts permitted by regulators that cannot be associated with identifiable incurred costs, in particular assumed financing costs not permitted to be capitalised in accordance with IAS 23. These non-permitted financing costs may include two components: a provision for debt costs in

excess of what the entity actually incurred in accordance with IAS 23 and a provision for a return on equity capital.

Alternatives and an example

21. The staff thinks there are two possible alternatives the Board can consider:

    (a) The new standard permits an entity to recognise assets in accordance with other IFRSs and for specific costs incurred which meet the standard's criteria to be recognised, or

    (b) The new standard permits an entity to recognise assets in accordance with other IFRSs and for identifiable amounts the regulator specifically permits to be included in the determination of rates.

22. The first alternative relies primarily on the direct connection between a specifically incurred cost and a recognised asset. The second relies more heavily on the expectation of future cash inflows due to regulatory action. The practical difference is illustrated in the following example.

23. Assume an entity constructs an asset to be used in rate regulated activities. It incurs construction costs of 90 and borrowing costs of 10 that can be capitalised in accordance with IAS 16 and 23, respectively. In addition, the regulator permits it to include in the cost of the asset for rate-making purposes indirect overhead costs of 10 and additional financing costs of 10.

24. In the staff's view as noted above, under both alternatives, the entity would record the following journal entry to recognise the PP&E when it is ready for use.

All amounts in CU	**Dr**	**Cr**
PP&E (B/S)	100	
Regulatory asset (indirect overhead) (B/S)	10	
Construction work in progress (B/S)		90
Interest (P/L)		10
General and admin expense (P/L)		10

Note that in practice both the interest and overhead amounts would have been included in construction work in progress over time rather than only when the asset is recognised in PP&E. This entry emphasises the effect on P/L for comparison with the second alternative.

25. Under the second alternative, an additional entry would be made:

All amounts in CU	**Dr**	**Cr**
Regulatory asset (financing cost) (B/S)	10	
Interest (or financing cost) (P/L)		10

Once again, in practice this income effect would be recognised over the construction period rather than when the construction is transferred to PP&E.

26. Also assume that the regulator permits recovery of the asset over 5 years on a straight line basis along with a return of 10% on the outstanding balance. The revenue cash flows would be as follows:

All amounts in CU	Year 1	Year 2	Year 3	Year 4	Year 5	Total
PP&E (regulatory)	24	24	24	24	24	120
Return	12	9.6	7.2	4.8	2.4	36
Total revenue	36	33.6	31.2	28.8	26.4	156

27. In each year, the amortisation of the PP&E and regulatory asset would be 22 under the first alternative and 24 under the second. This results in a net effect on profit or loss as follows:

All amounts in CU	Year 1	Year 2	Year 3	Year 4	Year 5	Total
Alternative 1 (incurred cost)	14	11.6	9.2	6.8	4.4	46
Alternative 2 (regulatory cash flows)	12	9.6	7.2	4.8	2.4	36

28. Under alternative 2, the net effect produces the constant permitted regulatory return of 10% on the unrecovered balance of the asset. Under alternative 1, the reported rate of return increases from 12.7% in year 1 to 18.3% in Year 5.

Arguments supporting the alternatives

29. Alternative 1 is obviously the simplest application of the principles both in IFRSs generally and the conclusions the Board has already reached in this project. Supporters of this alternative believe that in developing standards the Board should not make unnecessary exceptions to the principles on which the standards are based. In addition, supporters of Alternative 1 point out that the application of Alternative 2 results in the recognition of income during the period that an asset is being constructed for the entity's own use. They note that the Board rejected similar concepts in its Discussion Papers on insurance and revenue recognition.

30. Supporters of Alternative 2 acknowledge that it results in the recognition as assets of amounts for which no specifically identifiable cost has been incurred. They also acknowledge that as a consequence, if Alternative 2 were adopted, the amount recognised on initial recognition would not be consistent with the asset's cost as it would be determined in accordance with other standards. However, they do not believe that the adoption of this alternative would require an exception to the principle on which the standard is based.

31. First, they note that these allowances for financing costs are based on/related to costs that have actually been incurred. The regulator intends to permit the entity to recover an estimated economic cost of capital no matter what its actual capital structure might be. In the staff's view, the amounts initially recognised under Alternative 2 are likely to be a better approximation of what the asset would have cost if it had been acquired from a third party rather than constructed by the entity.

32. If the asset is the right to future cash flows, the supporters of Alternative 2 believe that these amounts should be recognised as assets because, although the specific incurred costs are not identifiable, the cash flows are specifically identifiable and those cash flows are just as assured as those that support the recognition of the assets under Alternative 1. The staff also notes that at its April 2009 meeting the Board concluded that consistency with existing standards should not necessarily determine the conclusions reached in this project.

33. Second, in the agenda paper for the Board's February 2009 meeting, the staff analysed whether the amounts arising from rate regulation met the definition of assets. The Board agreed with the staff's conclusion that they did. As part of that analysis, the staff noted the analogy between regulatory assets and cost plus construction contracts in IAS 11. The February paper pointed out that in the case of regulated activities the regulator acts on behalf of the customer base in determining which costs are appropriate and what the rate of return – the 'plus' in a cost plus contract – should be.

34. When the conditions of IAS 11 paragraphs 22 and 24 are satisfied, a contractor recognises revenues, costs and profit as the construction progresses. Under normal business conditions, the return allowed by the contract would be expected to be sufficient to permit the contractor to recognise a profit after deducting all costs not directly related to the contract such as general overheads and borrowing costs and a return on equity. Consequently, supporters of Alternative 2 do not believe that it would be inappropriate for a rate regulated entity to recognise income while the asset is being constructed as a result of an economic return permitted by the regulator that will be recovered by identifiable future cash flows.

Question for the Board
The staff believes that persuasive support exists for both alternatives, so does not make a recommendation. Does the Board support Alternative 1 or Alternative 2?

35. The staff will include recommendations for transition and consequential amendments to IFRS 1 depending on the alternative the Board chooses. The proposals and comments received on the IFRS 1 ED discussed in Agenda Paper 18 will be important inputs to these recommendations.

Appendix A

Ratemaking process

Use of estimates and projections

A1. The staff believes it is important to emphasise that regulatory assets are based either on costs incurred or estimates of the costs expected to be incurred. Estimates here have the same meaning as in paragraph 32 of IAS 8 *Accounting Policies, Changes in Accounting Estimates and Errors*: 'As a result of the uncertainties inherent in business activities, many items in financial statements cannot be measured with precision but can only be estimated. Estimation involves judgements based on the latest available, reliable information […]'. Paragraph 33 adds that 'The use of reasonable estimates is an essential part of the preparation of financial statements and does not undermine their reliability'.

A2. In most cases, estimates of future cash flows arise from the timing of the regulatory process and the entity recognises regulatory assets and liabilities based on the latest available information before the cost and allowed return are formally approved by the regulator. The Board has decided that these estimates should include an assessment of the probability of all possible outcomes.

Example of allowed costs and rate calculation

A3. The ratemaking formula generally entails the determination of a rate base, a rate of return and operating expenses and is as follows:

Rate base x rate of return + operating expenses = revenue requirement

Then, to determine the rate to be charged to customers (the price of each unit of service), the revenue requirement is divided by the total units of service expected to be used by the customers.

A4. The following is an example of how the rates are usually determined in a cost-of-service regulation.

An entity operates a rate-regulated activity for which the following items are allowed by the regulator (all amounts are expressed in CU):

Costs of Operations

Fuel	10,000
Operations (incl. PP&E depreciation)	8,000
Maintenance	2,000
Selling, General & Admin	1,000
Allowed operating expenses	21,000

Rate Base

Plant in Service (carrying amount)	1,000,000
Construction Work in Progress	300,000
Allowed rate base	1,300,000

Because the intent is to provide for earnings on all balances necessary for utility operations, the allowed costs also include the cost of debt financing for the following items:

Other Assets/Liabilities

Working Capital	3,000
Net regulatory assets	5,000
Net other assets/liabilities	(1,000)
Allowed other assets/liabilities base	7,000

The capital structure of the entity is assumed to include 50% debt and 50% equity. The average borrowing rate is 6% and the allowed return on equity is 10%. The allowed rate of return on the rate base is the average of the debt cost and the equity return, i.e. 8%.

The total allowed costs is the sum of the allowed operating expenses and the cost of financing both the rate base, by application of the rate of return, and the other assets and liabilities, by application of the borrowing rate:

Total amount authorised to be billed:

$$21{,}000 + (1{,}300{,}000 \times 8\%) + (7{,}000 \times 6\%) = 125{,}420$$

Expected units to be billed	1,000,000
Regulated rate	12.542

Balancing accounts

Balancing accounts in a rate-regulated activity

A5. In many jurisdictions, regulators have separated the cost of the goods and services provided to customers from the costs of their distribution. This permits customers to purchase the goods/services from alternative suppliers, increasing competition. Entities operating in such environments are often prohibited from earning a return on the supply of goods/services however, they are permitted to recover their purchase costs on the basis of a one-for-one pass through to retail customers. Such a mechanism may be included in legislation or could take the form of an automatic adjustment clause.

A6. To reduce volatility in rates charged to customers, regulators generally require differences between actual and estimated costs to be collected/refunded over time. The cumulative adjustments for the under/over collection of these costs are booked as a current regulatory asset or liability in the statement of financial position, until they affect future billings to customers.

Illustrative example

A7. The example below illustrates the effect of variations in the cost of gas on an entity's rate-regulated activities over a three year period. The staff understands that in practice, the recovery process for variances in costs would generally be over periods from 3 to 12 months.

A8. During 20X1, sales volume was lower than expected and natural gas prices increased as a result of supply shortages in the region.

A9. The table below shows the entity's actual gas supply costs and the amount collected in rates for each of the three years taking into account the provision in rates for the effect of volumes and cost variances:

	20X1 CU	**20X2 CU**	**20X3 CU**
Actual gas supply costs	1,034	1,040	978
Amount collected in rates	917	1,086	1,056

A10. The entity did not recover gas supply costs of CU 117 in year 20X1. For purposes of this example we assume that as of 1 January 20X1, the entity has a nil balance in its balancing account. The amount not recovered is shown as a regulatory asset for CU 117 in the statement of financial position in 20X1 and reduces gas costs in the statement of comprehensive income for this period.

A11. In 20X2, the net amount recovered in excess of cost is calculated as follows:

20X2	**CU**	
Actual gas supply costs	1,040	
Amount collected in rates	1,086	
Excess recovery of current period costs	(46)	
Amortisation of prior period balance	39	(a)
Net excess recovery in 20X2	**(7)**	(b)

(a) The entity is entitled to recover CU 39 million during 20X2 (CU 117 million over 3 years) related to costs not recovered in 20X1.

(b) The entity decreases its regulatory asset balance by CU 7 at the end of 20X2, leading to a cumulative balance of CU 110.

A12. In 20X3, the net amount recovered in excess of cost is calculated as follows:

20X3	**CU**	
Actual gas supply costs	978	
Rate collection	1,056	
Excess recovery of current period costs	(78)	
Amortisation of prior period balance	37	(a)
Net excess recovery in 20X3	**(41)**	(b)

(a) The entity is entitled to recover approximately CU 37 million during 20X3 (CU 110 million over 3 years).

(b) The entity decreases its regulatory asset balance by CU 41 at the end of 20X3, leading to a cumulative balance of CU 69.

A13. The statement of financial position includes a line for the current regulatory asset showing the balance at the end of each period:

	20X3 CU	20X2 CU	20X1 CU
Balancing account	69	110	117

A14. The statement of comprehensive income shows the following line items related to gas costs and the balancing account:

	20X3 CU	20X2 CU	20X1 CU
Cost of gas sold	978	1,040	1,034
Current period net (deferral) / recovery	41	7	(117)
Amortisation of deferred gas costs	37	39	-
Amount collected in rates	1,056	1,086	917

Note: Normally the regulator would permit the entity to recover carrying costs on the outstanding balance to reflect the deferred payment; however, such amounts are not included in the calculations to simplify the example.

Example of a regulatory liability

Situation

A15. An electricity distribution company sells land originally purchased to construct its operations center for CU 20 million (carrying value of the land is CU 1 million).

A16. The entity is building two new operation centers at other locations that will be included in rate base.

A17. The regulator approved the sale of the land but the approving order does not address accounting for the gain on sale. However, in prior property sales, the entity has been required to return gains to ratepayers and amounts returned have ranged from 75% to 100%.

A18. The entity plans to address the accounting for the gain in its next general rate case. However, based on previous decisions it expects the regulator to require it to return the entire gain to ratepayers. Consequently, it recognises the following amounts in the financial statements in the period in which the sale took place:

Sale of property

All amounts in CU	**Dr**	**Cr**
Cash (B/S)	20	
Land (B/S)		1
Gain on sale of property (P/L)		19

Recognition of the regulatory liability arising from the gain on sale of land.

All amounts in CU	**Dr**	**Cr**
Gain on sale of property (P/L)	19	
Regulatory liability (B/S)		19

A19. In the following year, the entity files its general rate case. As anticipated, the regulator orders the entity to refund the entire gain to its customers over the next 10 years. The amortisation of this non-cash amount is included in the

determination of the entity's revenue requirement; thus the amortisation results in reduced customer rates which settle the liability over 10 years. Therefore, the entity will record the following entry in each subsequent year:

All amounts in CU	**Dr**	**Cr**
Regulatory liability (B/S)	1.9	
Other income/expense (P/L)		1.9

Note: Normally the regulator would also require the entity to provide a return on the outstanding balance of the liability to reflect its deferred settlement; however, these amounts are excluded to simplify the example.