

**PROPOSED FINANCIAL  
REPORTING STANDARD**

**ED/FRS XX**

**Illustrative Examples  
Exposure Draft  
Rate-regulated Activities**

*Comments to be received by 21 September 2009*

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## **FRS X *Rate-regulated Activities* [Draft] Illustrative examples**

*These examples accompany, but are not part of, the draft FRS.*

*It is planned to publish examples 1–6 with the FRS. Examples 7–9 are included in the exposure draft to help respondents.*

### **Application of the scope**

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#### **Example 1 – Example of rate-regulated operations**

- IE1 Company X, the owner of electricity transmission infrastructure and related assets, has been licensed for twenty years to operate a transmission system in a particular jurisdiction. Only one operator is authorised to manage and operate the transmission system.
- IE2 Company X charges its customers for access to the network at prices that must be approved by the regulator. Pricing structures are defined in the law and related guidelines, and are determined on a 'cost plus' basis that is based on budget estimates. Once approved, prices are published and apply to all customers. Prices are not negotiable with individual customers.
- IE3 Prices are set to allow Company X to achieve a fair return on its invested capital and to recover all reasonable costs incurred. At the end of each year, Company X reports to the regulator deviations between the actual and budgeted results. If the regulator approves the differences as 'reasonable costs', they are included in the determination of rates for future periods.
- IE4 Such rate-regulated activities are within the scope of the [draft] FRS because the regulator establishes the prices Company X charges its customers, those prices bind the customers, and the prices are designed to recover Company X's specific costs and earn a fair return.

#### **Example 2 – Incentive-based regulation in energy transmission and distribution**

- IE5 Company Y operates in a jurisdiction where revenue rather than rates is regulated for energy distribution. The regulator sets a total 'allowable revenue' for each year. To the extent that Company Y collects more or less than the allowable revenue in any year, it must adjust its prices for the following year.
- IE6 The regulator resets allowable revenue every five years after reviewing every entity in the industry and taking into account the differences in their operations and geographical distribution of customers. The regulator then determines for each entity:
- (a) an efficient level of operating costs;
  - (b) an agreed programme of capital expenditure over the next five years; and
  - (c) a cost of capital.

- IE7 Allowable revenue for the first year of the price review is generally determined by adding together a level of operating costs that will be allowed for recovery (based on existing levels of operating costs) and a return on the regulated asset base (based on existing assets, plus the capital expenditure programme at the allowed cost of capital).
- IE8 For subsequent years, allowable revenue is adjusted by an efficiency factor related to the reduction of allowable operating costs that the regulator has determined is achievable by Company Y.
- IE9 Such regulation is not within the scope of the [draft] FRS because:
- (a) Company Y's allowable total revenue is determined on the basis of industry averages and targeted reductions in operating costs rather than the actual costs Company Y incurs;
  - (b) the regulator controls Company Y's total revenues rather than the prices it charges customers; and
  - (c) Company Y is entitled to retain any profits (or suffers any losses) from exceeding or failing to meet the regulator's deemed level of efficient operating costs rather than being entitled to recover excess costs or having to return excess profits to customers through future rates.

### **Example 3 – Supply of energy in a rate-regulated environment**

- IE10 In some jurisdictions distributors are allowed to make a profit or loss only on the distribution of energy, not on the energy supplied. Therefore, a company in these jurisdictions charges its customers two rates—one for the cost of energy and another for the cost of distribution. This separation allows customers to obtain their energy from suppliers other than the distributor.
- IE11 Company Z determines the difference between the revenue received at the rate charged and the purchase cost of the energy each month. This difference is then recovered from or returned to customers by adjusting the rates charged for energy over the next twelve months, beginning in the month after the energy is supplied. Thus, the rate Company Z charges customers for energy supplied in September will be determined as the estimated cost of energy in September, adjusted by one-twelfth of any profit or loss on energy supplied in the previous twelve months.
- IE12 In the absence of rate regulation, Company Z would simply bill each customer the difference between the price it charged and its cost for the energy the customer used in September. Because an identifiable amount, based on that customer's prior usage, would be due from an individual customer, a financial asset or financial liability would exist. However, by regulation Company Z may recover its specific cost of energy supplied to customers only by adjusting future rates. Because the profit or loss from the supply of energy will be recovered over twelve months from the customer base as a whole, Company Z recognises a regulatory asset or regulatory liability within the scope of the [draft] FRS.

### **Example 4 – Cost-of-service regulation with a determinable variable return**

- IE13 Company A operates under a cost-of-service regulation with a determinable variable return. The performance incentive mechanism allows it to retain 25 per cent of the amount by which its actual return exceeds the target return allowed by the regulator (referred to as 'over earnings'). The regulator requires the customers' share of the over earnings (75 per cent) to be returned to them as rate reductions over three years beginning in the year following its approval of the determination of such over earnings. If Company A earns less than the return allowed by the regulator, it is permitted to increase rates in the following three years to recover 50 per cent of the difference. In both cases, the amount is adjusted by interest at the

company's cost of capital to compensate the party receiving the payment for the delay in recovery.

- IE14 This regulation is within the scope of the [draft] FRS. The permitted rates of return are based on the entity's specific costs incurred and the entity has a right to recover 50 per cent of the amount by which its actual return is lower than the regulator's target and similarly an obligation to return to its customers 75 per cent of over earnings. However, if Company A consistently fails to recover a reasonable return, it would need to consider the indicators in paragraphs B4–B6 of the [draft] FRS to determine whether it continues to be within the scope of the [draft] FRS.

### Example 5 – Example of price cap regulation

- IE15 Company B operates in a jurisdiction where the prices it charges its customers for the goods or services it provides are regulated according to a 'price cap index'. The regulator sets prices considering various factors such as competition and inflation. Company B cannot charge more than the set prices.
- IE16 Under such regulation the buyer is assured of the result while the supplier takes the risk and receives the rewards from additional effort or from the implementation of cost-reducing innovations.
- IE17 Though such regulation meets the criterion in paragraph 3(a) of the [draft] FRS in that prices are regulated and bind customers, it fails the criterion in paragraph 3(b) because prices are not designed to recover Company B's specific costs to provide the goods or services.

## Rate-regulated assets and liabilities

### Example 6 – Example of a regulatory asset

- IE18 Company C, an entity operating rate-regulated activities, received formal approval from the regulator before recognising a regulatory asset. Consequently, Company C did not need to assess the probability of regulatory approval.\*
- IE19 Following a major storm that destroyed its distribution towers, Company C received a rate order from its regulator that allows it to recover the replacement costs of CU100\* straight-line over five years with a yearly allowed return of 5 per cent. The 5 per cent return applies to the net carrying amount of the unrecovered costs at the end of each 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 expected present value of the total cash inflows received from customers generated by the incurrence of the replacement costs and the allowance of the costs and the return by the regulator.

- IE20 The regulatory asset arises because the regulator has approved the recovery of costs that would otherwise have been recognised as an expense in the period when the costs were incurred:

\* The example oversimplifies 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.

\* In this guidance monetary amounts are denominated in 'currency units (CU)'.

- (a) if Company C had recognised the original distribution towers as an asset, it would have derecognised their carrying amount as a loss in profit or loss and included the costs of the new towers in property, plant and equipment in accordance with FRS 16.
- (b) if Company C had recognised the cost of the original distribution towers as an expense in profit or loss, it would similarly have recognised the cost of their replacements as an expense in profit or loss.

IE21 In either case, recognition of the regulatory asset reduces the amount Company C recognises as expense in profit or loss in the period.

## Other examples

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### Example 7 – Determination of the regulated rate

IE22 The formula for determining a rate per unit of goods or services provided to customers generally entails the determination of a rate base, a rate of return and operating expenses as follows:

$$\text{Rate base} \times \text{rate of return} + \text{operating expenses} = \text{revenue requirement}$$

IE23 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. So:

$$\text{Revenue requirement} / \text{estimated volume} = \text{rate per unit}$$

IE24 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):

#### Operating costs

Fuel	10,000
Operations (including property, plant and equipment depreciation)	8,000
Maintenance	2,000
Selling, general and administration	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 intention 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:

*continued...*

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<b>Other assets/liabilities</b>	
Working capital	3,000
Net regulatory assets	5,000
Net other assets/liabilities	<u>(1,000)</u>
Allowed other assets/liabilities base	<u>7,000</u>
<p>The capital structure of the entity is assumed to include 50 per cent debt and 50 per cent equity. The average borrowing rate is 6 per cent and the allowed return on equity is 10 per cent. The allowed rate of return on the rate base is the average of the debt cost and the equity return, ie 8 per cent.</p> <p>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:</p>	
Allowed operating expenses	21,000
Cost of financing rate base	
$1,300,000 \times 8\% =$	104,000
Cost of financing other assets	
$7,000 \times 6\%$	<u>420</u>
	<u>125,420</u>
Expected units to be billed	1,000,000
Regulated rate per unit	0.12542

## Example 8 – Balancing account

- IE25 In some jurisdictions, regulators have separated the cost of the goods provided to customers from the costs of their distribution. This permits customers to purchase the goods from alternative suppliers, increasing competition. Entities operating in such environments are often prohibited from earning a return on the supply of goods. 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.
- IE26 To reduce volatility in rates charged to customers, regulators generally require differences between actual and estimated costs to be collected or refunded over time. The cumulative adjustments for the under- collection or over-collection of these costs are recognised as a regulatory asset or liability in the statement of financial position, until they affect future billings to customers.

### Illustrative example

- IE27 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. In practice, the recovery process for variances in costs would generally be over periods from three to twelve months.
- IE28 During 20X1, sales volume was lower than expected and natural gas prices increased as a result of supply shortages in the region.
- IE29 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	20X2	20X3
	CU	CU	CU
Actual gas supply costs	1,034	1,040	978
Amount collected in rates	917	1,085	1,055

- IE30 The entity did not recover gas supply costs of CU117 (CU1,034 – CU917) in year 20X1. For this example, assume that as of 1 January 20X1, the entity has a nil balance in its balancing account. The amount not recovered is recognised as a regulatory asset for CU117 in the statement of financial position in 20X1 and reduces gas costs in the statement of comprehensive income for this period.
- IE31 In 20X2, the net amount recovered in excess of cost is calculated as follows:

20X2	CU
Amount collected in rates	1,085
Actual gas supply costs	<u>1,040</u>
Difference	45
Amortisation of prior period balance	<u>(39)<sup>(a)</sup></u>
<b>Net excess recovery in 20X2 refundable over three years</b>	<b>6<sup>(b)</sup></b>

- (a) The entity is entitled to recover CU39 during 20X2 (CU117 over three years) related to costs not recovered in 20X1, leaving CU78 to be recovered in the next two years.
- (b) The entity decreases the carrying amount of its regulatory asset by CU6 at the end of 20X2, leaving a cumulative net balance of CU72.

IE32 In 20X3, the net amount recovered in excess of cost is calculated as follows:

<b>20X3</b>	<b>CU</b>
Rate collection	1,055
Actual gas supply costs	<u>978</u>
Difference	<u>77</u>
Amortisation of prior period balance (from 20X1)	(39) <sup>(a)</sup>
Amortisation of prior period balance (from 20X2)	<u>2<sup>(b)</sup></u>
<b>Net excess recovery in 20X2 refundable over three years</b>	<b>40<sup>(c)</sup></b>

(a) The entity is entitled to recover CU39 during 20X3 (CU117 over three years) related to costs not recovered in 20X1, leaving CU39 to be recovered in the following year.

(b) The entity is required to refund CU2 during 20X3 (CU6 over three years) related to excess recoveries in 20X2, leaving CU4 to be refunded in the next two years.

(c) The entity decreases the carrying amount of its regulatory asset by CU40 at the end of 20X3, leaving a cumulative net balance of CU(5).

IE33 The statement of financial position includes a line for the current regulatory asset showing the balance at the end of each period:

	<b>20X3</b>	<b>20X2</b>	<b>20X1</b>
	<b>CU</b>	<b>CU</b>	<b>CU</b>
Balancing account, net	(5)	72	117

IE34 The statement of comprehensive income shows the following line items related to gas costs and the balancing account:

	<b>20X3</b>	<b>20X2</b>	<b>20X1</b>
	<b>CU</b>	<b>CU</b>	<b>CU</b>
Cost of gas purchased in the period	978	1,040	1,034
Current period net (deferral)/recovery	40	6	(117)
Total amortisation of deferred gas costs	<u>37</u>	<u>39</u>	<u>-</u>
Amount included in profit or loss	<u>1,055</u>	<u>1,085</u>	<u>917</u>

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

### **Example 9 – Regulatory liability**

IE35 An electricity distribution company sells land originally purchased to construct its operations centre for CU20 (carrying amount of the land is CU1). The entity is building two new operations centres at other locations and their cost will be included in the rate base when they are complete.

IE36 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 customers and amounts returned have ranged from 75 per cent to 100 per

cent.

- IE37 The entity plans to address the accounting for the gain in its next general rate case. However, on the basis of previous decisions and the facts and circumstances for this particular sale, it expects the regulator to require it to return the entire gain to customers (estimated probability of total refund is 100 per cent). Consequently, it recognises the following amounts when the sale takes place:

**Sale of property**

	<b>Dr</b>	<b>Cr</b>
Cash (statement of financial position - SFP)	20	
Land (SFP)		1
Gain on sale of property (statement of comprehensive income - SCI)		19

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

	<b>Dr</b>	<b>Cr</b>
Gain on sale of property (SCI)	19	
Regulatory liability (SFP)		19

- IE38 In the following year, the entity files its general rate case. As expected, the regulator orders the entity to refund the entire gain to its customers over the next ten 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 ten years. Therefore, the entity will record the following entry in each subsequent year:

	<b>Dr</b>	<b>Cr</b>
Regulatory liability (SFP)	1.9	
Other income/expense (SCI)		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, to simplify the example these amounts are excluded.