STAFF PAPER

Accounting Standards Advisory Forum

(Previously presented as IASB AP 9C to the IASB meeting in February 2014)

Project	Rate-regulated Activities: Research project		
Paper topic	Calculating the allowable revenue		
CONTACT(S)	Jane Pike	jpike@ifrs.org	+44 (0)20 7246 6925

Introduction

1. ASAF Agenda Paper 3C (IASB Agenda Paper 9B) sets out our updated description of the distinguishing features of the sort of rate regulation that we wish to focus on in the Discussion Paper. The purpose of this paper is to describe the typical mechanism used in that sort of rate regulation to calculate the amount of revenue that an entity is allowed to charge to customers during a regulatory period.

2. We recommend that this description should be included in the Discussion Paper and so we are asking the IASB whether it has any comments or questions about it.

How is the rate established?

3. The rate regulation will set establish the framework that the rate regulator and the entity (the parties) work within when establishing the price that is to be charged to customers for the rate-regulated goods and services. Usually, there is some dialogue and negotiation between the parties to establish:

   (a) what activities the entity needs to perform and what goods and/or services the entity needs to deliver during the regulatory period; and

   (b) the total amount of revenue that the entity is entitled to receive in exchange for the agreed performance, which incorporates an agreed

estimate of the quantity of rate-regulated goods or services expected to be delivered to customers during the period. This total revenue is often termed the 'allowable revenue'.

4. The regulatory period is the time during which the allowable revenue limit is applied, that is, the time between regulatory agreements. This period varies by rate regulation, typically between one year and five years, although some are longer.

Obligations established by the regulatory agreement

5. The regulatory agreement will establish what rate-regulated activities the entity is obliged to perform during the regulatory period. The activities could include:

   (a) the delivery of the rate-regulated goods and/or services to customers: this can involve targets for quality as well as quantity;

   (b) making changes to the capacity of the network: this can involve renewals, additions, reductions through retirement, or upgrades;

   (c) satisfying related government objectives; this can involve reducing greenhouse gases or other pollutants, switching to renewable energy sources or changing customer behaviour to manage demand; and

   (d) standing ready to repair damage to the network and restore services to customers after storms or other contingent events.

How is allowable revenue collected?

6. When possible, the regulatory agreement will be designed to ensure that the allowable revenue will be collected from the customers that receive the rate-regulated goods or services. In some cases, however, the rate regulator may establish that the amount of allowable revenue exceeds the amount that customers can be expected to afford. In order to make up for the shortfall, the rate regulator may facilitate government subsidies to be paid to the entity in the form of government grants or other government assistance, including tax relief.

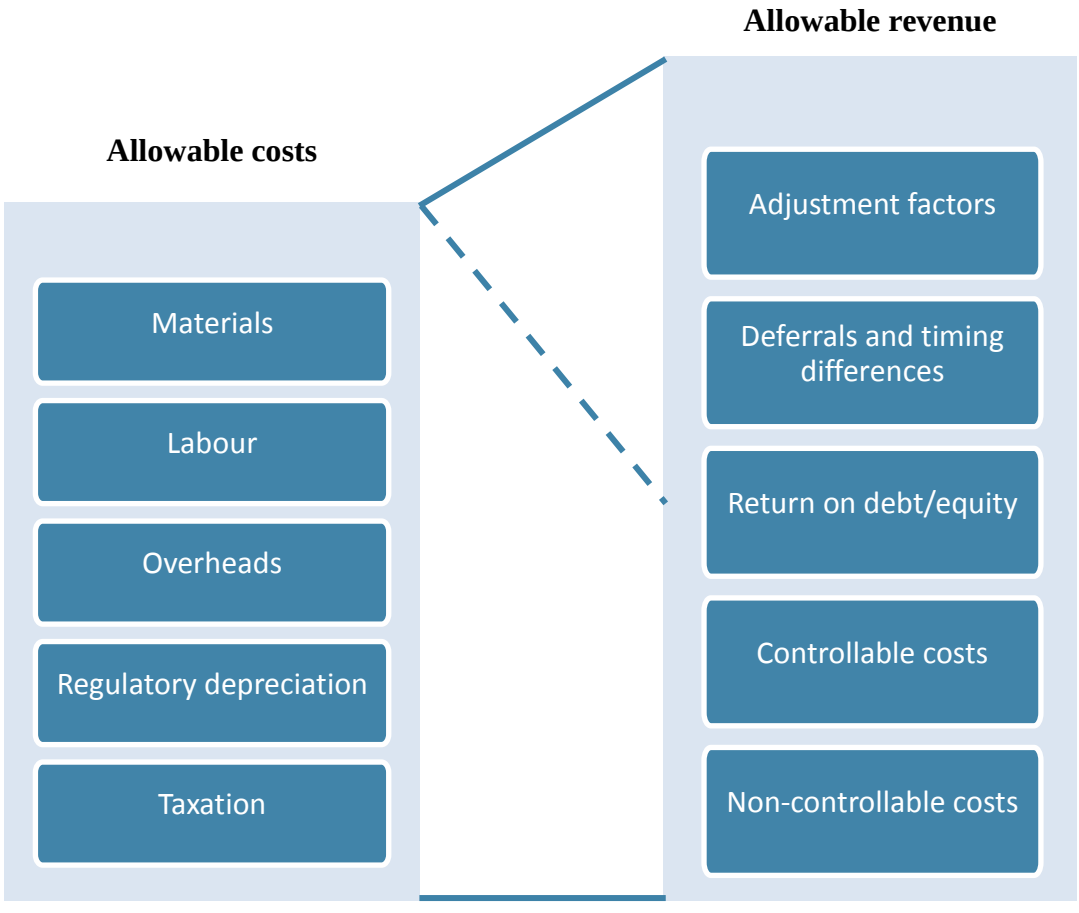
7. When an entity receives part of its allowable revenue through such government actions, this will currently be accounted for in accordance with IAS 20 *Accounting*

for Government Grants and Disclosure of Government Assistance and/or IAS 12 *Income Taxes*. As part of the Rate-regulated Activities project, we will need to consider the interaction of rate regulation and these Standards.

8. However, the remainder of this paper focuses on the 'cleaner' situation in which all of the allowable revenue is to be collected from the customers that receive the rate-regulated goods and services. The paper outlines a representative methodology used by rate regulators for calculating the amount of allowable revenue and collecting it from customers.

How is allowable revenue calculated? An example of common features

9. Allowable revenue is calculated based on a number of steps and building blocks. Although the precise order of the steps and the building blocks may differ in detail from those described below, the following description is based on a number of identified schemes. It is intended to describe the common features seen in a variety of schemes and is therefore intended to be considered to be representative.



Step 1: Identify allowable costs

10. The starting point for most schemes, including those that are considered to be heavily incentive-based, is to identify the detailed breakdown of the estimated cost (the 'allowable costs') of performing the activities that the entity is obliged to perform in accordance with the regulatory agreement.

11. This cost breakdown may be based on actual past costs for a designated period, adjusted for any non-recurring or other costs that are not representative of the ongoing costs of performance. Alternatively, the breakdown may be based on budgeted future costs, which may or may not need to be reconciled to actual past costs.

12. The type of costs that are typically included in allowable costs are:

    (a) **Regulatory depreciation of regulated assets**. The value of regulated assets (commonly referred to as the "regulated asset base" (RAB) or "regulated asset value" (RAV)) is depreciated over a designated time period. The value of the regulated assets and related depreciation are calculated based on the terms of the regulatory agreement. The principles on which these are calculated are usually similar to the basis of the IFRS carrying value of the assets, but there may be differences in the amounts calculated. For example, the RAV may be increased for inflation; or the period over which the value is depreciated may be shorter than the useful economic life; or initial cost capitalised may include indirect costs or an imputed cost of equity that would not be permitted to be capitalised by IAS 16 *Property, Plant and Equipment* and IAS 23 *Borrowing Costs*.

    (b) **Costs of service**. These can include costs of materials, labour, finance costs, variable overheads and an allowable portion of fixed overheads. Regulatory agreements commonly try to impose some discipline on an entity by allowing only those costs that are considered to be efficiently or prudently incurred. Rate regulators have different approaches to determining what is considered an efficient or prudent cost and this may be different to the actual costs incurred.

(c) **Taxation.** In some cases, the profit earned by an entity on rate-regulated activities may be exempt from taxation. In other cases, the entity may be taxed on such profits, but the rate regulator considers the amount of taxation suffered to be an allowable cost for rate-regulatory purposes.

13. Once the allowable costs are identified, the rate regulator will then determine which costs are considered prudent and efficient and, consequently, will be taken into account in calculating the allowable revenue.

Step 2: Distinguish controllable and non-controllable costs, and decide whether any costs should be incentivised

14. Non-controllable costs commonly include such items as fuel costs or raw material costs. As the name suggests, the entity has little or no control over these costs and so they are commonly included at the amount incurred when calculating the allowable revenue.

15. Controllable costs, on the other hand, can be managed by the entity. Consequently, rate regulators will look at these costs in considering whether, within the regulatory agreement, the entity should be incentivised to manage these costs. Rate regulators have different approaches to determine what method of incentive is appropriate.

16. Increasingly, the regulatory agreement will restrict the allowable controllable costs to a target or a 'benchmark' level (which is often based on a fictional or hypothetical entity because rate-regulated entities commonly operate as exclusive suppliers and, consequently, comparable competitors are rarely available as benchmarks). In some cases, the regulatory agreement will fix the controllable costs at this target amount and, consequently, if the entity is able to perform its obligations at a lower cost, it is allowed to retain the benefit. In other cases, the regulatory agreement may require the entity to 'share' some of the benefit by reducing the allowable revenue.

Step 3: Identify any allowable revenue adjustment factors

17. Once the allowable costs have been identified, the rate regulator will determine what amount of revenue will be allowable. The rate regulation will provide a

framework for this, which often requires the rate regulator to establish the allowable revenue at a level that provides the supplier with a 'fair and reasonable' profit or rate of return. What is considered 'fair and reasonable' is a matter of judgement and is sometimes subject to negotiation between the supplier and the rate regulator. In some jurisdictions, the supplier can challenge the rate regulator's decision in the courts.

18. There are a number of items for which the rate regulator will adjust the allowable cost base when establishing the allowable revenue. Some of these relate directly to the allowable costs identified. These adjustments may reflect, for example, different assumptions about cost movements, quantities, and required quality. Other adjustments will relate directly to the amount of allowable revenue without there being a direct link to costs, for example, adjustments related to performance incentives

19. Some adjustments may be applied to amend prices during a regulatory period, particularly when that period is longer than one year. The amount and timing of the adjustments will be built into the rate regulation through a regulatory formula. Other adjustments may apply only when a formal rate review occurs and, consequently, will only take effect when during the next regulatory period. This allows the rate regulator to consider the impact of the adjustment on the overall position of the entity and the individual customers and, consequently, reflect it appropriately in the allowable revenue for the next regulatory period(s).

20. The following summarise some of the more common adjustments:

    (a) **Return on capital**. Regulated assets are funded through debt or equity or a combination of both. The rate regulation allows an entity to earn a return on the capital invested in such regulated assets in order to cover the cost of debt (interest costs), and to provide a profit for the holders of equity in the entity. In some regulatory agreements, the rate regulator will use an imputed cost of equity, on which the entity is entitled to earn a rate of return through the allowable revenue. Consequently, the terms "profit" and "cost of equity capital" have different meanings for regulatory purposes and will be reflected in different ways through the allowable revenue calculation. Regulatory agreements usually set the

debt/equity ratio to be used in calculating the return on capital, which may apply the actual debt/equity ratio or may set a benchmark ratio. Similarly, some regulatory agreements use the actual interest rate suffered by the entity but others use a benchmark interest rate as a way to incentivise the entity to raise debt efficiently.

(b) **Performance incentives.** Some regulatory agreements include incentives that are designed to encourage specific actions. These incentives cover a wide variety of actions. Some relate directly to the quantity or quality of the goods or services provided to customers, such as achieving customer satisfaction targets, reducing the number of power outages, or improving the punctuality of public transport services. Other incentives may relate only indirectly to the quantity or quality of the goods or services provided to customers, such as reducing greenhouse gas emissions or using a higher proportion of renewable energy sources. Achieving performance beyond targets set out in these incentive mechanisms may increase allowable revenue or, alternatively, failing to achieve certain minimum targets may lead to a reduction in allowable revenue.

(c) **Inflation adjustments.** Either general or specific inflation adjustments may be made to capital costs, operating costs or both when establishing allowable revenue. In some regulatory agreements, an inflation adjustment may be made directly to the total amount of allowable revenue.

(d) **Capacity adjustments.** These adjustments reflect planned changes to the volume of rate-regulated goods or services that are expected to be delivered to customers. These planned changes may involve new investment in regulated assets in order to satisfy expected increases in demand. Alternatively, it could involve retirement of regulated assets to eliminate excess capacity that is no longer needed.

(e) **Trackers and flow-through accounts.** In some regulatory agreements, the entity is allowed to recover, during the regulatory period, the actual cost of certain items, such as raw materials or fuel.

These are typically classified as non-controllable costs. In order to minimise the difference in timing between incurring these costs and recovering them, the allowable revenue is adjusted at short intervals during the regulatory period

(f) **Contingent events.** Rate-regulated goods or services are often considered to be 'essential' to customers and maintaining the supply is usually an important aspect of the regulatory agreement. Consequently, the allowable revenue commonly includes an adjustment to ensure that the entity is compensated for the costs of restoring the supply after an adverse event such as a storm, earthquake or flood. There are two general approaches identified for dealing with contingent events:

(i) An ex ante adjustment: the rate regulation anticipates the event happening by including an amount in allowable revenue that relates to the future contingent event. This builds up a reserve, for example a storm damage reserve, that the entity can draw on when the storm occurs. There is then a further adjustment to the allowable revenue for the difference between the reserve balance and the allowable storm damage reserve costs. If the contingent event does not happen within a specified time, the allowable revenue is commonly reduced in order to maintain or reduce the level of the reserve.

(ii) An ex-post adjustment: the allowable revenue does not include any amount related to contingent event. Instead, the formula used to calculate the allowable revenue includes an adjustment factor that will be triggered when the contingent event occurs. Consequently, when the entity incurs the contingent costs, for example when the storm damage is repaired, the allowable revenue will be increased in order to recover the allowable storm damage costs.

21. The allowable revenue established for a regulatory period will also include the allowable deferrals (see paragraph 27) and timing differences (see paragraph 28) that arose in earlier periods. The rate regulator will determine whether these amounts will be adjusted to reflect the time value of money. Typically, the rate regulation will also determine the interest rate to be applied.

Step 4: Calculate the allowable revenue

22. At this stage, the total potential allowable revenue for the next regulatory period can be established. The potential allowable revenue is the amount of revenue that the entity is entitled to earn in exchange for performing the activities that it is obliged to perform in accordance with the regulatory agreement, based on an expected quantity of rate-regulated goods or services to be delivered.

23. As discussed previously (see paragraphs 6-8), this paper is focused on situations in which the entity does not receive any of the allowable revenue from the government. Instead, the allowable revenue will be collected from customers through the rates charged to them for the regulated goods or services that they take delivery of.

24. The volume of regulated goods or services expected to be delivered to customers during the regulatory period will have been estimated when identifying the amount of the variable allowable costs to be included in the allowable revenue. The total allowable revenue is divided by this estimated volume to identify the price per unit that the entity needs to charge customers in order to recover the allowable revenue during the regulatory period.

25. This potential price per unit will then be assessed to identify whether it represents a price that is considered acceptable in accordance with the objectives of the rate regulation. In the type of rate regulation being considered here, the objective is to balance the interests of the customers with those of the entity.

26. Consequently, if the potential price per unit is considered to be too high for customers to afford in the regulatory period to which it relates, then the rate regulator will need to identify how to reduce the price to an acceptable level, without jeopardising the financial viability of the entity. In some cases, the obligations of the entity could be reduced. For example, planned expenditure to upgrade the network in order to reduce emissions could be delayed. This would reduce the costs that the entity needs to incur and would result in a commensurate reduction in allowable revenue to reflect the reduced obligations of the entity.

27. Alternatively, the rate regulator could defer recovery of some of the allowable revenue until future regulatory periods. In such cases, the deferred amount is carried forward in a regulatory deferral account. The balance on the account is

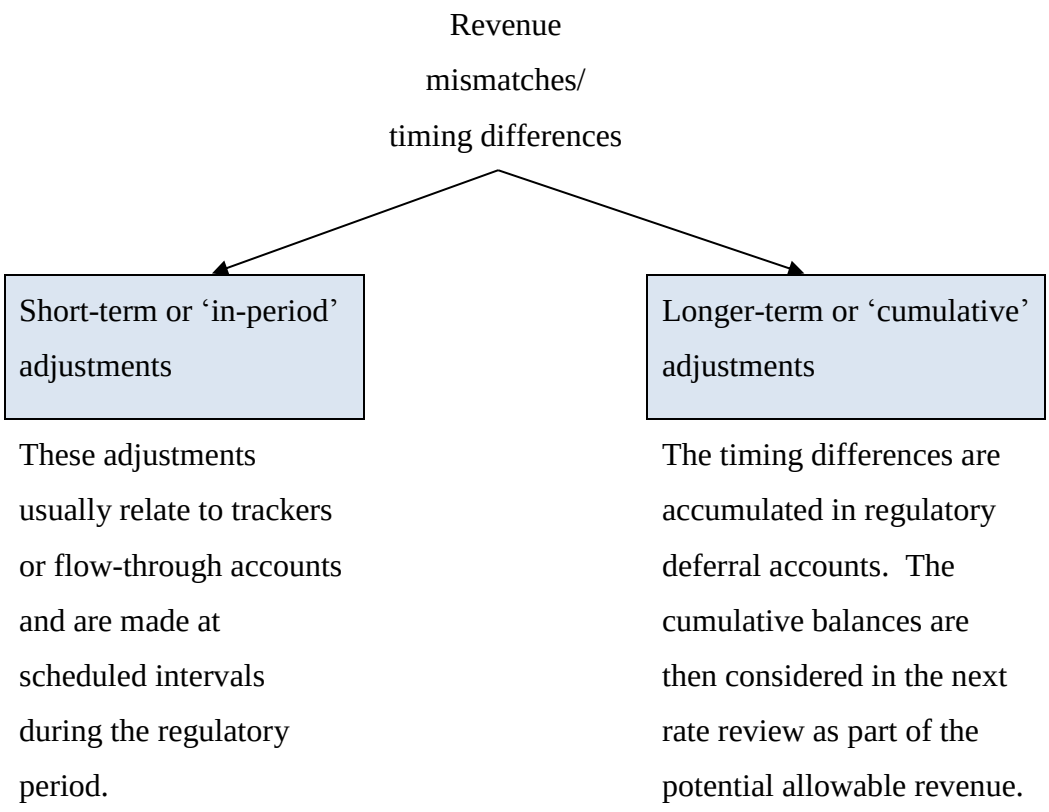
allocated to the allowable revenue in one or more future periods, usually on a straight-line basis. Commonly, the rate regulator compensates the entity for the time value of money in such cases.

Step 5: Establish how and when any under-recovery or over-recovery of allowable revenue will be reversed

28. As described in paragraph 35 of Agenda Paper 9B, the allowable revenue that the entity is entitled to earn in exchange for the rate-regulated activities that it performs in the regulatory period, taking into account the quantity of rate-regulated goods or services estimated and delivered, may differ from the amount of billable revenue that is invoiced to customers. In the type of rate regulation under review, the entity is legally entitled and required to correct these revenue mismatches (often called 'timing differences') by adjusting the price per unit that is charged to customers for future sales of the rate-regulated goods and services.

29. The rate regulation will establish when the rate can be changed and which future regulatory period or periods the mismatch will be allocated to for inclusion as an adjustment to the allowable revenue.

30. There are two broad approaches for the timing of rate adjustments dealing with revenue mismatches. Some rate-regulatory schemes use both approaches, depending on the source of the revenue mismatches.



31. In-period adjustments usually relate to variable costs of production. They are commonly used for commodities, such as fuel costs, when the rate regulation is designed to allow the entity to pass on the input cost of the commodity to customers, often without a mark-up. The variances between the estimated input cost used to calculate the rate per unit charged to customers and the actual input cost per unit are recorded in regulatory deferral accounts (often called 'trackers' or 'flow-through accounts'). The rate per unit charged to customers is adjusted at short intervals, for example three-monthly, throughout the regulatory period in order to pass on these variances to customers on a timely basis.

32. Cumulative adjustments relate to other variances and timing differences or revenue mismatches that may be smaller or less volatile and are suitable for correcting in the longer term. The rate is not adjusted during the regulatory period. Instead, the mismatches are recorded through regulatory deferral accounts and are used in the next rate review to establish the allowable revenue for the next regulatory period.

33. In some rate-regulatory schemes, particularly those with regulatory periods of three years or more, the rate regulation will include a rate review 'trigger'

(sometimes called an ‘off-ramp’ clause). Such triggers are designed to ensure that if actual events or transactions deviate significantly from the estimates used to calculate the allowable revenue, a new rate-review can be carried out in a timely manner to correct for major revenue mismatches. The trigger may result in a rate review being started automatically in specified circumstances, or it can provide the supplier and/or the rate regulator with the right to have a rate review performed, again in specified circumstances.

Allocating the timing difference to regulatory periods

34. The rate regulation will often specify the time period or periods over which timing differences will be allocated to allowable revenue. In many schemes, a ‘corridor’ approach is used to balance the interests of both customers and the entity and to provide greater certainty over timing issues. When a corridor approach is used, revenue mismatches follow different specified timetables for allocation and adjustment depending on whether they are inside or outside the corridor.

35. In some cases, no adjustments are made to correct amounts that are inside the corridor. In such cases, these become permanent differences, instead of timing differences, and are effectively ignored for regulatory purposes. Consequently, they are unlikely to need specific accounting requirements, but instead would flow through profit or loss, unless they could be recognised as part of the cost of other assets in accordance with other Standards.

36. The following simplified example demonstrates how a revenue mismatch is calculated and corrected. The assumptions used are as follows:

    (a) The regulatory period is four years long—from 20X3 to 20X6 inclusive. The latest rate review established that the allowable revenue for 20X3 is CU16,000[1] with an estimated sales level of 2,000 units. Consequently, the price per unit is fixed at CU8 per unit for the year.

    (b) Except for the quantity of units delivered to customers, all other estimates and assumptions used to calculate the allowable revenue for 20X3 were achieved and reflected in actual results.

[1] In this Agenda Paper, currency amounts are denominated in ‘currency units’ (CU).

(c) The price per unit of CU8 includes an amount of CU3, which relates to variable costs. This means that any quantity shortfall relating to the variable amount flows through without any adjustment to the allowable revenue of future periods. The remaining CU5 relates to fixed amounts and the quantity variance related to this portion of the selling price is recorded as a timing difference to be allocated to the allowable revenue of future periods. Consequently, the revenue timing mismatch that arises in Year one is calculated as the quantity shortfall multiplied by CU5 per unit.

(d) The rate regulation uses a corridor approach to allocate the revenue mismatch to the allowable revenue of future years as follows:

(i) mismatches that are less than +/- five per cent of allowable revenue are carried forward to be included in the next rate review;

(ii) mismatches between +/- five per cent and less than ten percent of allowable revenue are corrected on a straight-line basis over a two-year period beginning in Year t+2 (where t is the year that the mismatch originated); and

(iii) mismatches of ten per cent or more trigger a new rate review to establish when the amount will be corrected through a revised regulated rate per unit.

Mismatch arising 20X3 (ie the first year of the four-year regulatory period)	Case A	Case B	Case C
Estimated sales quantity	2,000	2,000	2,000
'Fixed' element of the regulated price per unit	5	5	5
'Fixed' element of the allowable revenue (based on quantity of 2,000 units)	10,000	10,000	10,000
Actual quantity delivered	1,950 units	2,150 units	1,750 units
Revenue mismatch, ie (under-)/over-recovery	CU(250)	CU750	CU(1,250)
Percentage (under-)/over-recovery	(2.5)%	7.5%	(12.5)%

37. In this example, we consider three alternative outcomes to demonstrate how the timing mismatch is corrected in accordance with the corridor approach set out in the rate regulation:

    (a) Case A: the entity has under-recovered CU250, or 2.5 per cent of allowable revenue. This amount is recorded in a regulatory deferral account to carry forward to the next rate review. There is no adjustment to the allowable revenue for the remainder of the regulatory period 20X3-20X6.

    (b) Case B: the entity has over-recovered CU750, or 7.5 per cent of allowable revenue. This amount is allocated on a straight-line basis to the allowable revenue for the two-year period beginning in Year t+2. The mismatch occurred in 20X3, which is Year t+0. The allowable revenue calculated for each of the years 20X5 (Year t+2) and 20X6 (Year t+3) is reduced by CU375 (CU750/2), which reduces the regulated rate per unit to be charged in those years.

    (c) Case C: the entity has under-recovered CU1,250, or 12.5 per cent of allowable revenue. There is an off-ramp clause in the rate regulation that is triggered by this mismatch. Consequently, a new rate review will be performed during 20X4 in order to establish the allowable revenue and the regulated rate per unit to be applied for a new regulatory period, which will cover the four-year period from 20X5-20X8.

Questions for the IASB

1. Do you agree with the staff recommendation to include, in the Discussion Paper, this description of how allowable revenue is typically calculated?

2. Do you have any comments or questions about the description of how allowable revenue is typically calculated?