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Project	Rate-regulated Activities		
Paper topic	Regulatory returns on construction work in progress base		
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Purpose of this paper

1. This paper continues the analysis in Agenda Paper 9A *Background and Regulatory Capital Base (RCB)* and applies it to a specific situation—that is, whether regulatory returns on a construction work in progress (CWIP) base included in the regulated rates charged to customers during the construction period should be regarded as forming part of total allowed compensation for goods or services in the construction period, or of total allowed compensation for goods or services supplied when the asset is being used in supplying goods or services to customers. The answer to this question will determine **when** those returns affect profit.
2. Based on the analysis carried out in Agenda Paper 9A and in this paper, the staff then makes an overall recommendation for the treatment of regulatory returns (paragraph 16). This paper does not ask questions to the Board. Questions to the Board relating to the matters discussed in this paper are in Agenda Paper 9D *Summary of staff recommendations*.

Structure of this paper

3. This paper is structured as follows:
 - (a) regulatory returns on CWIP base (paragraphs 4–15); and

- (b) appendix that includes numerical examples for regulatory returns on CWIP base that are included in the regulated rates charged to customers during the construction period and during the operating period of an asset.

Regulatory returns on CWIP base

4. Entities that are expected to have regulatory assets or regulatory liabilities often undertake construction work for long periods of time to build up the infrastructure necessary for the supply of goods or services. Long construction periods imply that significant amounts of capital are tied up in construction for many years. As compensation for that capital, regulatory agreements typically provide entities with regulatory returns applied to a base that consists of construction work in progress (CWIP). Two approaches commonly used by regulators for including regulatory returns on CWIP base in the regulated rates are as follows:
 - (a) regulatory returns accumulate during the construction period and are included in the regulated rates charged to customers after the construction works have been completed—ie during the operating period of the asset (paragraphs 5–8);¹ or
 - (b) regulatory returns are included in the regulated rates charged to customers during the construction period of the asset (paragraphs 9–16).

The appendix to this paper includes numerical examples that illustrate the two approaches above.²

Regulatory return on CWIP base if included in regulated rates during operation

5. Under this approach, regulatory returns on a CWIP base to which an entity becomes entitled during the construction period (in accordance with the regulatory agreement) are included in the regulated rates charged to customers once the asset is being used to supply goods or services. More specifically, under this approach a regulatory return is applied on the CWIP base and that return is added to that base.

¹ In some jurisdictions, this approach is referred to as the ‘allowance for funds used during construction’ (AFUDC).

² Please see paragraphs A3 and A11 in the appendix.

6. When the constructed asset is placed in service, the full cost of the asset, including capitalised regulatory returns during construction is added to the RCB and allowed to earn a regulatory return. This means that during the operating life of the asset, the entity will be entitled to regulatory returns on the RCB that include the accumulated regulatory return that built up during the construction period. In other words, the regulated rates charged to customers while the asset is used to supply goods or services include the regulatory returns accumulated during the construction period.
7. In paragraph 24 of Agenda Paper 9A, the staff set out the following principle for determining when regulatory returns on RCB form part of total allowed compensation, that applies the principle for target profit in paragraph 21 of that Agenda Paper:

Regulatory returns on RCB that a regulatory agreement entitles an entity to charge customers for a specified period form part of total allowed compensation for goods or services supplied in that period.³

8. The application of this principle when regulatory returns are included in the regulated rates charged to customers during the operating period of an asset, would be aligned with the **model's general principle** aiming to reflect total allowed compensation for goods or services supplied in a period.⁴ The staff are of the view that this outcome is appropriate.

Regulatory return on CWIP base if included in regulated rates during construction⁵

9. Under this approach, a regulatory agreement entitles the entity to:
 - (a) include the CWIP base in RCB during the construction period; and

³ In other words, regulatory returns on RCB form part of total allowed compensation, and thus affect profit or loss, in the period when those returns are included in the regulated rates.

⁴ Paragraph 18 in Agenda Paper 9A for this meeting.

⁵ In some jurisdictions, this approach is referred to as the 'rate base method'.

- (b) earn regulatory returns on that aggregate base and include these returns in the regulated rates charged to customers during the same construction period.⁶
10. In such cases, entities are entitled to include regulatory returns on the CWIP base in the regulated rates charged to customers for goods or services that are supplied using other items of property, plant or equipment (PPE) that are in operation (if the entity were not supplying any goods or services in the construction period, it would not be able to charge them anything in that period).
11. Applying the principle in paragraph 7, in the situation described in paragraphs 9–10, would result in the recognition of regulatory returns on CWIP base during the construction period(s) of an asset because that those regulatory returns would be considered as forming part of total allowed compensation in the construction period (ie the period in which the regulatory agreement entitles an entity to include them in the regulated rates).
12. In the staff’s view, the main advantage of applying the principle for regulatory returns in paragraph 7 is that it would be relatively simple to operationalise. In addition, some also argue that:
- (a) because the regulatory agreement entitles an entity to include these regulatory returns in the regulated rates charged to customers in a specified period, this means these returns relate to goods or services supplied in that period.
- (b) it may result in more useful information to users because the timing of recognition of regulatory returns on a CWIP base will coincide with, or will be closer, to the timing of when the related cash flows are added in determining the regulated rates.

⁶ The Council of European Energy Regulators’ (CEER) report ‘Incentive Regulation and Benchmarking Work Stream’ published in January 2019 includes a survey to CEER members in the transmission and distribution of both electricity and gas. About half of the CEER members participating in the survey responded that electricity transmission and distribution assets under construction are included in the RCB or regulatory asset base (RAB). In gas transmission and distribution less CEER members responded that assets under construction are included in the RAB.

13. However, the staff highlight that the outcome of applying the principle in paragraph 7 when regulatory returns on CWIP are included in the regulated rates charged to customers during the construction period (see paragraph 11):

- (a) would contradict the general principle of the model (see paragraph 8) because during the construction period of the asset to which those regulatory returns relate, no goods or services are being supplied using that asset;
- (b) would be inconsistent with the treatment of depreciation, which the model treats as giving rise to total allowed compensation when the asset is consumed, not when the regulatory agreement allows the depreciation to be included in the regulated rates;
- (c) could be argued by some as not providing useful information because in their view regulatory returns on CWIP base provide compensation for significant borrowing costs that have been capitalised under IAS 23 *Borrowing Costs* and will affect profit or loss over the useful life of the asset (through depreciation), whereas those returns would affect profit or loss in the construction period; and
- (d) could result in lack of comparability:
 - (i) within a single entity, when it is entitled to include regulatory returns on a CWIP base in the regulated rates in different periods (ie construction or operation) for different assets by the same regulator or by different regulators across different jurisdictions.
 - (ii) across entities because the recognition of the same transaction (ie regulatory returns on a CWIP base) would be recognised in different periods depending on when regulatory agreements entitle entities to include these returns in the regulated rates (ie during construction or only during operation).

14. Therefore, for the reasons stated in paragraph 13, the staff recommend that:

Regulatory returns on a CWIP base that are included in the regulated rates during the construction period should be regarded as forming part of total allowed compensation only

during the operating period(s) of the asset (ie when goods or services are being supplied with the asset to which those regulatory returns relate (ie over its useful life)).

15. Applying the staff recommendation in paragraph 14, a regulatory liability would arise when regulatory returns on CWIP base are included in the regulated rates charged during the construction period. That regulatory liability would be fulfilled (and thus derecognised) during the operating period(s) (ie over the useful life of the asset).

Conclusions

16. Considering the analysis carried out in Agenda Paper 9A and in this paper, the staff recommend the following **principles for when target profit and regulatory returns should be regarded as forming part of total allowed compensation:**
- (a) **Target profit** that a regulatory agreement entitles an entity to charge customers for a specified period forms part of total allowed compensation for goods or services supplied in that period (paragraph 21 of Agenda Paper 9A).
 - (b) **Regulatory returns on a RCB** that a regulatory agreement entitles an entity to charge customers for a specified period form part of total allowed compensation for goods or services supplied in that period (paragraph 7).
 - (c) **Regulatory returns on a CWIP base** that are included in the regulated rates during the construction period form part of total allowed compensation only during the operating period(s) of the asset (ie when goods or services are being supplied with the asset to which those regulatory returns relate (ie over its useful life)) (paragraph 14).

Appendix—Numerical examples for regulatory returns on CWIP base

A1. This appendix includes numerical examples illustrating the outcomes applying the principle discussed above in paragraph 7 and the staff recommendation in paragraph 14 when regulatory returns on a CWIP base are included in the regulated rates charged to customers:

- (a) during the construction period (Example 1); and
- (b) during the operating period (Example 2).

Example 1: Regulatory return on CWIP base—included in regulated rates during construction*Fact pattern*

A2. An entity undertakes construction work at the start of X1 on an asset that costs CU1,000. All amounts are spent at the beginning of X1 and the asset is placed in service from the start of X2. The regulatory agreement establishes that the entity:

- (a) is allowed to add the CWIP amounts into the RCB during the construction period;
- (b) is entitled to earn a return rate of 8% on:
 - (i) all amounts spent on construction at the beginning of X1; and
 - (ii) the opening balance of the RCB starting from X2;
- (c) can start recovering the RCB and the return on the RCB from X1 onwards by including those amounts in the regulated rates charged to customers for the supply of goods or services:
 - (i) using other operating assets in X1; and
 - (ii) using the specific asset in years X2–X4.

A3. The regulatory agreement establishes that the entity can recover the investment in the asset during the period(s) X1–X4. Table 1 below illustrates – for regulatory purposes – the roll-forward of the cost of the asset including related returns and their recovery through the regulated rates.

Table 1 Regulatory balances <i>Return included in regulated rates during construction</i>	Construction (CWIP, RCB)	Operation (CWIP added to RCB)			TOTAL
	X1	X2	X3	X4	
Opening balance	-	750	500	250	-
Construction expenditure	1,000	-	-	-	1,000
Regulatory return at 8%	80	60	40	20	200
Recovery of RCB (A)	(250)	(250)	(250)	(250)	(1,000)
Recovery of return (B)	(80)	(60)	(40)	(20)	(200)
Closing balance	750	500	250	-	-
Amounts charged to customers (A + B)	330	310	290	270	1,200

- A4. For accounting purposes, the entity:
- (a) has capitalised an amount of CU1,000 in accordance with IAS 16 at the start of X1;
 - (b) depreciates the asset over 3 years, from the beginning of X2 to the end of X4;
 - (c) has recognised amounts charged to customers through the regulated rates as revenue in accordance with IFRS 15.
- A5. The statement(s) of financial performance of the entity – without applying the model – is as follows:

Statement of financial performance	X1	X2	X3	X4	TOTAL
Revenue (see 'Amounts charged' in Table 1)	330	310	290	270	1,200
Depreciation expense	-	(333)	(333)	(333)	(1,000)
Profit /(loss)	330	(23)	(43)	(63)	200

Application of the principle for regulatory returns in paragraph 7

- A6. Applying the principle for regulatory returns in paragraph 7 would result in the recognition of regulatory returns in the period(s) in which a regulatory agreement would entitle an entity to include them in the regulated rates charged to customers. Table 2 below illustrates the effect of applying that principle.
- A7. In accordance with the principle in paragraph 7, the regulatory return on the CWIP base forms part of total allowed compensation in the periods when the regulatory agreement entitles the entity to include these returns in the regulated rates charged to customers (ie throughout X1 to X4). The fact pattern further assumes no quantity variances arise during these years. Consequently, no regulatory asset/regulatory

liability arises during the construction period (ie X1) or operating period(s) (ie X2 to X4) for these returns.

- A8. The regulatory liability outstanding as at X1 of CU250 represents only the pre-funding for the construction of the asset that arises because the regulatory agreement entitles the entity to recover part of the asset’s cost during the construction period (ie in other words, customers have pre-funded the allowable expense (depreciation of the asset) due to the accelerated recovery of those amounts through the regulated rates). Table 2 also provides a breakdown of the regulatory interest arising on that regulatory liability.

Table 2 Application of the principle for regulatory returns (paragraph 7)					
Statement of financial performance	X1	X2	X3	X4	TOTAL
Revenue	330	310	290	270	1,200
Regulatory income / (expense)*	(250)	83	83	83	-
Depreciation expense	-	(333)	(333)	(333)	(1,000)
Profit /(loss)	80	60	40	20	200
Statement of financial position	X1	X2	X3	X4	
Regulatory liability **	(250)	(167)	(83)	-	
* Breakdown of regulatory income / (expense)	X1	X2	X3	X4	TOTAL
Origination	(250)	-	-	-	(250)
Regulatory interest on regulatory liability (at 8%)	-	(20)	(13)	(7)	(40)
Fulfilment of regulatory liability	-	103	97	90	290
Net amounts in statement of financial performance	(250)	83	83	83	-
** Regulatory liability	X1	X2	X3	X4	
Opening	-	250	167	83	
Origination	250	-	-	-	
Regulatory interest expense	-	20	13	7	
Fulfilment	-	(103)	(97)	(90)	
Closing balance	250	167	83	-	

Application of the staff’s recommendation in paragraph 14

- A9. Table 3 below reflects the effects of applying the staff’s recommendation in paragraph 14.⁵ The regulatory return on the CWIP base forms part of total allowed compensation during the operating period(s) X2 to X4 but is included in the regulated rates during the construction period X1 (ie CU80). As a result, a regulatory liability arises during the construction period X1 that is fulfilled (and, hence, derecognised) over the operating period(s) X2 to X4.⁷ Table 3 also provides a breakdown of the

⁷ The regulatory liability outstanding as at X1 of CU330 includes pre-funding for the construction of the asset, amounting to CU250 and regulatory return for CWIP base of CU80. Both arise in X1 and are reflected in regulatory income / (expense) line in the statement of financial performance in X1.

regulatory interest arising from the regulatory liability for both the prefunding of construction cost and regulatory returns charged in X1.

Table 3 Application of the staff's recommendation in paragraph 20					
Statement of financial performance	X1	X2	X3	X4	TOTAL
Revenue	330	310	290	270	1,200
Regulatory income / (expense)*	(330)	110	110	110	-
Depreciation expense	-	(333)	(333)	(333)	(1,000)
Profit /(loss)	-	87	67	47	200
Statement of financial position	X1	X2	X3	X4	
Regulatory liability **	(330)	(220)	(110)	-	

* Breakdown of regulatory income / (expense)	X1	X2	X3	X4	TOTAL
Origination	(330)	-	-	-	(330)
Regulatory interest on regulatory liability (at 8%)	-	(26)	(18)	(9)	(53)
Fulfilment of regulatory liability	-	136	128	119	383
Net amounts in statement of financial performance	(330)	110	110	110	-

** Regulatory liability	X1	X2	X3	X4
Opening	-	330	220	110
Origination	330	-	-	-
Regulatory interest expense	-	26	18	9
Fulfilment	-	(136)	(128)	(119)
Closing balance	330	220	110	-

Example 2: Regulatory return on CWIP base—included in regulated rates during operation

Fact pattern

- A10. This example uses the same fact pattern as set out in paragraph A2 above, except in this scenario the regulatory agreement establishes that the entity:
- (a) is allowed to add the CWIP amounts and related regulatory returns into the RCB once the construction works have been completed; and
 - (b) can start recovering the RCB and the return on the RCB from X2 onwards by including those amounts in the regulated rates charged to customers for the supply of goods or services in years X2–X4.
- A11. The regulatory agreement establishes that the entity recovers the investment in the asset during the period(s) X2–X4. Table 4 below illustrates – for regulatory purposes – the roll-forward of the cost of the asset including related returns and their recovery through the regulated rates.

Table 4 Regulatory balances <i>Return included in regulated rates during operation</i>	Construction (CWIP, RCB)	Operation (CWIP added to RCB)			TOTAL
	X1	X2	X3	X4	
Opening balance	-	1,080	720	360	
Construction expenditure	1,000	-	-	-	1,000
Regulatory return at 8%	80	86	58	29	253
Recovery of RCB (A)	-	(360)	(360)	(360)	(1,080)
Recovery of return (B)	-	(86)	(58)	(29)	(173)
Closing balance	1,080	720	360	-	-
Amounts charged to customers (A + B)	-	446	418	389	1,253

A12. For accounting purposes, the entity:

- (a) has capitalised an amount of CU1,000 in accordance with IAS 16 at the start of X1;
- (b) depreciates the asset over 3 years, from the beginning of X2 to the end of X4;
- (c) has recognised amounts charged to customers through the regulated rates as revenue in accordance with IFRS 15.

A13. The statement(s) of financial performance of the entity – without applying the model – is as follows:

Statement of financial performance	X1	X2	X3	X4	TOTAL
Revenue (see 'Amounts charged' in Table 4)	-	446	418	389	1,253
Depreciation expense	-	(333)	(333)	(333)	(1,000)
Profit /(loss)	-	113	84	55	253

Application of the principle for regulatory returns in paragraph 7

A14. In accordance with the principle in paragraph 7, the regulatory return on the CWIP base forms part of total allowed compensation in the periods when the regulatory agreement entitles the entity to include these returns in the regulated rates charged to customers (ie throughout X2 to X4). Table 2 below illustrates the effect of applying that principle for regulatory returns (paragraph 7).

A15. The fact pattern in this example assumes that the useful life of the asset, determined in accordance with IFRS Standards, is the same as that established by the regulatory agreement (ie 3 years), and no quantity variances arise during the years X2 to X4. Consequently, no regulatory asset/regulatory liability arises during the operating

period(s) (ie X2 to X4) for the recovery of the cost of the asset and of the related regulatory returns.

Table 5 Regulatory returns on CWIP base included in regulated rates during operation					
Statement of financial performance	X1	X2	X3	X4	TOTAL
Revenue	-	446	418	389	1,253
Regulatory income / (expense)	-	-	-	-	-
Depreciation expense	-	(333)	(333)	(333)	(1,000)
Profit /(loss)	-	113	84	55	253
Statement of financial position	X1	X2	X3	X4	
Regulatory asset (regulatory liability)	-	-	-	-	

Application of the staff’s recommendation in paragraph 14

- A16. In this example, although the regulatory agreement entitles the entity to regulatory returns of CU80 on the CWIP base in X1, these are not included in the regulated rates during X1 (when the entity is not supplying any goods or services using the asset). Instead those returns are included in the regulated rates charged during the period in which the related asset is used to supply goods or services (ie during its operating periods X2 to X4).
- A17. Accordingly, the regulatory returns on CWIP base affect profit or loss during the operating period(s) of the asset (ie years X2 to X4). Therefore, applying either the staff recommendation in paragraph 14 or the principle for regulatory returns in paragraph 7 would result in the same outcome as illustrated in Table 5, because regulatory returns on CWIP base form part of total allowed compensation during the operating period(s) of the asset which is also when those amounts are included in the regulated rates.