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Purpose of this paper

1. The purpose of this paper is to illustrate some of the disclosure requirements in paragraphs 34–38 of Agenda Paper 4B through a case study. To do so, the case study compiles examples of originations and reversals of various timing differences.
2. The Appendix of this paper provides background information and calculations for some of the amounts shown in the illustrations of the disclosure requirements in Agenda Paper 4B.

Description of the timing differences

3. The following paragraphs provide a description of the timing differences and, with the aid of tables, the effect of the origination and reversal of these timing differences in the financial statements of an entity (Entity A).
4. This case study assumes that:
 - (a) based on forecasts accepted by the regulator, Entity A is entitled in each year to bill revenue of CU10,000m and will incur related expenses of CU9,000m—these amounts exclude the effects of any of the timing differences described in the case study;

- (b) there are no timing differences brought forward at the beginning of the period under review (years X0–X3);
- (c) the interest rates established by the regulatory agreement are reasonable to use to discount the future cash flows; and
- (d) the demand for regulated goods and services throughout the periods in which the timing differences are outstanding is sufficient to ensure that the regulatory assets are recovered and the regulatory liabilities are fulfilled.

5. Tables 1 and 2 below summarise the main features of the timing differences that originate during years X0 and X1:

TABLE 1—REGULATORY ASSETS			
Timing difference	Event	Origination	Recovery
Input cost variance account (paragraphs 7–11)	Variance between estimated and actual allowable operating expenses.	During year X0, actual allowable operating expenses were CU60m higher than estimated. This amount will be included in the rate in year X2, together with annual interest of 3%.	In year X2, Entity A recovers the allowable variance of CU60m plus CU3.7m accrued interest at annual interest rate of 3%.
Storm repair costs (paragraphs 12–17)	Storm causing unexpected repair costs.	During year X0, unexpected storm repair costs were CU1,640m. Before the final rate determination, Entity A estimates that the regulator will only allow recovery of CU1,560m over 2 years (X1–X2).	In year X1 Entity A receives the final rate determination confirming it can recover the full amount of CU1,640m but over 3 years (X1–X3).

TABLE 2—REGULATORY LIABILITIES			
Timing difference	Event	Origination	Fulfilment
Customer prepayments (paragraphs 18–20)	Amounts billed to customers for service requirements not yet delivered	During year X0, Entity A billed an amount of CU200m for service requirements that will be fulfilled in year X1 at an estimated cost of CU195m.	During year X1, Entity A fulfilled the service requirements but incurs related expenses amounting to CU250m. Entity A is not permitted to recover the excess costs through the rate.
Performance penalty (paragraphs 21–24)	Entity A underperformed against a quality performance target	In year X0, Entity A failed to meet a quality performance target and estimated it would need to deduct a penalty amount of CU140m from billings to customers in year X1.	During year X1, the regulator confirmed the amount Entity A would need to deduct from its billings would be CU120m.
Accelerated software amortisation (paragraphs 25–29)	Regulator approves that software costs of CU300m with a useful economic life of three years can be recovered through the rate over two years (X1–X2). Entity A receives an annual 3% return on the outstanding balance of the software costs, at the start of each year.	The software is brought into use at the beginning of year X1. In that year, Entity A bills an amount of CU150m (ie CU300/2) and related return of CU9m (ie CU300 x 3%). Entity A recognises an amortisation expense of CU100m. Similar amounts also arise in X2, but the return is only CU4.5 (ie CU150 x 3%).	The useful economic life of the software finishes in year X3. During X3 Entity A fulfils its obligation to provide goods or services using the software without billing customers any amounts relating to the consumption of the software.

6. The statement(s) of financial performance and statement of financial position resulting from considering all the timing differences in Tables 1 and 2 for the period

X0–X3 is as follows (Figure A):

Figure 1				
Statement(s) of financial performance	X0	X1	X2	X3
Revenue	10,200	10,498	10,870	10,633
Regulatory income / (expense)	1,280	(38)	(727)	(515)
Operating expenses	(10,700)	(9,350)	(9,100)	(9,100)
Profit / (loss)	780	1,110	1,043	1,018
Statement of financial position	X0	X1	X2	X3
Regulatory asset	1,620	1,292	615	-
Regulatory liability	340	50	100	-

Regulatory assets

Input cost variance account

7. The regulatory agreement establishes that any variance between estimated and actual allowable operating expenses in specified categories arising in any one period ‘n’ is included in the rate charged to customers in period ‘n+2’. Entity A has the right to be reimbursed for the allowable operating expenses with a 0% margin.
8. During year X0, allowable operating expenses are CU60m higher than estimated. No further allowable operating expense variances arise during the remaining periods illustrated in the case study.
9. At 31 December X0, Entity A has a right to include the allowable estimation variance of CU60m in the rate to be charged to customers during year X2, together with any interest accrued on the balance. The regulatory agreement compensates the entity for the effect of the time lag between the origination and reversal of a timing difference, by applying annual interest of 3% on the balance of the regulatory asset outstanding at the beginning of each period. Consequently, the regulatory asset accrues interest of CU1.8m (CU60 x 3%) during X1 and CU1.9 (CU61.80 x 3%) during year X2. The cumulative interest of CU3.7m (ie 1.8 + 1.9m) is included in the rate charged during year X2, together with the CU60m timing difference reversing in that year.
10. Entity A recognises a regulatory asset of CU60m in year X0. The amount charged to customers in year X2 of CU63.7m (ie 60 + 3.7) is recognised as part of the revenue for year X2.

11. Figure 1 shows the effects of this timing difference in Entity A’s financial statements for the period X0–X2. During years X1 and X2 actuals follow estimated amounts.

Figure 1—Input cost variance account				
In CU m – IFRS balances	Year X0	Year X1	Year X2	Total
Revenue			63.7	63.7
Regulatory income / (expense) + Regulatory interest income / (expense)	60	1.8	(61.8)	-
Operating expenses	(60)			(60)
Profit / (loss)	-	1.8	1.9	3.7
Regulatory asset / (liability)	60	61.8	-	-

Storm repair costs

12. During X0, Entity A incurs repair costs of CU1,640m above the threshold variance explicitly allowed in the regulatory agreement due to a storm. Entity A submits a rate change request during X0, asking for the full CU1,640m amount of the excess variance. Entity A assumes that the regulator will:
- (a) allow recovery over 2 years, ie during years X1–X2; and
 - (b) give the entity 3% interest on the outstanding balance of the regulatory asset at the start of each year.
13. Entity A estimates the future cash flows using the most likely amount which results in the recognition of a regulatory asset amounting to CU1,560m. The loss of CU80m (ie 1,640 – 1,560) in year X0 represents the amount of repair costs incurred that Entity A considers will be disallowed and so will not be compensated for through the future rate(s).
14. Figure 2 summarises the estimated financial effects of the origination and reversal of this timing difference in Entity A’s financial statements according to its assumptions in year X0. The regulator’s final rate determination is finalised after Entity A published its financial statements for year X0.

Figure 2—Storm repair costs				
In CU m – IFRS balances	Year X0	Year X1	Year X2	Total
Revenue		767	865	1,632
Regulatory income / (expense) + Regulatory interest income / (expense)	1,560	(720)	(840)	-
Operating expenses	(1,640)	-	-	(1,640)
Profit / (loss)	(80)	47	25	(8)
Regulatory asset / (liability)	1,560	840	-	-

15. Early in year X1, Entity A receives the final rate determination confirming the amount and recovery period of the timing difference resulting from repairing the damages caused by the storm:
- a) Entity A can fully recover the CU1,640m repair costs incurred (ie the regulator approves 100% of the entity’s incurred expenses at the end of year X0);
 - b) Entity A will recover the CU1,640m in three years by increasing the rate charged to customers from 1 April X1 until 31 December X3; and
 - c) Entity A will be compensated for the effects of time by including in the rate charged to customers 3% interest on the outstanding balance of the regulatory asset at the beginning of each year.
16. At the end of year X1, the statement of financial performance of Entity A reflects:
- a) revenue of CU459m consisting of the actual reversal of CU410m billed during the year (ie $CU1,640 / 3 = CU 547m$,¹ factored for 9 months from April to December X1) and interest of CU49m also billed during the year (3% on CU1,640m, which is the outstanding balance of the approved regulatory asset at the start of X1); and
 - b) regulatory expense of CU330m consisting of the regulatory expense of CU410m for the amount of regulatory asset recovered through the rate during X1 less regulatory income of CU80m resulting from the regulator approving fully the amount of expenses incurred in X0 of CU1,640m instead of the amount of CU1,560m initially estimated by the entity.

¹ The amount of CU547m has been rounded up to the next million (ie $CU1,640 / 3 = CU546.67m$).

17. Figure 3 summarises the financial effects of this timing difference in Entity A’s financial statements at the end of year X1.

Figure 3—Storm repair costs					
In CU m – IFRS balances	Year X0	Year X1	Year X2	Year X3	Total
Revenue		459	652	633	1,744
Regulatory income / (expense) + Regulatory interest income / (expense)	1,560	(330)	(615)	(615)	-
Operating expenses	(1,640)	-	-		(1,640)
Profit / (loss)	(80)	129	37	18	104
Regulatory asset / (liability)	1,560	1,230	615	-	-

Regulatory liabilities

Customer prepayments

18. Revenue in year X0 includes CU200m that Entity A billed to customers for service requirements that the entity will fulfil in year X1. At the end of X0, Entity A estimated it would fulfil the service requirements at a cost of CU195m. The regulatory agreement does not charge the entity interest on the amounts billed in advance.
19. During X1 Entity A performs the service requirements but it incurs expenses amounting to CU250m. The entity is not allowed to recover the difference of CU50m in future billings and, consequently, it recognises a loss of that amount.
20. Figure 4 summarises the financial effects of this timing difference in Entity A’s financial statements at the end of year X0 and year X1.

Figure 4—Customer prepayments			
In CU m – IFRS balances	Year X0	Year X1	Total
Revenue	200	-	200
Regulatory income / (expense)	(200)	200	-
Operating expenses	-	(250)	(250)
Profit / (loss)	-	(50)	(50)
Regulatory asset / (liability)	(200)	-	-

Performance penalty

21. The regulatory agreement penalises Entity A if it does not achieve a specified customer satisfaction level to customers, monitored by using customer surveys. At the end of year X0, survey results show that Entity A has not achieved the required level of customer satisfaction. As a result, Entity A is required to deduct from its billings to customers during year X1 a specified penalty amount. According to the regulatory agreement, the penalty amount to be deducted from billings to customers does not accrue any interest.
22. When preparing its financial statements for year X0, Entity A estimates the penalty amount to be CU140m, based on the amounts of penalties charged by the regulator in the last five years when similar performance targets were not achieved.
23. Early in X1, Entity A receives the final rate determination confirming the penalty amount relating to year X0 is CU120m. Entity A treats the difference of CU20m (ie 140 – 120) as a change in estimate and accounts for that difference as regulatory income during year X1.
24. Figure 5 summarises the financial effects of this timing difference in Entity A’s financial statements at the end of year X0 and year X1.

Figure 5—Performance penalty			
In CU m – IFRS balances	Year X0	Year X1	Total
Revenue		(120)*	(120)*
Regulatory income / (expense)	(140)	140	-
Profit / (loss)	(140)	20	(120)
Regulatory asset / (liability)	(140)	-	-

*: This is only used to represent the lower amount included in the billings to customers. It does not represent a debit balance accounted for in the revenue line.

Accelerated software amortisation

25. At the end of X0, Entity A purchased new software to upgrade its customer billing system. The cost of the software was CU300m and its useful economic life is three years, starting from year X1. The regulator pre-approved the cost of CU300m but decided that Entity A is entitled to recover the cost through the regulated rate over

two years (X1 and X2), instead of three years. Consequently, the regulated rate in years X1 and X2 includes CU150m per year, but the rate in year X3 does not include any amount to reflect the use of the asset in delivering services to customers during that year.

26. The regulator compensates Entity A with a 3% return rate on the balance of the software costs outstanding at the start of each year X1 and X2 as follows (Figure 6):

Figure 6—Accelerated software amortisation				
In CU m – Regulatory balances	Year X0	Year X1	Year X2	Total
Software costs (starting balance)	300	300	150	-
Regulatory recovery	-	(150)	(150)	(300)
Software costs (ending balance)	300	150	-	-
Return (3% on starting balance each year)	-	9	4.5	13.5

27. Although Entity A is able to fully recover the cost of its investment in the software over a shorter period than the period over which it uses the software to deliver services, Entity A is charged for the accelerated recovery by receiving less cash overall. Figure 7 shows the cash flows Entity A would have received if it recovered the software cost through bills over the full three year useful economic life.

Figure 7—Returns if recovery period was X1–X3					
In CU m – IFRS balances	Year X0	Year X1	Year X2	Year X3	Total
Software costs (starting balance)	300	300	200	100	-
Regulatory recovery	-	(100)	(100)	(100)	(300)
Software costs (ending balance)	300	200	100	-	-
Return (3% on starting balance each year)	-	9	6	3	18

28. A regulatory liability arises in years X1 and X2 because entity A has received the benefit of being paid in advance for costs to be incurred when delivering services during X3 (ie the amortisation expense reflecting consumption of the software). That liability is fulfilled in year X3 by not billing customers then for consumption of the software when the services are delivered using the software.

29. Figure 8 summarises the financial effects of this timing difference in Entity A’s financial statements at the end of year X1.

Figure 8—Accelerated software amortisation					
In CU m – IFRS balances	Year X0	Year X1	Year X2	Year X3	Total
Revenue	-	159	154.5	-	313.5
Regulatory income / (expense)	-	(50)	(50)	100	-
Amortisation expense	-	(100)	(100)	(100)	(300)
Profit / (loss)	-	9	4.5	-	13.5
Regulatory asset / (liability)	-	(50)	(100)	-	-

APPENDIX

- A1. This appendix includes figures² that gather all the timing differences in the case study and provide back up support for some of the amounts shown in the illustrations of the disclosure requirements in paragraphs 39–49 of Agenda Paper 4B.
- A2. The back up of the amounts of the maturity analysis in paragraph 44 of Agenda Paper 4B is as follows:

Figure 1—year X0			
Maturity of regulatory assets in year X0	Total	1 year	1-3 years
Input cost variance account	60	-	60
Storm repair costs	1,560	720	840
Regulatory asset	1,620	720	900
Maturity of regulatory liabilities in year X0	Total	1 year	1-3 years
Customer prepayments	200	200	-
Performance penalty	140	140	-
Regulatory liability	340	340	-

Figure 1—year X1			
Maturity of regulatory assets in year X1	Total	1 year	1-3 years
Input cost variance account	62	62	-
Storm repair costs	1,230	615	615
Regulatory asset	1,292	677	615
Maturity of regulatory liabilities in year X1	Total	1 year	1-3 years
Customer prepayments	-	-	-
Performance penalty	-	-	-
Accelerated software amortisation	50	50	-
Regulatory liability	50	50	-

- A3. The back up of the amounts of regulatory expense and regulatory income in the reconciliation of the carrying amounts of regulatory assets and regulatory liabilities in paragraph 48 of Agenda Paper 4B is as follows:

² Amounts shown in these figures have been rounded to the next million.

Figure 2

Reconciliation of regulatory asset	X0	Origination	Recovery	Changes in estimates	X1
Input cost variance account	60	2	-	-	61.8
Storm repair costs	1,560	49	(459)	80	1,230
Regulatory asset	1,620	51	(459)	80	1,292
Reconciliation of regulatory liability	X0	Origination	Fulfilment	Changes in estimates	X1
Customer prepayments	200	-	(250)	50	-
Performance penalty	140	-	(120)	(20)	-
Accelerated software amortisation	-	50	-	-	50
Regulatory liability	340	50	(370)	30	50

Regulatory expense: CU328

Regulatory income: CU290