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MEMO

TO: Jeremy Rothfield
DATE: 13 November 2014
FROM: Simon Wheatley
SUBJECT: Shared Assets and the PTRM

This memo describes how we believe the decrement from shared assets should be handled in the Post-Tax Revenue Model (PTRM) workbook 'Proposed amended distribution post-tax revenue model – October 2014.xlsm' that the Australian Energy Regulator (AER) provides.

It will be helpful to first review how an allowance for taxes payable is determined in the PTRM.

1. Allowance for taxes

The building block model determines the annual unsmoothed revenue requirement in year t before final adjustments as:

$$URR_t = RAB_{t-1}WACC_t + DEP_t + OPEX_t + OTHER_t + TAX\_ALLOWANCE_t \tag{1}$$

where

URR_t = unsmoothed revenue requirement for year t before final adjustments
RAB_{t-1} = regulatory asset base at the end of year $t-1$
$WACC_t$ = weighted average cost of capital for year t
DEP_t = regulatory depreciation for year t
$OPEX_t$ = operating expenditure in year t
$OTHER_t$ = certain other adjustments
$TAX\_ALLOWANCE_t$ = an allowance for taxes paid in year t

The allowance for taxes paid in year t will be:

$$TAX\_ALLOWANCE_t = (1-\gamma)\times TAXES\_PAYABLE_t \tag{2}$$

where

γ = the value that the AER places on a one-dollar imputation credit created
$TAXES\_PAYABLE_t$ = taxes payable in year t

Taxes payable in year t will be:

$$TAXES\_PAYABLE_t = t_c \times (URR_t - DEDUCTIONS_t) \tag{3}$$

where

t_c = the corporate tax rate
$DEDUCTIONS_t$ = deductions allowed in year t

Solving (1), (2) and (3) for $TAX\_ALLOWANCE_t$ yields:

$$TAX\_ALLOWANCE_t = \left(\frac{(1-\gamma)t_c}{1-(1-\gamma)t_c}\right)(NET_t - DEDUCTIONS_t) \tag{4}$$

where NET_t is the unsmoothed revenue requirement for year t before final adjustments net of (without) an allowance for taxes, that is:

$$NET_t = RAB_{t-1}WACC_t + DEP_t + OPEX_t + OTHER_t \tag{5}$$

Thus:

$$TAXES\_PAYABLE_t = \left(\frac{t_c}{1-(1-\gamma)t_c}\right)(NET_t - DEDUCTIONS_t) \tag{6}$$

2. A numerical example

To illustrate how an allowance for taxes should be computed, it will help to consider a numerical example taken from the workbook ‘Proposed amended distribution post-tax revenue model – October 2014.xlsm’ that the AER provides. The table below shows values for the variables used above for the year 2008 and computes both an allowance for taxes and taxes payable for that year. The allowance for taxes that we compute matches the value that appears in the worksheet ‘Analysis’ as the sum of cells G32 and G33 while the value for taxes payable that we compute matches the value that appears in cell G32.

Table 1

2008 values for building block components in millions of dollars

Variable	Value	Worksheet	Cell
RAB_{t-1}	2,302.0	Analysis	G17
$WACC_t$	8.00%	Analysis	G11
DEP_t	80.9	Analysis	G28
$OPEX_t$	69.8	Analysis	G30
$OTHER_t$	9.2	Analysis	G38, G39
NET_t	344.1	Computed from equation (5)	
$DEDUCTIONS_t$	327.1	Analysis	G45
$TAX\_ALLOWANCE_t$	3.0	Computed from equation (4)	
$TAXES\_PAYABLE_t$	6.0	Computed from equation (6)	
URR_t	347.1	Computed from equation (1)	

Source: AER, Proposed amended distribution post-tax revenue model – October 2014.xlsm

The unsmoothed revenue requirement for 2008 before final adjustments URR_t is $347.1 million. The final adjustments that the AER makes involve subtracting customer contributions of $12.3 million (cell G38 of the worksheet 'Analysis') and adding a carryover from the previous regulatory control period of $5.1 million (cell G125 of the worksheet 'Analysis'). Thus the unsmoothed revenue requirement for 2008 after these final adjustments is $347.1 – 12.3 + 5.1 million = $339.9 million, consistent with cell G35 of the worksheet 'X factors'.

3. Implication

The AER's PTRM workbook includes the decrement in shared assets as part of certain other adjustments $OTHER_t$. The implication of the analysis above is that a reduction in these certain other adjustments of one dollar will also reduce the tax allowance $TAX\_ALLOWANCE_t$ by:

$$\$\left(\frac{(1-\gamma)t_c}{1-(1-\gamma)t_c}\right) \tag{7}$$

In its November 2013 *Shared asset guideline* the AER states that it will reduce a firm's annual revenue requirement by 10 per cent of shared asset unregulated revenues when shared asset unregulated revenues exceed one per cent of the annual revenue requirement. Lowering certain other adjustments $OTHER_t$ by this amount will reduce the annual revenue requirement by more. To conform to its November 2013 *Shared asset guideline*, the AER should either:

- lower certain other adjustments $OTHER_t$ by 10 per cent of shared asset unregulated revenue multiplied by $1-(1-\gamma)t_c$; or
- include the reduction in the annual revenue requirement as a final adjustment so that the reduction has no impact on the allowance for taxes that the regulator computes.

The workbook 'Proposed amended distribution post-tax revenue model – October 2014.xlsm' indicates that 10 per cent of shared asset unregulated revenue for 2008 is $3.075 million (cell G33 of the worksheet 'Analysis'). The analysis we provide indicates that for the AER to conform to its November 2013 *Shared asset guideline*, the regulator can either:

- lower certain other adjustments $OTHER_t$ by $3.075 × (1 – (1 – 0.5)0.3) = $2.614 million; or
- include the reduction of $3.075 million in the annual revenue requirement as a final adjustment so that the reduction has no impact on the allowance for taxes that the regulator computes.