

## 8 REGULATORY DEPRECIATION

Under a building block approach, a regulated business recovers its investment in the assets used to provide regulated services over the economic life of those assets through a regulatory depreciation allowance. Regulators usually determine the value of this regulatory depreciation allowance having regard to:

- the value of the assets that make up the RAB (see Chapter 10);
- the profile assumed for the recovery of the capital invested in the asset (for example, straight line depreciation where the value of an the asset is spread evenly over its life); and
- the economic lives of the assets used in the provision of services (often referred to as the remaining economic life for Existing assets and standard economic life for New assets).

The resultant regulatory depreciation allowances are used in calculating TasWater's MARR (Chapter 11).

### 8.1 Background

#### 8.1.1 Second regulatory period – 1 July 2015 to 30 June 2018

For the second regulatory period, the Economic Regulator applied a value weighted average approach and determined the useful lives and calculated regulatory depreciation rates for each of TasWater's asset group/categories ie Existing Water, Existing Sewerage, New Water and New Sewerage assets. The applicable regulatory depreciation rates were calculated as follows:

$$\text{Regulatory depreciation rate} = \frac{1}{\text{average useful life of assets}}$$

The treatment of regulatory depreciation for both the first and second regulatory periods had no impact on prices as price increases were capped as customers transitioned to target tariffs during these periods.

#### 8.1.2 Third regulatory period – 1 July 2018 to 30 June 2021

The Economic Regulator published its PSP Guideline in June 2016 to assist TasWater in preparing its proposed PSP.

With regards to regulatory depreciation, Clause 7.2.4 of the PSP Guideline states that:

A separate proposed depreciation rate will need to be calculated for each RAB. Each proposed depreciation rate should be calculated on a straight-line basis having regard to the assets' average useful life. Each depreciation rate will then be applied throughout the second regulatory period.

Depreciation for the roll forward under the statutory revenue limit is calculated on the same basis as outlined in section 3.1.1.3 for the upper limit (except there is no capex or third party capital contributions in the RAB incorporating assets transferred to the previous regulated entities before 1 July 2011).

The Ring Fencing Guideline states that:

The regulated entity is .... required to calculate the weighted average regulatory depreciation rate for each Asset category listed in Schedules 500C [Existing Water assets and New Water assets] and 500CC [Existing Sewerage assets and New Sewerage assets].

The Guideline provides that depreciation on Existing assets ( $D_{EXISTING}$ ) in each financial year of the third regulatory period is to be calculated as follows:

$$D_{EXISTING} = DR_{EXISTING} \times (\text{Opening RAB}_{EXISTING} - (0.5 \times AD_{EXISTING}))$$

Where:

$DR_{EXISTING}$	=	depreciation rate for Existing assets
	=	$\frac{1}{\text{average useful life of Existing assets}}$
Opening $RAB_{EXISTING}$	=	opening value of $RAB_{EXISTING}$ in each financial year
$AD_{EXISTING}$	=	Existing asset disposals

The Guideline provides that depreciation on New assets ( $D_{NEW}$ ) in each financial year of the third regulatory period is to be calculated as follows:

$$D_{NEW} = DR_{NEW} \times (\text{Opening RAB}_{NEW} + (0.5 \times (\text{capex} - \text{CC} - AD_{NEW})))$$

Where:

$DR_{NEW}$	=	depreciation rate for New assets
	=	$\frac{1}{\text{average useful life of New assets}}$
Capex	=	capital expenditure
Opening $RAB_{NEW}$	=	opening value of $RAB_{NEW}$ in each financial year
CC	=	third party capital contributions
$AD_{NEW}$	=	New asset disposals

The average useful life of both Existing and New assets is calculated as follows:

- (i) Calculate the contribution (weighting) of each asset to the value of all of the assets by dividing the value of each asset by the sum of the value of all assets.
- (ii) Calculate the contribution (weighting) of each asset to the weighted average asset life by multiplying each asset's useful life by the weighting calculated in step (i).
- (iii) Calculate the regulatory depreciation rate by dividing 1 by the sum of the weighted average useful lives calculated in step (ii).

## 8.2 TasWater's Proposal

TasWater's Regulatory Asset Register currently contains over 260 000 assets<sup>46</sup> with each asset having a regulatory asset value and useful life. The Economic Regulator understands that TasWater uses the same asset lives and therefore depreciation rates for tax, accounting (ie statutory), insurance and regulatory purposes.

In its proposed Price and Service Plan TasWater proposed a line-by-line approach to the calculation of regulatory depreciation. Under a line-by-line approach, the regulatory depreciation for each individual asset is calculated and summed to give the regulatory depreciation expense for each financial year of the regulatory period. Working backwards, ie dividing each RAB by the relevant summed regulatory depreciation expense, TasWater's proposed depreciation rates are shown in Table 8.1 (the rates approved for the second regulatory period are shown for comparison purposes).

In support of its proposal, TasWater noted that:

A line-by-line approach is consistent with good engineering practice and the maintenance of an asset register that - among other things - records for each asset its rolled forward regulatory value (ie an annually updated value) and its remaining asset life (ie its annually updated residual lifespan). This recommendation provides an incentive for the business to maintain high quality asset data on an ongoing basis, consistent with good engineering practice.

Table 8.1 Regulatory depreciation - comparison of approved and proposed rates

Category	Third regulatory period - proposed depreciation rate	Second regulatory period - approved depreciation rates
Water Existing	2.85%	2.36%
Water New	5.12%	1.74%
Sewerage Existing	2.99%	2.54%
Sewerage New	6.21%	1.76%

TasWater considered that the benefits of line-by-line depreciation are that it is the:

...most accurate approach to calculate depreciation allowances. It allows full transparency and auditability of the depreciation allowance. If a weighted average approach is used, then it is not practical to maintain an asset register with individual assets with meaningful asset values.<sup>47</sup>

TasWater contended that adopting a weighted average approach would mean that:

... long-lived assets, such as pipes and dams would be depreciated too quickly. Conversely, short-lived assets, such as computers and vehicles, would be depreciated too slowly. These short-lived assets would remain in the asset register far beyond their useful lives, if a weighted average life is used for depreciation.<sup>48</sup>

<sup>46</sup> Approximately 240 000 Existing Assets and 20 000 New Assets.

<sup>47</sup> Jacobs Group, *PSP3 Regulatory Depreciation Paper*, 21 May 2017, page 6.

<sup>48</sup> TasWater, *Proposed Price and Service Plan 3, 1 July 2018 to 30 June 2021*, pages 109-110.

TasWater also considered that variations between the weighted average estimate of regulatory depreciation and the underlying regulatory asset register will create intergenerational equity issues, for example, if the weighted average approach generates an asset life that is too short, current customers will pay a higher than cost-reflective depreciation allowance resulting in them paying an amount that exceeds the benefit they will receive.

### 8.3 Practices in other jurisdictions

Prior to releasing its Draft Report, the Economic Regulator sought responses from regulators in other jurisdictions in relation to the following questions:

1. If a regulated entity had line-by-line data for each of its regulatory assets would you allow it to calculate regulatory depreciation on that basis?
  - (a) If so, the jurisdictional regulator was asked to explain why it would take this course of action;
  - (b) If not, the jurisdictional regulator was asked to explain why it would not take this course of action;
2. Are there arguments for adopting the line-by-line approach for New assets only?

Responses from each regulator are set out below in Sections 8.3.1 to 8.3.5 inclusive. The Economic Regulator researched the Australian Energy Regulator's (AER) and the Australian Consumer and Competition Commission's (ACCC) approaches to regulatory depreciation. The results from the Economic Regulator's research are presented below in Sections 8.3.6 and 8.3.7 respectively.

#### 8.3.1 Victoria

The Essential Services Commission (ESC) gives its water businesses the option of calculating regulatory depreciation on a line-by-line basis. However, the ESC noted that, for simplicity, most businesses calculate regulatory depreciation using a weighted average approach. The ESC noted that its analysis shows that, in NPV terms, businesses are no better or worse off under either approach.

The ESC advised that, if businesses do use the weighted average approach, they have the option to override their annual aggregated depreciation numbers. However, total depreciation over the ten year outlook must be equal to the total depreciation calculated under the weighted average approach, ie regulatory depreciation calculated on a line-by-line approach must not exceed, over a ten-year period, the regulatory depreciation calculated under a weighted average approach.

The ESC noted that, in considering a line-by-line approach, it is important to balance the advantage of more accurately calculating depreciation compared with the administrative costs associated with it.

#### 8.3.2 New South Wales

In its most recent price determination for Sydney Water, Sydney Water proposed<sup>49</sup>, and IPART approved<sup>50</sup>, Sydney Water using a total of 30 RABs as follows:

- five RABs for each of water, sewerage and stormwater services (15 RABs in total);
- five corporate RABs; and
- ten RABs for leased assets.

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<sup>49</sup> Sydney Water, Price Plan 2016-20 (30 June 2015), pages 88-9.

<sup>50</sup> Independent Pricing and Regulatory Tribunal, Review of prices for Sydney Water From 1 July 2016 to 30 June 2020, Water - Final Report, June 2016, pages 127-30.

In practice, each RAB is rolled forward separately and different regulatory depreciation rates are applied to each RAB based on RAB-specific remaining useful asset life calculations. Table 8.2 from Sydney Water's current Price Plan shows the remaining useful lives for each RAB.

Table 8.2 Sydney Water - useful lives (years)

Category	Civil	Electronic	Mechanical	Electrical
Water	93.2	9.3	29.7	20.5
Wastewater	80.9	9.3	16.5	16.9
Stormwater	116.6	0	0	0
Corporate	62.7	6.4	5.0	0
Finance leases - water	55.8	16.1	20.8	20.1
Finance leases - wastewater	80.0	0	0	0

### 8.3.3 Australian Capital Territory

Following the Independent Consumer and Regulatory Commission's 2013 regulated water and sewerage services investigation into ACTEW's (since renamed as Icon Water) proposed prices and services, the Industry Panel conducted a review in response to an appeal lodged under the review provisions of the *Independent Competition Regulatory Commission Act 1997*.<sup>51</sup>

Noting the Panel's findings, Icon Water's Submission of 1 July 2017 for the upcoming 2018-23 regulatory period noted that:

... [it agreed] ...with the Industry Panel that it is appropriate to use economic asset lives. Consistent with the 2015 Industry Panel decision, Icon Water has used a weighted average asset life for existing water and sewerage assets and asset specific lives for water security assets and new capital expenditure. Asset lives for new capital expenditure are determined at the project level and are set equal to the asset lives used in the 2015 Industry Panel decision where possible. Where no equivalent project exists in the Industry Panel model, an asset life is set based on Icon Water internal practices.<sup>52</sup>

The Economic Regulator notes that Icon Water has distinguished between 'Remaining asset lives' for existing assets and 'Standard asset lives' for new assets commissioned during the regulatory period.

Icon Water's RAB comprises separate water and sewerage categories with regulatory depreciation calculated on a weighted average approach for existing assets and on a line-by-line approach for new assets for assets in each category.

Table 8.3 below sets out the useful lives and resultant regulatory depreciation rates for Icon Water's major asset classes.

<sup>51</sup> Industry Panel, Review of the Independent Competition and Regulatory Commission's 2013 Price Direction for Regulated Water and Sewerage Services in the ACT, Final Report, April 2015.

<sup>52</sup> Icon Water, Attachment 8, Regulatory Asset Base, 30 June 2017, page 8.

Table 8.3 Icon Water - useful lives and regulatory depreciation rates

Description	Useful lives (years)	Regulatory depreciation rate (%)
Existing water assets	51.4	1.95
Existing sewerage assets	41.3	2.42
New assets - dams	150	0.67
New assets - treatment plants	30-60	1.66 - 3.33
New assets - pump stations	20-60	1.66 - 5
New assets - Corporate other	5	20

### 8.3.4 South Australia

The Essential Services Commission of South Australia (ESCOSA) is of the view that the weighted average approach balances the need to have a certain level of detail in the depreciation schedule, as assets can have very different lives, with the need for administrative simplicity (to avoid complexity of depreciating every asset with a different life individually).

Rolling up assets to a certain degree is preferred. However, in doing that, ESCOSA also check the weighted average lives of each asset class prior to a determination to see if there has been any material change. If so, it updates the average life of the affected class. ESCOSA therefore considers it possible to achieve the same outcome as a line-by-line approach, by ensuring that any changes in average asset lives are captured.

ESCOSA considers that adopting a line-by-line approach for new assets could address the situation whereby new assets could impact the average life of an asset class. However, if a business sold a major existing asset that could also impact the average life and would not be captured in the calculation of regulatory depreciation. The Economic Regulator understands that this comment relates to the situation where the regulatory depreciation rates and the RAB are locked down for the regulatory period. In accordance with ESCOSA's other comments, it is apparent that, prior to the commencement of the next regulatory period and as part of its pricing investigation, ESCOSA checks whether depreciation rates need updating to account for any material changes in the asset base (for example, the addition or disposal of a major asset).

### 8.3.5 Queensland

In its most recent review of Seqwater's bulk water prices, the Queensland Competition Authority (QCA) recommended:

For the assets included in the 1 July 2013 RAB, Department of Energy and Water Supply (DEWS) advised that the associated asset lives were as per the asset lives proposed by Seqwater. For capital expenditure added to the RAB since 1 July 2013, the QCA has accepted Seqwater's proposed asset lives (in the absence of relevant information).<sup>53</sup>

The Economic Regulator understands that the 1 July 2013 RAB was provided to QCA by Seqwater on an individual asset basis. However, given that existing assets were transferred from councils to Seqwater on 1 July 2008, the level of asset detail for pre-2008 assets differed depending on the originating council. As a result, the QCA has decided not to apply a line-by-line approach to the 1 July 2013 assets.

<sup>53</sup> Queensland Competition Authority, *SEQ Bulk Water Price Path 2015-18*, March 2015, page 37.

The Economic Regulator understands that, for assets added since 1 July 2013, Seqwater maintains a detailed asset register and derives the life, and therefore the depreciation rate, of each individual asset on a line-by-line basis.

### 8.3.6 Australian Energy Regulator

In relation to SA Power Networks' (SAPN) regulatory depreciation allowances, the Australian Energy Regulator (AER) considered alternative approaches to determining remaining asset lives and regulatory depreciation. In its final report, the AER accepted SAPN's proposed revised approach to determining remaining asset lives and depreciation for existing assets termed 'year by year tracking' rather than the AER's preference, up until that time, of a weighted average remaining life (WARL).<sup>54</sup>

The Economic Regulator notes that the AER was compelled to accept SAPN's proposal as it met the NER requirements. The Economic Regulator also notes footnote 13 of the AER's final decision which stated that "... year-by-year tracking ....does not involve tracking the depreciation on individual assets."<sup>55</sup>

The AER concedes that:

The year-by-year tracking approach is a more complex approach than WARL or the average depreciation approach. In particular, the capex of each asset class will need to be tracked as disaggregated yearly categories over time, preserving these discrete categories across multiple regulatory control periods. These separately tracked expenditures can be thought of as asset sub-classes. The data therefore expands over time and models such as the AER's PTRM and RFM may need to be expanded to accommodate the increasing number of asset sub-classes or separate models developed. The benefit of this approach is the increased granularity and transparency of disaggregated year-by-year tracking of capex. However, it is more complex and costly to administer.<sup>56</sup>

### 8.3.7 Australian Competition and Consumer Commission

In its final decision in relation to pricing for State Water for the 2014-15 to 2016-17 pricing period<sup>57</sup>, the ACCC determined the remaining economic lives for depreciating State Water's existing assets in the opening RAB and the standard economic lives for depreciating State Water's new assets associated with forecast net capex.<sup>58</sup>

State Water proposed standard asset lives and remaining asset lives of 102.37 years and 61.3 years respectively for new assets and existing assets. These asset lives were applied to State Water's depreciable asset classes, as shown in Table 8.4.

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54 Australian Energy Regulator, Final Decision, SA Power Networks determination 2015-16 to 2019-20, Attachment 5 – Regulatory depreciation, October 2015.

55 Ibid, page 5-10.

56 Australian Energy Regulator, Final Decision, SA Power Networks determination 2015-16 to 2019-20, Attachment 5 – Regulatory depreciation, October 2015, page 5-11.

57 State Water (now WaterNSW) is a State-Owned Corporation established under the WaterNSW Act 2014 and operates under an Operating Licence issued and monitored by the Independent Pricing and Regulatory Tribunal (IPART). The Corporation is NSW's bulk water supplier, river operator and one stop shop for licensing, water trades and water information ([www.waternsw.com.au/about/who-we-are](http://www.waternsw.com.au/about/who-we-are) (accessed 13 September 2017)).

58 ACCC, Final decision on State Water pricing application 2014-15 to 2016-17, page 40.

Table 8.4 State Water - standard asset lives and remaining asset lives<sup>59</sup>

Description	Standard asset life (years)	Remaining asset life (years)
Dams	102.37	61.3
Storage reservoirs	102.37	61.3
Revenue meters	102.37	61.3
IT systems	102.37	61.3
Plant & machinery	102.37	61.3
Office equipment	102.37	61.3
Buildings	102.37	61.3
Vehicles	102.37	61.3

The Economic Regulator notes that, in its advice to the ACCC, Deloitte referred to a key objective for regulators in allocating assets to asset classes as ensuring that the number of asset classes are manageable such that large and complex asset models are not necessary. Deloitte went on to indicate that it was satisfied that the number of State Water's asset classes (10) and the type of asset classes appropriately reflected the nature of State Water's asset base.<sup>60</sup>

However, the ACCC considered it reasonable to vary the remaining asset life across valleys and applied Deloitte's recommended remaining asset lives and standard asset lives on a per valley basis. The ACCC concluded that to break State Water's asset lives down further by asset class would be a costly exercise for no tangible benefit.

The ACCC consequently determined, on a per valley basis, remaining economic lives for existing assets that varied between 40.9 years and 63.6 years. The ACCC also determined standard economic lives for new assets in State Water's depreciable asset classes ranging from five years for vehicles and six years for IT systems to 60 years for buildings and 100 years for dams.

The Economic Regulator understands that State Water maintains a single RAB and accounts for regulatory depreciation by summing the depreciation relating to each asset class.

## 8.4 Principles

Noting the information outlined in Section 8.3, in its Draft Report the Economic Regulator considered that the calculation of regulatory depreciation needed to be assessed against the following principles:

1. Administrative simplicity and practicality - consideration needs to be given to the ease with which adjustments can be made by TasWater and verified by the Economic Regulator.
2. Consistency - to avoid price instability the treatment of regulatory depreciation between regulatory periods should be consistent. The decisions made by other regulators should also be considered.
3. Intergenerational equity - customers enjoying the benefits provided by an asset should contribute to the cost of that asset.
4. Data integrity - regulatory depreciation calculations should be based on sound and reliable data sources.

<sup>59</sup> Australian Competition and Consumer Commission, *Draft Decision on State Water Pricing application 2014-15 to 2016-17*, 5 March 2014, Table 6-4.

<sup>60</sup> Deloitte Access Economics, *Final report - asset lives for State Water's 2014 pricing proposal, For the Australian Competition and Consumer Commission*, 9 December 2013, pages 9-10.

## 8.5 Discussion

Having regard to the principles outlined in Section 8.4, the Economic Regulator noted in its Draft Report that:

- Existing Assets transferred to the regional corporations and subsequently to TasWater included a substantial number of bulk water assets from Esk Water, North West Regional Water Authority and Hobart Water valued at \$290 million (\$460 million in 2016-17\$)<sup>61</sup> which had been gifted to the councils by the State Government.
- Assets were also gifted by developers to councils prior to the transfer of those assets to the regional corporations, and then to TasWater. In its 2015 Final Investigation Report the Economic Regulator noted that:

...[it had] not attempted to exclude third party capital contributions made before the previous regulated entities were formed from RAB<sub>EXISTING</sub> due to difficulties in ascertaining the value of those contributions.<sup>62</sup>

- Condition of Existing Assets - Depreciated Optimised Replacement Cost (DORC) asset values and line-by-line depreciation require up to date values and accurate condition based assessments.<sup>63</sup> With respect to TasWater's Existing Assets the Economic Regulator notes in particular that:

- (i) The asset condition assessment, conducted in 2009 by GHD and Deloitte, was made at a high level. More recently the TAO noted that:

Our testing identified the selected assets were depreciated based on the useful lives in the GHD reports or the ATO rates. However, the majority of lives could only be agreed to useful life ranges for an asset type eg waste water pipes had a range of between 30 and 140 years. This matter was discussed with TasWater's management, who advised that up to 30 June 2013, lives were input by former water corporations' staff and there was inadequate information in the asset register to directly relate the useful life to the specific GHD information. In addition, we were advised that the GHD/ATO rates were adopted as a guide only, to align useful lives in TasWater's taxation, statutory accounting and regulated asset registers [emphasis added].<sup>64</sup>

- (ii) The TAO went on to recommend that:

TasWater undertake a review of the depreciation rates/useful lives applied to its infrastructure assets. The recommendation is based on the age of the GHD information (which as prepared as at 1 July 2009) and the general nature of the ATO useful lives. A review could include adopting a consistent basis for the depreciation expense calculation, moving away from rates provided by both GHD and the ATO.<sup>65</sup>

- (iii) In 2006-07, the Government Prices Oversight Commission (GPOC) reviewed asset condition assessments carried out by the councils. These assessments were to form the basis for the condition of the assets transferred to the regional corporations and, subsequently, to TasWater. The TAO's analysis<sup>66</sup> of GPOC's findings is set out in Table 8.5.

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<sup>61</sup> Treasurer's submission to the Legislative Council Select Committee, September 2017, page 3.

<sup>62</sup> Tasmanian Economic Regulator, *2015 Price Determination Investigation - Regulated Water and Sewerage Services in Tasmania, Final Report*, page 31.

<sup>63</sup> Deloitte Access Economics, *Final report, Asset lives for State Water's 2014 pricing proposal, For the Australian Competition and Consumer Commission*, 9 December 2013, pages 2-4.

<sup>64</sup> Tasmanian Audit Office, *Review of the Tasmanian Water and Sewerage Corporation's 2015-16 Regulatory Financial Statements*, page 15.

<sup>65</sup> Ibid, page 18.

<sup>66</sup> Tasmanian Audit Office, *Water and Sewerage in Tasmania - assessing the outcomes of industry reform*, 14 November 2017, page 56.

Table 8.5 Completion of asset condition assessments by councils - 2006-07

Category	No. of full condition assessments completed	No. of partial condition assessments completed
Water	8/29	8/29
Sewerage	7/29	9/29
Water and Sewerage	6/29	10/29

(iv) In its recent performance audit the TAO noted that, at the commencement of the water and sewerage reforms:

... [the] overall knowledge of the condition of the state's water and sewerage infrastructure assets was inadequate and insufficient to properly inform effective asset management at a state-wide level.<sup>67</sup>

- The QCA calculates regulatory depreciation on assets transferred to Seqwater from councils on a weighted average basis due to the differing level of detail held by the former council owners about those assets even though information about those assets is available on a line-by-line basis.

## 8.6 Economic Regulator's Draft Report proposals

After considering TasWater's proposal, the approaches to calculating regulatory depreciation in other jurisdictions and its own research and analysis, the Economic Regulator concluded, in its Draft Report, that:

- There is no consistent approach to regulatory depreciation between regulators:
  - Several Australian regulators apply a weighted average approach to a number of asset classes with the classes designed to reflect the nature of the regulated entity's asset base.
  - A number of Australian regulators (for example, the QCA and the ICRC) apply a weighted average approach to calculating regulatory depreciation on Existing assets and a line-by-line approach to calculating regulatory depreciation on New assets.
- In terms of intergenerational equity, the ESC has concluded that, using an NPV analysis, the impact on businesses is neutral irrespective of whether a line-by-line approach or a weighted average approach is applied. However, the question remains as to how much should future customers pay relative to current customers? TasWater claims that the application of a value based weighted average approach produces longer average asset lives and, therefore, lower regulatory depreciation resulting in current customers unfairly benefiting at the expense of future customers. However, it could be equally argued that applying a line-by-line approach produces relatively shorter asset lives and therefore higher regulatory depreciation meaning that future customers benefit relative to current customers.

<sup>67</sup> Tasmanian Audit Office, *Water and Sewerage in Tasmania - assessing the outcomes of industry reform*, 14 November 2017, page 56.

- While regulators generally have a preference for greater detail in relation to regulatory depreciation this needs to be balanced against administrative simplicity and have regard to the veracity of the available data. Applying a line-by-line approach to almost 260 000 assets would be complex and comes with substantial administrative costs for both TasWater and the Economic Regulator in the event that adjustments have to be made. IPART's approach of maintaining and rolling forward 30 RABs and the AER's year by year tracking approach are relatively complex.
- It is not considered sound regulatory practice to retrospectively change the calculation of regulatory depreciation on Existing assets. This is particularly the case given the lack of detailed condition assessments and the high level nature of GHD's/Deloitte's review of those assets in 2009. Calculating regulatory depreciation on Existing assets on a line-by-line basis relies on data sourced from this high level review. Additionally, as outlined above, TasWater's knowledge about the condition of the assets transferred from councils is not complete. The Economic Regulator therefore considers that the application of a weighted average approach is more appropriate than a line-by-line approach to calculating regulatory depreciation for Existing assets.
- TasWater's reliance on the AER's decision on SA Power Networks' regulatory depreciation allowances to support its preference for a line-by-line approach is not considered to be valid as the AER specifically states that its year-by-year tracking methodology does not involve tracking the depreciation on individual assets.
- The circumstances in relation to Seqwater's assets is not dissimilar to TasWater and its predecessors' circumstances as, in both cases, assets were transferred from former council owners where the details about those assets were less detailed than would have been preferred.
- The bulk water assets that were transferred to the regional corporations and then to TasWater were not paid for by customers at the time of gifting to councils.
- The Economic Regulator does not doubt the accuracy of TasWater's Regulatory Asset Register as verified by the TAO during its audits of TasWater's regulatory financial statements. What is of concern to the Economic Regulator is the veracity of the original information recorded in the Register. Once again, the Economic Regulator is not questioning the conduct of, or the outcomes from, the GHD/Deloitte review from 2009. The issue is the lack of knowledge about the condition of the assets that were transferred and the consequential requirement for regular condition assessments to be carried out if a DORC asset valuation is to be relied upon and maintained. As the Economic Regulator understands it, while TasWater has carried out asset condition assessments, due to the number of assets this is a massive task, and one that to date, has not been completed.
- As shown in Table 8.2, TasWater's proposed line-by-line regulatory depreciation rates for New Assets are much higher (and the corresponding useful lives much lower) than the regulatory depreciation rates calculated using a weighted average for the second regulatory period. TasWater's proposed rates are much higher than the rates for similar assets held by service providers in other jurisdictions. As Arup observed in its Draft Report, this is due to TasWater investing in relatively shorter life assets such as SCADA, IT systems and minor assets. The Economic Regulator has however reviewed TasWater's Regulatory Asset Register and is satisfied as to the reasonableness of TasWater's proposed lives in relation to New Assets. In respect to its audits of TasWater's regulatory financial statements the TAO has indicated that TasWater's useful lives were within ranges provided by GHD and the Australian Taxation Office.

## 8.7 Issues raised during consultation on the Economic Regulator's Draft Report

In its submission, TasWater:

- maintained that its proposed line-by-line approach is the most accurate method of determining remaining asset lives and provided commentary on the Economic Regulator's proposal to continue using the weighted average approach for Existing Assets;<sup>68</sup>
- identified an issue in the regulatory depreciation calculation for Existing Assets; and
- provided revised depreciation estimates for the third regulatory period using the Economic Regulator's preferred method (ie weighted average for Existing Assets and line-by-line for New Assets).

TasWater also considers that the Existing asset register replacement value, indexed from 2009-10, should be used to calculate the depreciation for Existing assets as shown in Table 8.6.

Table 8.6 TasWater's post-Draft Report calculation of regulatory depreciation for the third regulatory period

	2018-19	2019-20	2020-21
Indexed Existing asset replacement value (\$'000s)	2 960 231	3 003 842	3 055 783
Average useful life (years)	51	52	52
Depreciation rate (%)	1.95%	1.94%	1.93%
Depreciation amount (\$'000s)	57 707	58 202	58 856
Disposal depreciation (\$'000s)	2	18	0
Total Existing asset depreciation amount (\$'000s)	57 710	58 220	58 856

## 8.8 Economic Regulator's decisions

The Economic Regulator's decisions in relation to regulatory depreciation are explained below.

### 8.8.1 Existing Assets

Noting the issues raised in TasWater's submission, the Economic Regulator's has decided to maintain its second regulatory period approach, as outlined in its Draft Report, and require TasWater to calculate regulatory depreciation on Existing Assets using a value weighted average approach.

TasWater identified that, in the Draft Report, the depreciation allowance was calculated on the already depreciated RAB balance. The Economic Regulator agrees with TasWater that regulatory depreciation should be calculated on the undepreciated balance of the RAB instead of the depreciated value consistent with the approach to calculating straight line depreciation. The straight line method was applied for the second regulatory period using the opening balance of 2015-16. The Economic Regulator notes TasWater's view that the indexed 2009-10 value is the theoretically correct value to determine the depreciation allowance. However, to maintain consistency with previous regulatory decisions and the consequential undesirability of, in effect, revaluing the RAB, the Economic Regulator will continue to use the 2015-16 opening balance as the starting point for the depreciation

<sup>68</sup> TasWater, 2018 Water and Sewerage Price Investigation, Response to the Tasmanian Economic Regulator's Draft Report, pages 12-13.

calculation. To implement this arrangement the Economic Regulator will roll forward an undepreciated Existing RAB balance for calculating depreciation, separate from the RAB used to calculate the return on assets.

While for consistency the Economic Regulator used the 2015-16 opening balance, the third regulatory period depreciation rates are considerably lower than those used for the second regulatory period. For the second regulatory period, the Economic Regulator found the useful lives in TasWater's asset register were longer than the useful lives the Economic Regulator had proposed in its 2015 Draft Investigation Report. However, in its 2015 Final Investigation Report, the Economic Regulator decided to use the same asset lives and, therefore, the same regulatory depreciation allowances as it had proposed in its 2015 Draft Investigation Report due to the uncertainty about asset lives. For the third regulatory period, the lower depreciation rates are based on TasWater's asset register, and result in lower depreciation allowances.

Table 8.7 shows the Economic Regulator's calculation of TasWater's regulatory depreciation for Existing Assets.

Table 8.7 Regulatory depreciation calculations based on undepreciated Existing RAB values

	2015-16	2016-17	2017-18	2018-19	2019-20	2020-21
Inflation applied	1.50%	1.00%	1.90%	2.25%	2.25%	2.25%
Existing Sewerage assets						
Closing balance from previous year	1 242 003	1 258 888	1 270 952	1 295 100	1 324 239	1 353 606
Opening balance adjusted for inflation	1 260 633	1 271 477	1 295 100	1 324 239	1 354 035	1 384 062
Disposals	1 745	525	0	0	429	0
Closing balance	1 258 888	1 270 952	1 295 100	1 324 239	1 353 606	1 384 062
Depreciation rate	2.54%	2.54%	2.54%	1.95%	1.94%	1.93%
Depreciation	31 974	32 264	32 871	25 814	26 237	26 668
Existing Water assets						
Closing balance from previous year	1 347 913	1 366 166	1 379 632	1 405 290	1 436 880	1 469 210
Opening balance adjusted for inflation	1 368 132	1 379 828	1 405 845	1 436 909	1 469 210	1 502 267
Disposals	1 965	196	554	30	0	0
Closing balance	1 366 166	1 379 632	1 405 290	1 436 880	1 469 210	1 502 267
Depreciation rate	2.36%	2.36%	2.36%	1.95%	1.94%	1.93%
Depreciation	32 265	32 562	33 171	28 010	28 473	28 945
Total depreciation				53 823	54 710	55 613

Table 8.8 shows the Economic Regulator's allowances for regulatory depreciation for Existing Assets together with the associated regulatory depreciation rate.

Table 8.8 Existing Assets - Economic Regulator's regulatory depreciation for the third regulatory period (\$'000s)

	2018-19	2019-20	2020-21
<i>TasWater proposed</i>			
Water	37 282	37 513	37 764
Sewerage	35 647	35 376	34 927
Total	72 929	72 889	72 691
<i>Draft Report</i>			
Water	23 897	23 815	23 736
Sewerage	26 072	25 986	25 906
Total	49 969	49 801	49 642
<i>Final Report</i>			
Water	28 010	28 473	28 945
Sewerage	25 814	26 237	26 668
Total	53 823	54 710	55 613
<b>Change from Draft Report</b>	<b>3 854</b>	<b>4 909</b>	<b>5 971</b>

*The Economic Regulator requires TasWater to calculate regulatory depreciation for Existing Assets using a value weighted average approach.*

*The Economic Regulator also requires TasWater to calculate regulatory depreciation for Existing Assets based on the undepreciated Existing RAB opening balance for 2015-16.*

### 8.8.2 New Assets

For its Draft Report, the Economic Regulator accepted TasWater's proposal to calculate regulatory depreciation on New Assets using a line-by-line approach. However, as discussed in Section 6.4.3 of this Final Report, for projects started after 1 July 2018, TasWater will only receive a depreciation allowance on project completion. TasWater will continue to receive a depreciation allowance for uncompleted projects started before 1 July 2018. Table 8.9 below shows the Economic Regulator's allowances for regulatory depreciation for New Assets.

Table 8.9 New Assets - Economic Regulator's regulatory depreciation for the third regulatory period (\$'000s)

	2018-19	2019-20	2020-21
<i>TasWater proposed</i>			
Water	20 127	22 659	26 308
Sewerage	16 911	19 358	20 860
	37 038	42 017	47 168
<i>Draft Report</i>			
Water	16 773	19 033	20 402
Sewerage	19 963	22 278	25 730
	36 737	41 311	46 131
<i>Final Report</i>			
Water	16 692	18 551	20 190
Sewerage	19 596	21 778	23 702
	36 288	40 329	43 892
<b>Change from Draft Report</b>	<b>-448</b>	<b>-982</b>	<b>-2 240</b>

*The Economic Regulator requires TasWater to calculate regulatory depreciation for New Assets using a line-by-line approach.*

*For projects started after 1 July 2018, the Economic Regulator also requires TasWater to calculate regulatory depreciation only once the asset is commissioned.*

*The Economic Regulator further requires TasWater to apply the regulatory depreciation allowances for Existing Assets and New Assets, as set out in Tables 8.8 and 8.9 respectively*

