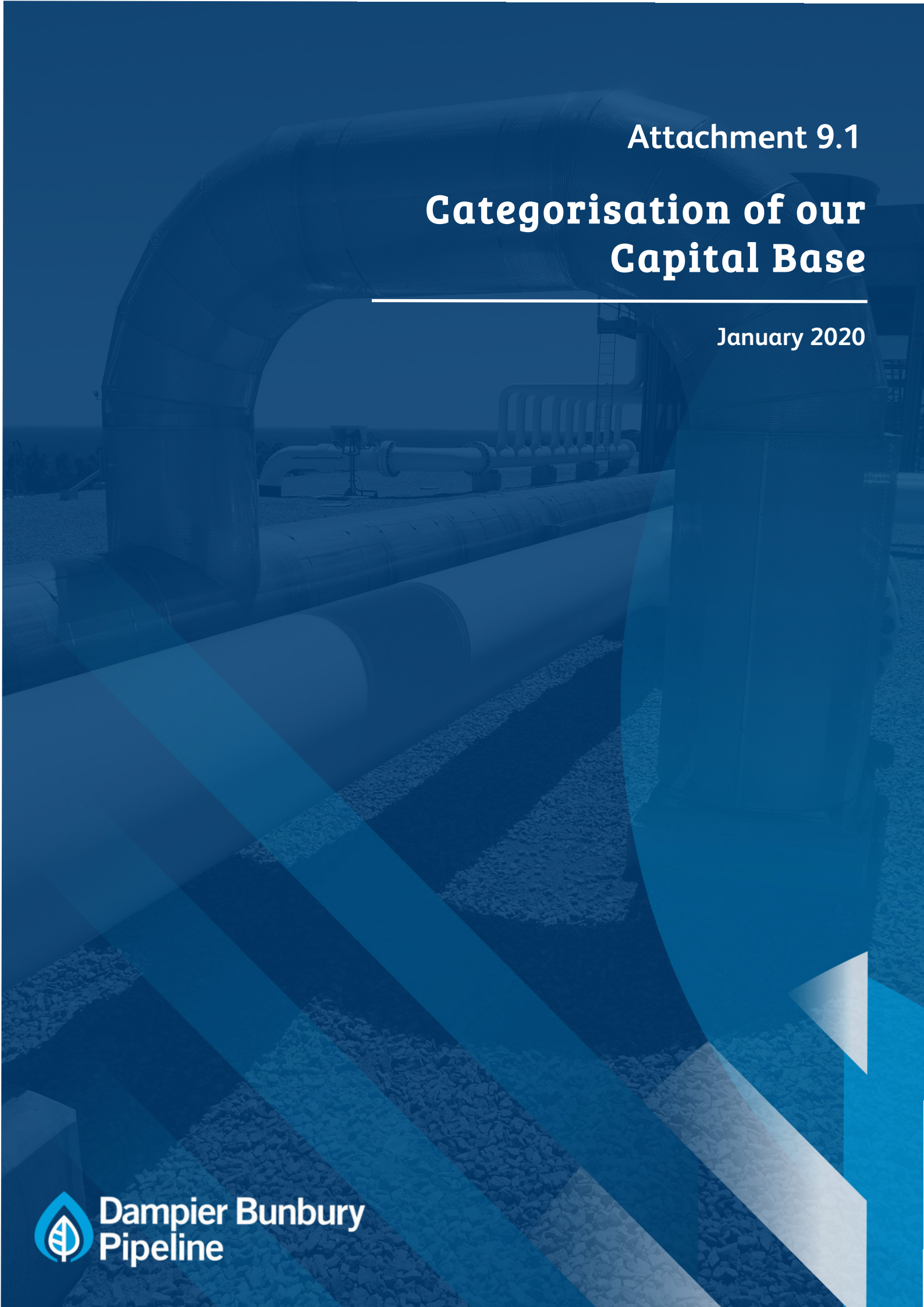

Attachment 9.1

Categorisation of our Capital Base

January 2020

Dampier Bunbury Pipeline

1. Introduction

Under the National Gas Rules, rule 89, we are required to ensure at each AA review that the depreciation schedule is designed so that reference tariffs vary in a way that promotes efficient growth of the market for reference services and that assets are depreciated over their economic lives. There is no requirement to re-examine asset lives at every review per se, but if economic conditions change such that the economic lives used previously are no longer valid, then there is a need for re-examination; indeed, the NGR (rule 89(1)(c))requires that asset lives be capable of being changed from time to time for this purpose.

The key issue when examining asset lives is to ensure that the capital base reflects the assets actually used to provide reference services to our customers, and to ensure that the asset base reflects efficient costs. Through time, changes in the asset base through depreciation need to assist in providing efficient prices, which are reflective of the benefits customers are receiving from the assets at a particular point in time.

If the economic lives of our assets do not change, but changed economic conditions suggest that they should, then we may be in a position that too much (or too little) of our asset base is being recovered from current customers, which would result in less (more) demand for our services than is economically efficient. This would not be consistent with the National Gas Objective.

We believe that economic conditions have changed, and that we need to review the economic lives of our assets. As one part of that reassessment, as discussed in Chapter 9 of our Final Plan, we propose to increase the number of asset categories in the DBP Depreciation Schedule from five to eight. In this attachment, we discuss our reasoning behind this change, and the approach we have taken.

2. Asset category alignment

Changing asset category alignments is important for customers because the grouping of assets into categories at one point in time is not necessarily optimal as times change. In particular, the DBNGP's asset categories have a very long minimum asset life; some 30 years. This means that, for example, computers, which we commonly use for three or four years, are still being paid for by our customers (both their real original cost and the return on capital we earn on them) for more than 25 years after they have ceased to be used. Other assets have similar issues and we do not think this reflects the long-term interests of consumers. For AA5, this has motivated a changed approach.

In Section 2.1 we briefly outline the historical approach to asset categories for the DBNGP and the current approach for other regulated pipelines. In Section 2.2 we outline our proposed approach before detailing the mapping of assets undertaken to achieve alignment with good industry practice in Section 2.3.

2.1. Current industry practice

The asset categorisation used in AA4 (2016 to 2020) is shown in Table 1 below.

Table 1: Asset categorisation in AA4

Category	Asset life (yrs)
Pipeline	70
BEP asset account	57
Metering	50
Compression	30
Other depreciable	30

All DBNGP asset categories and their associated lives were established in the first Access Arrangement (AA1), apart from the Burrup Extension Pipeline (BEP) asset account added in 2011.[1] In subsequent AA proposals and decisions, neither we, nor the ERA have revisited the economic lives of assets comprising the DBNGP. There is no detailed reasoning provided for the asset lives in the AA1 decision, and it is unclear whether they were developed on the basis of the physical life of the assets or, as is now required by NGR 89(1), their economic life.[2]

Subsequent to this decision in AA1, industry best practice has moved on. We are not aware of any pipeline which has such a small set of asset categories, with such a long minimum depreciation period. Table 2 provides an overview of asset categories and lives from other regulated pipelines.

Table 2: Asset lives and categories for regulated pipelines (years)

DBP Current (ERA)		Goldfields Gas Pipeline (ERA)		Roma to Brisbane Pipeline (AER)		Victorian Transmission System (AER)	
Pipeline	70	Pipeline and laterals	70	Pipelines	80	General Building	60
Compression	30	Maint. bases & depots	50	Original Pipeline	60	Pipelines	55
Metering	50	Main line valve & scraper stations	50	Regulators and meters	40	Compressors	30
BEP Lease	52	Receipt & delivery point facilities	30	Compressor	35	City Gates & Field Regulators	30
Other	30	Compressor stations	30	Communication	15	Odourant Plants	30
		Cathodic protection	15	Other	5	Gas Quality	10
		SCADA & comms	10	Capitalised AA costs	5	Other	5
		Other depreciable assets	10	Group IT	5		
				SIB Capex	5		

[1] Apart from the Burrup Extension Pipeline category, which was determined in AA3 (2011-2015) where the ERA determined that the asset should be depreciated over the life of the lease (20 years with extensions up to 40 years, so 60 years in total)

[2] See pp214-15 of Part B of the OffGAR's Draft Decision dated 21 June 2001, available from http://www.erawa.com.au/cproot/5450/2/DBNGPDDr2.pdf , p21 of OffGAR's Further Final Decision of December 2003 (available from http://www.erawa.com.au/cproot/3794/2/DBNGP_FFD_30_Dec_2003_Corrected_Jan04.pdf and most recently at [396] of the ERA's Final Decision of December 22 2011 (available from https://www.erawa.com.au/gas/gas-access/dampier-to-bunbury-natural-gas-pipeline/access-arrangements/access-arrangement-period-2011-2015/decisions-and-proposals).

The longer-lived assets, such as pipelines, are generally consistent across the different pipelines. The clear differences lie in the shorter-lived assets; the DBNGP has a single "other" category with a large number of disparate assets, whilst other pipelines have adopted a more granular approach which better reflects the nature of the different assets. This has been a key motivation in developing our asset categorisation proposal for AA5.

2.2. Approach being taken for AA5

There are two steps to the approach we are proposing for AA5 regarding asset categorisation:

- align asset categories and asset lives with good industry practice, consistent with those applied by the ERA and AER to other pipelines; and
- allocate the existing capital base to those asset categories.

2.2.1. Aligning asset categories

The asset categorisation schedule we propose to use is shown in Table 3.

The new asset categories are italicised, and the changes to existing asset category lives are noted in bold. Overlaying these asset lives is the assessment of the economic life of the system as a whole (see Attachment 9.2) which has the practical effect of producing a maximum asset life out to 2059. At present, this affects only the pipeline and BEP asset categories. As noted in the introduction, these changes are being made to ensure that the efficient cost of providing services is maintained. This is no different to other aspects of our Final Plan, which also aim towards this same goal.

Table 3: Proposed AA5 asset categories

Proposed category	Proposed asset life (yrs)
Pipeline	70
BEP asset account	57
Metering	**30**
Compression	30
Cathodic protection	*15*
SCADA ECI and communications	*10*
Computers and motor vehicles	*5*
Other depreciable assets	**10**
Non-depreciable assets	n/a

In forming our views about appropriate asset categories, we have been informed by regulatory and industry practice (summarised in Table 2), and a practical requirement to have categories which are able to group like assets to a sufficient level of detail, while maintaining a manageable number of groups.

The approach we have taken for AA5 is based upon asset categories accepted by regulators for other pipelines. In particular, we have developed an asset categorisation schedule which is mostly based upon that approved by the ERA for the Goldfields Gas Pipeline (GGP), as this is our closest comparator amongst the different regulated pipelines. We consider that adopting the preferred

approach of the ERA over other information is consistent with our objective of delivering a Final Plan that is capable of being accepted by our customers and stakeholders.

The approach results in two changes.

1. We propose to change the asset lives of two categories, metering and other depreciable assets. This aligns asset lives with those adopted for the GGP, noting that we understand assets in the DBP metering category are the same as those in the Receipt & Delivery point facilities for the GGP. We added the following categories to reflect a more reasonable level of detail around the types of assets in our capital base:
    - Computers and Motor Vehicles;
    - Cathodic Protection; and
    - SCADA ECI and Communications.
2. Secondly, the categories of Computers and Motor Vehicles, Cathodic Protection and SCADA, ECI and Communications have been created to reflect a more reasonable level of detail around the types of assets in our capital base.

We commissioned Incenta to review our approach to asset categorisation (Attachment 9.4). In respect of our approach, Incenta note:[3]

> *In terms of the categories and lives that DBP has proposed, we observe that:*
>
> - *Having a separate category for cathodic protection assets, and applying a life of 15 years, is consistent with the GGP. Applying a shorter life to these assets is also consistent with DBP's technical knowledge (as manifest in relevant asset management plans), and with the substantial capital expenditure that is undertaken in this category.*[4]
> - *Similarly, having a separate category for SCADA and communications and a life for these assets of 10 years is consistent with the GGP (and the life is not materially different to the use of 15 years in some of the other benchmarks).*[5] *Also including electrical systems (excluding compressor-site generation) is consistent with the relevant DBP asset management plans and with the substantial capital expenditure that is undertaken in this category.*
> - *Applying a 5 year life to computers (including software) and motor vehicles is a fairly common assumption for regulated businesses, and is consistent with the Roma to Brisbane Pipeline (i.e., a life of 5 years applies to "Group IT" and "Other"), the Victorian transmission system (as these would fall into "Other", which has a 5 year life) and (for IT) with the ERA's default lives for non-scheduled pipelines.*

[3] See Attachment 9.4 p10

[4] Note that approximately half of the capital expenditure between 2005 and 2020 (the latter two years being estimates / forecasts) that has been classified into this category comprises intelligent pig runs, which under DBP's asset management plans are undertaken at frequencies of 5 or 10 years (for the looplines and mainline, respectively).

[5] We estimate that DBP's expenditure on SCADA and communications over the period would account for more than two-thirds of the total of the assets that have been classified into this category.

Accordingly, in our view, the application of these additional three categories and the lives proposed for these new categories is reasonable and appropriate.

2.2.2. Allocation of the existing capital base and future capital expenditure into new categories

Having created eight categories rather than five, it remains to allocate future capex, and the existing capital base into these eight categories. Future capex is relatively straightforward; we simply allocate the proposed capex during AA5 to the eight categories, and depreciate it accordingly.

The existing capital base is more complex. The model which describes how we have done this is called "Asset Restructure Model v16.3" and has been provided along with our submission. Within the context of this model, the ERA can see exactly how we have recategorised the existing capital base; depreciation going forward is in our main regulatory model.[6]

For the existing capital base as at December 2020, we have followed a proportional approach. That is, capex, depreciation and redundant assets are adjusted by the proportion of the spending from each of the five categories (of capex) that has moved into each of the eight categories. The proportions are based upon capex; approved actual capex from 2005 to 2015, actual capex from 2016 to 2019 and forecast capex for 2020.[7]

The reason we do this is because the capital base from year to year is the opening capital base, plus actual capex (once the ERA goes back and approves actual capex) less *forecast* depreciation and actual redundant assets. Absent of the proportional approach, we would have had to go back to each regulatory decision and endeavour to determine what forecast depreciation the ERA might have allowed if it had used eight categories, which makes for a great deal of complexity, without any additional clarity.

We have had our approach reviewed by Incenta, who note:[8]

> *In relation to DBP's proposed method to implement the reclassification of past investment – whereby the proportion of the past capital expenditure in each year that would be reclassified into the new classes is calculated and then applied in its calculations – our view is that this approach is sound and reasonable. Applying the proportions of capital expenditure in this manner is mathematically equivalent to separating out the assets into the different categories from the year in which the capital expenditure was incurred and:*
>
> - *applying the current lives applicable to the current categories for the period until the end of AA4, which as noted above is essential to retain consistency with the basis upon which previous tariffs were set*
> - *pro-rating the forecast depreciation during the regulatory period in which the capital expenditure was undertaken associated with each*

[6] Note that we have not shifted assets between existing categories, from Pipelines to Compression, say. This could obviously be done as a comprehensive audit of all assets, but doing so would effectively undo and second-guess previous regulatory decisions. We have only moved assets from existing categories to new categories which were not available for the ERA to choose in previous decisions

[7] When the ERA makes its final decision for AA5, it will have approved our capex during AA4, and it can replace our actual and forecast capex spend with approved actual spending. These figures from AA4 are intended as a temporary measure until said capex is approved.

[8] See Attachment 9.4 p8

> *particular "asset year" across the new categories according to the relative proportions of capital expenditure, which we consider to be a reasonable method of allocation,[9] and*

also pro-rating any disposals associated with the "asset year" across the new categories according to the relative proportions of capital expenditure, which we also consider to be a reasonable method of allocation ((noting also that the value of disposals were very small).Following the proportional approach noted above, we roll forward the capital base for each year to 2020 and each tranche of spending is depreciated based upon the new categories. This gives us a capital base as at December 2020 which is different to the one which emerges at the end of AA4 under the five category approach, as the new categories generally have shorter lives. Rather than start AA5 with a lower capital base and a balancing item to be amortised over AA5, we instead apply the proportions that each of the eight categories makes up in this new capital base, to the original five-category aggregate capital base at the close of AA4. This means that there is no difference in the capital base, in aggregate, going from AA4 to AA5. We then depreciate all assets in each of the eight categories over the full life of that asset class. As noted below, this is more conservative than amortising the balancing item noted above.

The outcome of our approach is summarised in

[9] The alternative way of allocating forecast depreciation would be to allocate this across the new asset categories according to the share of forecast capital expenditure that would have fallen into the different categories. However, in our view, this would not be an obviously superior allocator, and would require substantial additional effort (i.e., to derive such an allocation, a detailed analysis would also be required of the individual assets that were included in the past forecasts of capital expenditure).

Figure 1 and Table 4. The net result is that some assets are shifted from every category; except the BEP asset account, which is a unique category created to accommodate an asset lease as outlined above. The assets which were moved included:

- various kinds of electronic equipment such as communications, compressor control systems and flow computers;
- electrical systems such as SCADA; and
- corrosion control assets such as earthing, coating and pigging.

Figure 1: Schematic of asset re-categorisation exercise

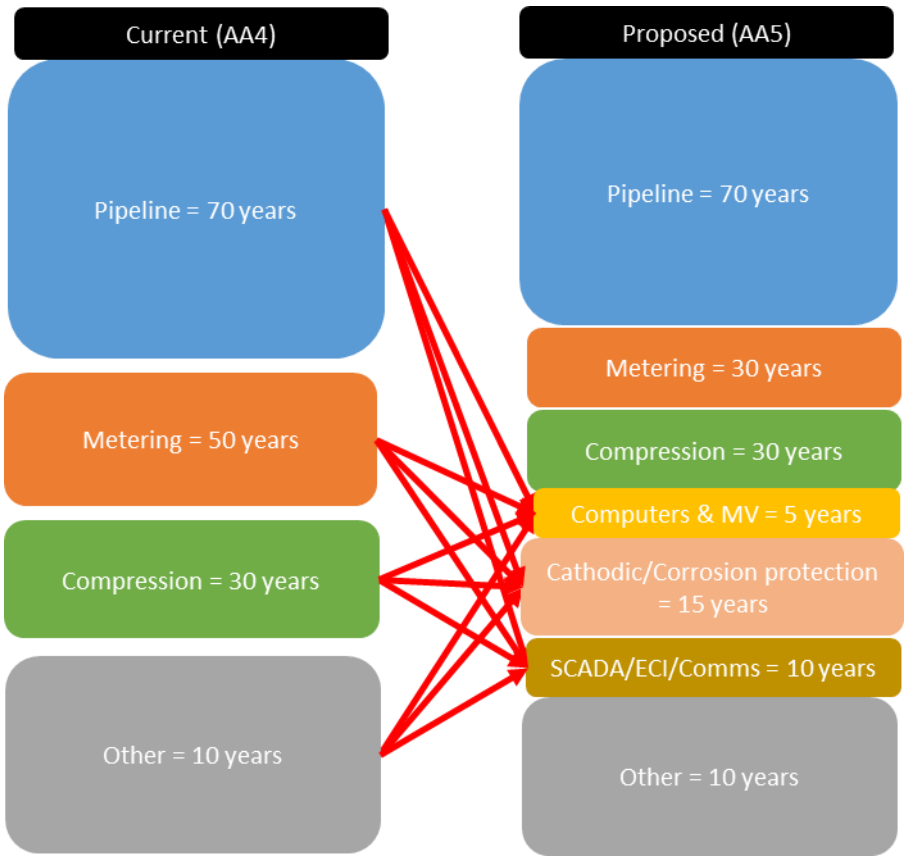

Table 4: Regulated Asset Base Re-categorised

2021 Opening RAB ($mil Dec 2020)	AA4 categories	AA5 categories	Changes
Pipeline	2709	2648	less 61
Compression	365	316	less 48
Metering	55	49	less 6
Other Depreciable	182	102	less 79
Computers and Motor Vehicles		32	plus 32
Cathodic/Corrosion Protection		59	plus 59
SCADA, ECI and Comm's		105	plus105
Non Depreciable	20	20	0
TOTAL	3331	3331	

Overall, around $250 million of capex has been recategorised, and this gives rise to an increase in depreciation in AA5 of roughly $132 million compared to what would have been the case with no recategorisation. This is because most of the new categories are shorter than the existing categories from which the assets have been drawn.

The majority of the assets ($79 million) have been re-categorised out of Other Depreciable, a category that included a large number of miscellaneous items such as IT and motor vehicles. The other major categories are Pipelines ($61 million) and Compression ($48 million).

The largest of the new asset categories formed out of the re-categorised assets above is SCADA, ECI and Communications ($105 million) reflecting electronic/electrical assets that have been held over in the RAB at excessively slow rates of depreciation in various existing categories. Similarly, Cathodic/Corrosion protection assets contain $59 million worth of assets that have been held over at excessively low rates of depreciation in various existing categories.

The proportional approach we follow has the effect of an existing asset entering the capital base at the start of 2021 at the depreciated value which results from the original five-category asset life then being depreciated over the full life of the new asset class it enters. Thus, for example, if $1 million of 2015 capex in the "Compression" asset category (30 years) has been reclassified to "SCADA, ECI & Communications" (10 years), its value in January 2021 will be $833,333 (that is 5/6ths of the original capex) and this will be depreciated over ten years.

A different approach would be to say that the 2015 capex, once recategorised, has only five years left (as it had ten years in total), and depreciate the $833,333 over those five years. Assets which would be fully depreciated by December 2020 in their new categories would, by the same approach, be amortised over AA5; as noted above.

Regulators have, in the past, taken an approach more like this alternative than the approach we have taken. For example:

- The Victorian gas distribution networks are replacing cast iron mains which have reached the end of their operational lives during their current AA period. These still have a value in their respective RABs, but the AER has accelerated the depreciation of the remaining cast-iron assets being replaced in the RAB over the current AA periods.[10]
- Subsequent to the Victorian bushfires of 2009, a Royal Commission required the electricity distribution companies to replace certain assets for safety reasons. Like the cast iron pipes above, these assets still had asset lives left in the RAB, but the AER decided to accelerate their depreciation over the current access period. The AER did the same for copper communication lines that the businesses had replaced with optical fibres.[11]
- In its recent proposal to the ERA, Western Power had proposed to depreciate new electronic meters it planned to install during the current AA period over 15 rather than 25 years as this new type of meter had a shorter economic life. The ERA accepted this, but noted that Western Power already had some electronic meters in its existing RAB. It suggested that Western

[10] See, for example, the AGN Draft Decision, p5-12, available from https://www.aer.gov.au/networks-pipelines/determinations-access-arrangements/australian-gas-networks-victoria-and-albury-access-arrangement-2018-22/draft-decision

[11] See, for example, the Powercor Draft Determination, pp5-22 to 5-24, available from https://www.aer.gov.au/networks-pipelines/determinations-access-arrangements/powercor-determination-2016-20/preliminary-decision

Power examine these, and determine whether these existing assets should also be depreciated over the same shorter life.[12] Western Power duly did so.

- In the same proposal, Western Power proposed to remove a section from its access arrangement which allowed for accelerated depreciation of assets decommissioned as part of the State Underground Power Project. However, the ERA required Western Power to put this section back in its access arrangement as it considered that not allowing for accelerated depreciation of any redundant assets (not just those associated with the State Underground Power Project) would not be compliant with the *Access Code*.[13]

Our approach is more conservative than the alternate approach noted above, and leads to a smaller change in depreciation. As noted in Attachment 9.2, whilst we are concerned with the overall economic life of the DBNGP as a whole post 2059, there is less concern about, say, SCADA assets which might be recovered by 2029 or by 2025 because the competitive threat from substitute energy sources is not a significant threat (based on current information) in the medium term. We therefore felt it prudent, and more in the long-term interests of our shippers to avoid the price increase which would occur if we recovered all of the existing assets over their remaining lives under the new asset categorisation.

[12] See the ERA's Draft Decision for Western Power, paragraphs 507-8, available from https://www.erawa.com.au/cproot/18947/2/WPAA4%20-%20Draft%20Decision.PDF.

[13] See ibid, para 510-11. Note that the Access Code governs Western Power, not DBP, though it is broadly similar to the National Gas Rules on issues such as this.