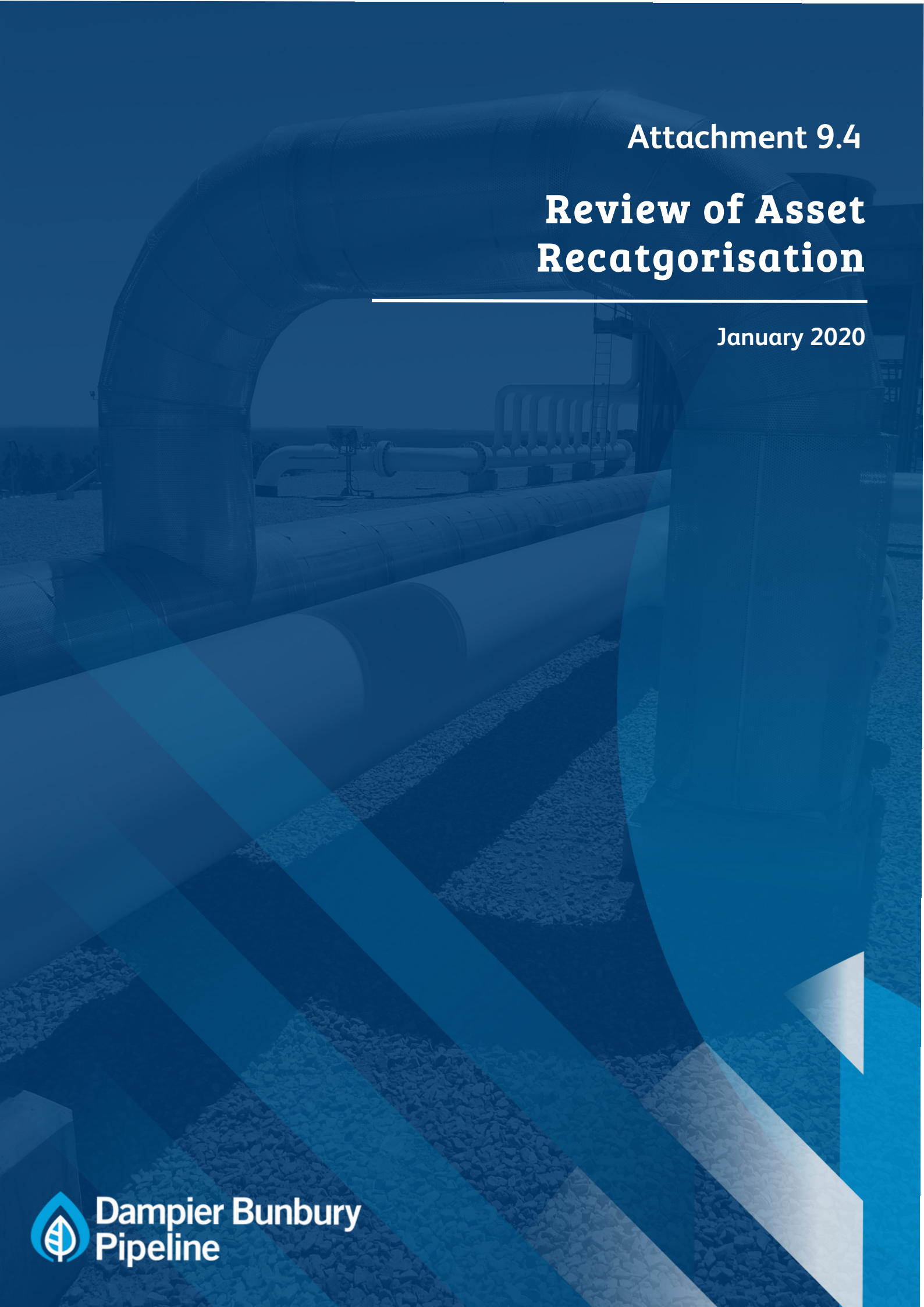


Attachment 9.4

Review of Asset Recatgorisation

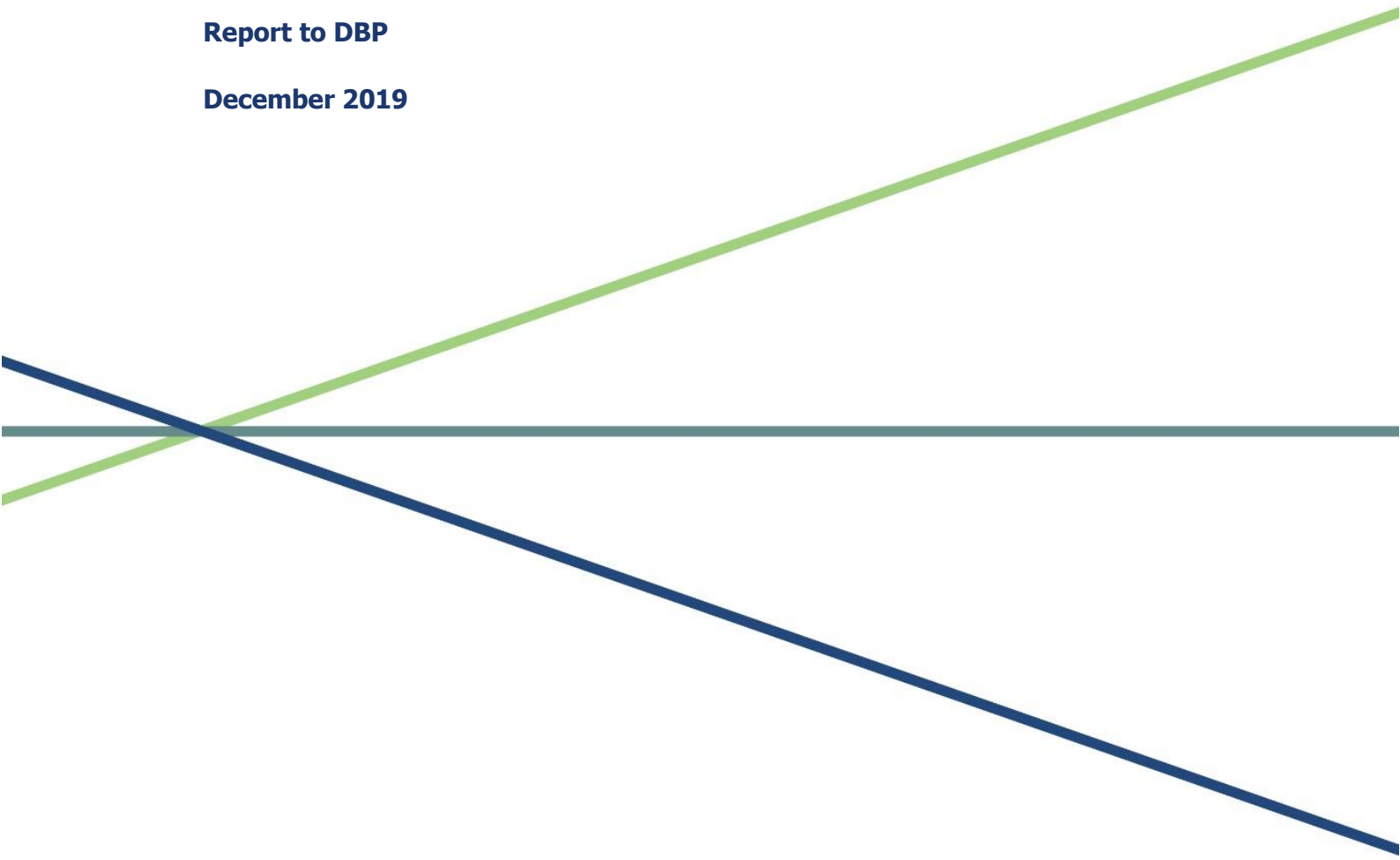
January 2020

Dampier Bunbury Pipeline

Review of DBP's proposed recategoristion of assets for regulatory depreciation purposes

Report to DBP

December 2019



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1. Introduction and summary

1.1 Scope of work

DBP[1] currently applies just four depreciable asset categories for regulatory purposes and,[2] following standard Australian regulatory practice, assigns a single economic life for all assets in each category. The minimum life across its current categories is 30 years. From the start of AA5,[3] DBP is proposing to introduce an additional three asset categories, and to apply the new categories in a partially backdated manner.[4] Specifically, DBP proposes to reclassify relevant past capital expenditure (back to 2005) into those new categories so that a revision to the asset lives for these assets can be applied from the commencement of AA5. In addition, DBP is also proposing to revise the lives applied to two of its asset classes ("Metering" and "Other") with effect from the commencement of AA5.[5]

Against this background, DBP has asked Incenta ("we" or "us") to:

- Review the appropriateness of the new asset categories that it is proposing to apply and its other proposed changes
- Review its reclassification of past capital expenditures into those alternative categories, and
- Review its calculation of the amount of past capital expenditure that should be transferred into those alternative categories and the associated calculations that it has performed.

We describe in more detail the approach that DBP has proposed below.

1.2 Summary of conclusions

1.2.1 General principles

The asset categories and lives that are applied when calculating regulatory depreciation influence how the recovery of fixed costs is spread over time, the most important principles of which are that:

- the exposure to stranded asset risk be minimised
- incentives are provided for the efficient use of the pipeline
- the allocation of cost across time is intergenerationally fair, and

1 In this report, we use "DBP" to refer to the entity (our client), and "DBNGP" to refer to the physical pipeline asset.

2 This ignores the BEP lease, which is treated as a pipeline asset but with a shorter life reflecting the fact that it was part-way through its life when the lease was entered into.

3 Access Arrangement Period 5, commencing on 1 January 2021.

4 While DBP's proposal is described more fully below, it is noted here that its method will result in the opening RAB for AA5 being unchanged, but with some of the assets installed prior to AA5 being reclassified – and so with amended remaining lives being applied – from the commencement of AA5.

5 Again, the opening RAB in respect of these assets will be unchanged, but it is proposed that the remaining lives for these assets be adjusted from the commencement of AA5.

- to the extent possible, a simple method is applied to assist in the transparency and replicability of regulatory calculations.

Adopting lives for assets – and a breadth of asset categories – that more closely reflect each asset's expected economic life will promote the first three of these objectives, whilst the last objective suggests that this should be balanced with a degree of pragmatism in the form of simplification where possible via a degree of aggregation / averaging.

1.2.2 Asset categories and lives

Apart from the one issue identified below, we consider that the proposed new asset categories, the lives for the new categories and the revisions to the lives for two of the existing categories are reasonable. The relevant decisions are consistent with benchmarking against other Australian regulated transmission pipelines (and correspond most closely to the practice of the GGP) and are consistent with information in the relevant DBP asset management plans that we reviewed.

The one issue that we identified was is relation to the "Other" category, which is that a series of large generators and inlet scrubbers that were installed in 2010 as part of the 5B expansion is included in this category (and which was inconsistent with how these assets had been classified previously,[6] although this classification was accepted by the ERA).

- DBP has proposed not reviewing the correctness of the classification of assets between the existing categories, which we support as a general principle (noting that these are matters the ERA has already decided upon).

- However, we have a concern as to whether leaving the large generators and inlet scrubbers in the "Other" category is appropriate given the proposal that the life for this category be lowered to 10 years (apart from in relation to these assets, we think the proposed 10 year life for the "Other" category is reasonable).

1.2.3 Proposed reclassifications

We have reviewed DBP's proposed asset reclassifications and agree with its proposals.

We observe that the information that was available from which to determine the appropriate classification of the past expenditure was reasonable for the purposes of the task.

1.2.4 Quantification of the assets to be reclassified

Under DBP's proposed method, the outcome of its proposed reclassification is a matrix of proportions that shows, for each of the current asset categories, the proportion of capital expenditure that should be transferred to one of the new categories, and does so for each year.

We independently replicated DBP's matrix of proportions and obtained identical results, and hence we agree with its calculations.

[6] Previously, these assets had been classified as "Compression", and this is also the classification that would result from the asset class definitions set out in Appendix A.

1.3 Structure of this report

The remainder of this report is structured as follows.

- Section 2 sets out our view of the relevant principles that apply to the question of the asset categories and lives that are applied when calculating regulatory depreciation. It then provides further detail on the approach that DBP is proposing to apply in relation to its reclassification of past capital expenditure.

- Section 3 then addresses the three questions put to us by DBP.

2. Background and overview of DBP's proposal

2.1 Principles for regulatory depreciation

The asset categories and lives that are adopted when calculating regulatory depreciation is one of a number of decisions that jointly determine how the recovery of cost associated with assets that provide a flow of services over time is spread over time.[7] The relevant regulatory principles when deciding how costs should be spread over time include that this spreading should be consistent with:

- ensuring that costs are recovered sufficiently quickly that the risk of costs not being recovered as a consequence of technological and other change is minimised
- encouraging the efficient use of the facilities in question
- otherwise generating a fair allocation of costs between different generations of customers, and
- to the extent possible, facilitate simplicity in the derivation of regulated charges, including to improve the transparency of regulatory calculations to stakeholders, including customers.

It is immediately clear from the summary of the principles above that the objective is to ensure that the recovery of cost in aggregate is spread over time in a manner that minimises exposure to stranded asset risk, facilitates the efficient use of the pipeline, is fair and (to the extent possible) simple. However, the lives that are selected for individual assets can be important contributors to meeting this objective. For example, by selecting asset lives that match the expected (economic) lives of the assets, it can be said that:

- stranded asset risk will be reduced compared to the counterfactual where longer lives are applied (in this latter case, the regulatory asset base would be expected to build up over time as it would include both assets currently in service and those that may have long since been replaced, which would increase the exposure to competition)
- again, compared to the counterfactual where asset lives that are materially different to actual lives are applied, prices would be expected to be more stable over time, and so promote the efficient use of the pipeline, and
- spreading the recovery of costs for assets over the time that those assets are in service would be likely to reduce the prospect that any generation of customers would be incurring a greater burden than another, and so advance the fairness of prices over time.

Against this, the fact that the economic and equity objectives relate to the overall impact on prices – which will reflect the aggregate depreciation outcome in combination with other costs – means that some room for flexibility with respect to depreciation methods exists. This, together with the objective of simplicity – and transparency – in the regulatory calculations suggests that it is also desirable for a degree of approximation and averaging to be applied. Consistent with this, the standard approach to regulatory depreciation in Australia is to group assets into a small number of categories, and to apply a life to those assets that is broadly indicative of the lives of assets in that category. An

[7] The other key decisions include (i) how expenditures are classified between operating and capital expenditure and (ii) the method of depreciation selected.

outcome of this simplification is an implicit acceptance that, while the asset life for the category should be broadly appropriate for most of the assets in the category, some variation in the expected lives for assets within the category around the adopted life is inevitable.

2.2 DBP's proposal

2.2.1 Outline of the new categories and revisions to lives

As noted above, DBP currently assigns its initial RAB and capital expenditure into just four categories (with a single life being applied to all assets in the relevant category, following standard regulatory practice noted above) for the purpose of deriving regulatory depreciation, [8] which are as follows:

- Pipelines (economic life of 70 years)
- Compression (economic life of 30 years)
- Metering (economic life of 50 years), and
- Other (economic life of 30 years).

The principal gas transmission pipeline assets – the pipeline itself, valves, compressors and metering stations – have very long technical lives, and this is reflected in the current lives applied to the DBNGP asset classes, whereby the shortest life (for both the "Other" and "Compression" categories) is 30 years. However, the provision of gas transmission services also requires substantial secondary or supporting assets whose economic lives are typically much shorter implying that replacements occur at much more frequent intervals than the principal assets, which include:

- Electrical instrumentation for, and equipment to monitor and control, the principal gas transmission assets and to detect fire and gas leaks
- Communications infrastructure to support monitoring, control and maintenance activities
- Electrical equipment that supplies power to the principal gas transmission assets
- Corrosion protection equipment and activities, including the conduct of "intelligent pig" runs[9]
- Computers and software and associated implementation activities to support the operation of the key pipeline assets, maintenance activities and corporate functions
- Motor vehicles required for operation and maintenance activities and administration
- Office fittings, furniture and equipment, and
- Tools and other low value items.

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8 Again, this ignores the BEP lease, which is treated as a pipeline asset but with a shorter life reflecting the fact that it was partway through its life when the lease was entered into.

9 The cost of intelligent pigging activities have been capitalised to date, although it is understood that DBP proposes to change these activities to operating expenditure from the commencement of AA5.

To date, these secondary assets have either been recorded in the same categories as the principal assets (i.e., pipelines, compression or metering) or in the "other" category. It follows that a long life (of between 30 and 70 years) has been assigned to these secondary assets.

DBP is proposing to add to these a further three asset classes, namely:

- Computers and motor vehicles (economic life of 5 years)
- Cathodic/corrosion protection (economic life of 15 years), and
- SCADA, Electrical, Control & Instrumentation and Communications (economic life of 10 years).

DBP is also proposing to shorten the economic life of the "Other" asset class to 10 years, and to shorten the economic life of "Metering" to 30 years.

2.2.2 Application of the new classes

DBP's proposal is to apply the new asset classes to capital expenditure in a partially-backdated manner. Specifically, it is proposing that any capital expenditure that has been undertaken from 2005 onwards that would now fall into the new classes be reclassified into the relevant new class, and with the new asset life applied from the commencement of AA5. Thus, while the historical depreciation associated with all assets to the start of AA5 – and hence the opening RAB – would be unchanged, its method requires a review of capital assets installed and included in the RAB from 2005 onwards – with reclassifications performed where appropriate – to determine regulatory depreciation for AA5 and beyond.

Regulatory depreciation for the DBNGP in past access arrangement reviews has been calculated for each of the individual "asset-years" – for example, capital expenditure on assets on the pipeline category in 2009 has been treated for regulatory depreciation calculations as a separately identifiable asset with a separately identifiable remaining life. Thus, if the capital expenditure undertaken in an asset category within a particular year is subdivided into more than one categories, it is possible to calculate the written down value for those multiple asset categories and the expired life of those multiple assets as at the start of AA5.[10] The existing asset lives would need to be applied prior to AA5 to be consistent with how past tariffs have been calculated, but the option would exist to switch to a different asset life (and hence a different remaining life) from the commencement of AA5.

DBP's proposed method for deriving the disaggregated asset-years as at the commencement of AA5 is to:

- for each of the current asset classes, calculate the proportion of capital expenditure for each year that would fall into one of the new asset classes

[10] There are two areas where the carried-forward RAB cannot be traced back to individual assets and so where an apportionment between the existing and new asset classes would be required, namely in relation to depreciation within the regulatory period in which the asset is installed (which reflects depreciation on the forecast expenditure in the asset class in the year rather than the actual) and disposals (where the information only on the aggregate disposals in assets in a category from a year is retained). However, as noted below, it would be reasonable to apportion these amounts across the new asset categories based on the relative amounts of capital expenditure.

  - for example, the proportion of "Other" capital expenditure in 2017 that would fall into the "Computers and motor vehicles" category, and

- apply the proportion derived above to the written down value for that "asset year" as at the start of AA5

  - for example, if the "Other" capital expenditure in 2017 has a RAB value at the start of AA5 $7.6 million and 10 per cent of this was "Motor vehicles and computers", then the RAB value at the start of AA5 for the "Other" in 2017 category would be adjusted to $6.84 million, and the RAB value for the "Computers and motor vehicles" in 2017 would be set at $0.76 million.

One issue that will arise with the reclassification of past capital expenditure is that there will be numerous assets that have a material value in the RAB but whose life exceeds their newly-assigned economic life. For example, if $1 million was spent on computers in 2015, then the RAB value of those assets at the start of AA5 would remain material (= 25/30 x $1m = $0.833 m, assuming they had been classified as "Other"), but they would have no remaining life under the new classification (i.e., the expired life of the computers would be 5 years, which is the same as their economic life).

The logical response to this issue would be to allow the recovery of the all assets that have already passed the end of their economic life during AA5,[11] and there is substantial regulatory precedent for addressing like issues in this manner. However, if the quantum of assets whose life has already expired is sufficiently large, then a material "price shock" may be created, and it may be desirable for some form of transitional arrangement to be implemented. One option for such a transitional arrangement would be to set the life for the existing assets that have been reclassified to the life of a new asset in that new classification (i.e., to restart the life-clock).[12] Such a transitional arrangement would result in the prices for DBP services reflecting only the physical assets in service after one additional life-cycle had passed for the assets in question.[13] Our understanding is that DBP currently proposes to apply such a transitional arrangement to address potential concerns about "price shock".

2.2.3 Existing classifications are otherwise are not affected

DBP proposes only reclassifying existing assets where this implies a movement from an existing asset category to a new asset category (for example, from "Pipeline" to "Cathodic protection / corrosion control"). It has not proposed a review of whether existing assets may better fit into one of the other existing categories (for example, whether some "Pipeline" assets would better fit in "Compression").

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11 The RAB associated with past-life assets could be amortised over the 5 years of the regulatory period, or it could simply be added to the revenue requirement in the first year, noting that the revenue smoothing mechanism will smooth the effect over the regulatory period in any event.

12 In principle, it would be appropriate to apply the lesser of the remaining life calculated under the current lives, and the life of a new asset. However, this would only result in a lower life for capital expenditure that had been in the "Compression" or "Other" categories that is reclassified to cathodic protection (in this case, the current remaining life would be 14 years, compared to the life for a new asset of 15 years). There is no expenditure that falls into this category.

13 The main detriment to DBP from applying depreciable lives for assets that exceed their true lives is that it will magnify the exposure of the DBNGP to future competition (i.e., under the current settings, the future prices for the use of the DBNGP will have to recover the cost of both assets in service, as well as assets that had long since been replaced, whereas competitors would only need to recover the cost of the assets actually being employed). However, as there is a window before the competitive threats to the DBNGP are expected to become material, a degree of flexibility exists as to how the current regulatory asset register is "cleaned up".

Its rationale for this is to avoid varying from existing regulatory decisions, at least where there is no pressing reason.

2.3 Comment

A core part of our review has focussed on whether the asset classes that DBP proposes – and the lives attached thereto – are appropriate. This is addressed in section 3.

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 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,[14] 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 that the value of these was very small).

In relation to DBP's proposal only to reclassify assets where this would imply a movement from an existing asset category to a new asset category (and so not reclassifying assets between existing categories), as a general matter this is a pragmatic approach, and in particular we think it is desirable to change only to the minimum extent from past decisions. The one caveat that we would make, however, is that as the lives of two existing categories are proposed to be reduced, a question would arise as to whether the change in asset life meant that inconsistencies in past classifications that previously had an immaterial effect may become material. We have identified one such case (in relation to several large generators and inlet scrubbers at compressor sites that had been historically classified as "Other") where we suggest giving consideration to reclassifying them to the "Compression" category. This issue is discussed further in section 3.1.2.

[14] 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).

3. Review of DBP's proposal

3.1 Asset classes and lives

3.1.1 DBP's proposal

As discussed above, DBP proposes to augment the current four depreciable asset categories with a further three,[15] and to revise the lives for two of the current classes (for "Metering" and "Other").

DBP's principal motivation for adding the new asset categories and for revising the asset life for "Other" is to create classes that are more appropriate to the secondary assets described earlier, and the lives proposed reflect both a benchmarking against other regulated businesses as well as its own technical expertise on the technical lives of the relevant assets. DBP's proposed revision to the lives of metering assets also reflects a combination of a benchmarking against other regulated businesses as well as its own technical expertise on the technical lives of the relevant assets.

3.1.2 Our review

Table 1 sets out DBP's proposed asset categories for the DBNGP for AA5 compared to AA4, as well as the categories and lives that have been applied by other major transmission pipelines in Australia. We have also aligned the categories that are applied by these other pipelines against those proposed for the DBNGP as best as we have been able.[16]

Table 1 – DBP's proposed lives and other regulatory decisions

	DBNGP - proposal for AA5 [a]	DBNGP - AA4	Goldfields Gas Pipeline		Roma to Brisbane Pipeline		Victorian transmission system		Moomba to Adelaide Pipeline (2001-05)		Financial Reporting Guidelines for Non-scheme Pipelines (default lives)	
	Life	Life	Matching category	Life	Matching category	Life	Matching category	Life	Matching category	Life	Matching category	Life
Pipelines	70	70	Pipelines Valves and scraper stats	70 50	Pipelines Original pipeline	80 60	Pipelines	55	Pipelines	80	Pipelines Valve stations	60 - 80 30 - 50
Compression	30	30	Compression	30	Compression	30	Compression	30	Compression	30	Compression	30 - 35
Metering	30	50	Receipt and delivery point facilities	30	Regulators and meters	40	Citygates and field regs Odourant plants	30 30	Meter stations	15	Metering Citygates, supply regs	30 - 50 30 - 50
Cathodic protection	15	n/a	Cathodic protection	15	n/a		n/a		n/a		n/a	
SCADA / communications / electrical	10	n/a	SCADA and comms	10	Communications	15	n/a		SCADA	15	SCADA (comms)	15
Computers and motor vehicles	5	n/a	n/a		Group IT	5	n/a		n/a		IT systems	5
Other	10	30	Maint bases / depots Other	50 10	SIB capex Capitalised AA costs Other	5 5 5	Gas quality Other	10 5	Depot / office Spares	50 20	Buildings	80

***Note a**: DBP is also proposing that the lives of all assets would be subject to a test of the overall economic life of the pipeline. That aspect of its proposal is a separate issue and outside the scope of this report.*

It can be observed that there is a substantial degree of variation across the pipelines in relation to both the categories of assets applied, and their assumed lives. Whilst some of this reflects the difference in the relevant pipeline's context,[17] much is a consequence of the principles discussed earlier, which concluded that a degree of flexibility in categories and lives is tolerable.

15 Again, this ignores the BEP lease, which is treated as a pipeline asset but with a shorter life reflecting the fact that it was partway through its life when the lease was entered into.

16 There is little public information as to precisely which assets fall within each category, and so we have applied our judgement.

17 For example, the provision of the transmission function in Victoria is split between the VTS and AEMO, and the Moomba-Adelaide Pipeline never went through a subsequent access arrangement review, and so the shortcomings in its asset classes (i.e., not including at least an "other" category) were never remedied.

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.[18]

- 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).[19] 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.

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

In terms of the revision to the life for metering assets, this is consistent with the GGP and the Victorian transmission system, and within the range of the ERA's default lives for non-scheduled pipelines. The current life is higher than all of the other benchmarks, and at the top end of the ERA default life range for non-scheduled pipelines. Thus, we conclude that the proposed revision to this life is reasonable and appropriate.

Lastly, in relation to the life for other assets, we note that the appropriate life for this category will be dependent on the assets that fall into this category, which in turn is a function of the breadth of the previous categories that have been adopted. We have analysed the capital expenditure that fits within this category and observe as follows.

- A substantial portion of the expenditure within this category is comprised of office fit-outs and furniture, staff amenities, tools and other low value items and management projects. For these assets, a 10 year life is consistent with the GGP and higher than the lives for equivalent categories for two of the other pipelines, and so would appear reasonable.

- Expenditure on new maintenance and administrative buildings would also fall into this category, and we observe that a number of the other Australian pipelines have a separate category for such assets (with lives of 50 years generally applied). However, our review of the regulatory decisions for those other pipelines suggests that very little capital expenditure on such assets typically

[18] 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).

[19] 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.

occurs, and this also seems to be the case for the DBNGP.[20] Given the likely small share of capital expenditure on these assets,[21] and the desirability of keeping regulatory calculations simple to the extent possible, we do not think that their inclusion in the "Other" category and with a life of 10 years is inappropriate.

- One issue that we did identify is with a series of large generators and inlet scrubbers that were classified as "Other" in 2010, which account for approximately half of the capital expenditure in the "Other" category during the 2005 to 2020 period. Our review suggests that assets of this type had previously been classified as part of "Compression", and would be classified as "Compression" in the future. When the classifications of the 2010 assets were made, the "Compression" and "Other" categories both had an assumed life of 30 years and so the choice of classification was not material. However, with the proposed revision to the life for "Other" assets, the classification of those assets as "Other" now will result in them having a materially different remaining life than if they had been classified as "Compression". In our view, consideration should be given to transferring those assets to the "Compression" category given the proposed reduction in the life of the "Other" category to 10 years.

3.2 Review of DBP's proposed reclassifications

3.2.1 Sources of information

The principal sources of information that DBP has applied to review the past classification of capital expenditure are:

- the lists of projects, a description and their associated cost that had been provided to the ERA to support the ERA's assessments (for the period spanning 2005 to 2015), and equivalent lists in relation to 2016 onwards (i.e., the period that post-dates the period for which the ERA assessed and approved actual expenditure during the AA4 review)
- DBP's current asset management plans, and
- Further advice from DBP technical staff where necessary.

3.2.2 Our review

Quality of the information

Overall, we found that the information from which DBP sought to test the classification of its past capital expenditures was, in the vast majority of instances, sufficiently granular and detailed to enable the nature of individual assets to be identified, and could also be reconciled to a very close degree back to the amounts that were approved by the ERA (i.e., between 2005 and 2015). Moreover, where the precise nature of the asset was difficult to ascertain, the other information held by DBP (e.g.,

[20] We found about $7 million in capital expenditure over the period that could fall into this category, which is small relative to the total capital expenditure undertaken.

[21] For the DBNGP, buildings to house compressors would fall within "Compression", and a review of how GGP has classified its past augmentation projects suggests that this is also consistent with its asset classifications.

reports in relation to augmentation projects and asset management plans) was available to respond to queries.

There were only three shortcomings in the information to which we draw attention for completeness, although our view is that the information nonetheless is sufficiently robust for the task at hand.

- First, the source of information on capital expenditure on the DBNGP is its "capital works in progress" database (rather than its fixed asset register), and consequently a single completed physical asset may show up as several entries, some of which may be negative entries. Any bias from this shortcoming can be avoided by ensuring that care is taken to reclassify all assets, including negative entries.

- Secondly, the ERA disallowed a "project management retainer fee" that had been embedded in DBP's augmentation capital expenditure for 2010 (of approximately $4 million); however, it implemented the disallowance by including a negative "other" asset for the disallowed amount. Implementing the disallowance in this manner may have caused some bias to asset lives; however, the current proposals would be unlikely to materially change any such bias, and moreover, the modest amount in question mean that the potential magnitude of any bias is not material.

- Thirdly, in the years 2011 to 2015, DBP in its proposals to the ERA aggregated part of its "stay in business" capital expenditure (the part that it referred to "subsequent costs") according to the current asset categories.[22] This aggregation meant that it was not possible to test whether part of this expenditure should be reassigned to one of the new categories. In addition, the ERA disallowed part of this expenditure,[23] and the information on the disallowances is readily available on a disaggregated basis. DBP has not sought to reclassify any of the aggregated amounts, but has proposed reclassifying the disallowances where relevant. Whilst we can see that possible biases may be introduced by reclassifying the disallowed (negative) portion and not the allowed (positive) amounts, the direction of the bias is not obviously clear, and the amounts in question accounted for only a small share of total capital expenditure over the period. Accordingly, whilst some error in relation to this expenditure may have resulted, we do not consider it to be material.

Process followed for the review of re-classifications

Descriptions of asset categories

Our first step in undertaking our review of the re-classification of past capital expenditure was to ensure that there was a clear understanding of the borders of each asset category. As well as facilitating the test of the reclassifications, it was intended that setting down the borders of each class

22 The total submitted capital expenditure in this class was approximately $20 million, of which $11 million was allowed.

23 The ERA's reasons for the disallowance was because it considered part of the expenditure had been assumed to be covered by the allowance for operating expenditure during the access arrangement period in question.

would provide greater transparency about DBP's proposed changes to the asset categories as well as providing greater confidence over the classification of future capital expenditure.[24]

The more detailed descriptions of the asset categories are set out in Appendix A. The basic driver of asset classification is that assets are grouped according to their functions, subject to certain sub-functions being excluded and treated as a different asset category (and with all assets associated with that sub-function also grouped on a functional basis). This is consistent with our experience as to how asset classifications for regulatory purposes is generally undertaken for other pipelines as well as for regulated electricity networks.

Assessment method

Our basic assessment method involved adding a worksheet to the DBP excel spreadsheet to make it easy to identify the instances where an asset re-classification was being proposed, and then to check manually whether the proposed re-classification fit within the scope of the new categories. Note that the focus of this test was where a re-classification had been proposed.

From this initial screen, a list was developed of where the re-classification was obvious,[25] or where the underlying nature of the asset was not clear from the description. For this latter group, further information from DBP staff was sought and the process was iterated.

Lastly, a separate worksheet was created for each of the new asset categories and for the "Other" category to allow for further analysis of the make-up of the assets that were proposed to be included within that category, which was done for a further check.

Assessment results

In aggregate, the total reclassifications proposed amounted to $219 million (853 in number),[26] which was approximately 11 per cent of the capital expenditure over the period. We found that approximately 91 per cent ($189 million) of the proposed reclassifications were obvious from the asset description (85 per cent by number).[27] After receipt of further information and discussions with DBP staff, the final set of asset reclassifications set out in *Asset Restructure Model v14.xls* (1MB) was agreed.[28]

During this assessment, whilst the focus was on the assets where a reclassification had been proposed, we also identified further assets that we considered had been missed in DBP's assessment and should also be reclassified. Most of these assets related to IT projects that otherwise would have fallen into the "Other" category.

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24 While these descriptions are believed to be consistent with how other pipelines apply their equivalent asset categories, we were unable to find detailed descriptions of the scope of the different asset categories for any of the other Australian gas pipelines that are subject to full regulation.

25 For example, there were many vehicles in the list with registration details included.

26 This count of assets includes only those with a positive value, and all dollar values reported and associated percentages are based upon the nominal-dollar values.

27 During our review, DBP updated its proposed actual capital expenditure for AA4. The figures for the proportion of reclassifications that were found to be obvious related to the original (rather than updated) figures for AA4.

28 Received via email on 21 November 2019.

In relation to our further testing of the components of the new asset categories,[29] we found as follows:

- *Cathodic protection / corrosion control* – approximately half (54 per cent) of the reclassified expenditure related to "intelligent pig" runs, a further 29 per cent was associated with "earthing", "TRUs" or "anodes" and 6 per cent was associated with "painting".

- *SCADA / electrical, control and instrumentation / communications* – 47 per cent was associated with monitoring and control equipment (electrical instruments, SCADA, control equipment), 19 per cent is associated with communications networks, 10 per cent with electrical assets and 4 per cent with fire and gas detection systems.

- *Computers (including software) and motor vehicles* – 40 per cent was associated with motor vehicles, 23 per cent was associated with updates to DBP's main business IT systems (which comprises things like its customer billing and maintenance systems) and 24 per cent with general IT, software and hardware assets.

We conclude from this analysis that the main assets that are included in the new categories are consistent with what is intended, and the proportions of expenditures on the different types of assets are all plausible. Accordingly, this additional check did not identify any issues with the proposed reclassifications.

3.3 Review of DBP's calculations

3.3.1 Scope of exercise

The last part of our scope was to review DBP's calculation of the impact of its proposed reclassification of assets. In section 2.2.2, we noted that DBP has proposed giving effect to the asset reclassification by applying a series of factors (proportions) to the RAB value of the current asset categories as at the start of AA5. It follows from this that the key output of the reclassification exercise is the matrix of factors (proportions), which then become inputs into the principal asset roll-forward and tariff calculation model.

3.3.2 Review method and results

The format of the worksheets that we produced to test DBP's proposed asset reclassifications made it a straightforward calculation to calculate independently the proportion of each of the existing categories of assets (by year) that should be transferred to the proposed new asset categories. Accordingly, our method for testing DBP's calculations was simply to compare our independent calculations with DBP's results.

We can confirm that our calculated matrix of proportions matches precisely with DBP's calculations. For completeness, we have included the matrix of results from our worksheet as Appendix B to this report. That matrix shows the proportion of the capital expenditure that has been classified to each of the existing categories that should be transferred to each of the new categories, and does so separately for each year of capital expenditure.

[29] This analysis was based upon searches for key words in the descriptions of the assets, and so should be treated as indicative and not necessarily as comprehensive.

A. Proposed asset categories – scope of the categories

Asset category	Scope of category	Examples of assets
Pipelines	Pipeline system except for those assets included within any of the other categories.	Pipelines Mainline valves
Compression	Assets at a compressor site associated with the compression of natural gas, except for assets in the C&MV, CCP, SCADA-ECI-Comms or Other categories.	Compressors and associated rotating equipment Gas cooling equipment Inlet scrubbers Gas / diesel engine alternators Housing / other facilities associated with compressor site (excluding communications / electrical)
Metering	Assets at a metering site associated with the receipt, delivery, measurement and/or odourisation of natural gas, except for assets in the C&MV, CCP, SCADA-ECI-Comms or Other categories.	Meters Pressure reduction equipment, including gas heaters Odorant injection facilities
Computers and motor vehicles	Personal computers and personal electrical devices, software development and implementation and motor vehicles and like equipment.	Personal computers and other portable electronic devices Telephones Software development / implementation Vehicles and lifting equipment for maintenance and administration (including fit-out)
Cathodic / corrosion protection	Assets and activities for the prevention and/or control of corrosion to pipeline assets.	Intelligent pigging[30] Dig-ups / inspections Earthing Transformer rectifier units Sacrificial anodes Insulation joints / insulating gaskets Painting
SCADA, electrical, control and instrumentation and communications	Assets associated with the supervision, monitoring and control of equipment and associated hazard detection systems. Communications networks. Electrical systems, except for compressor-site generators.	SCADA system Control systems, including instrumentation, PLCs and HMIs Communications infrastructure, including microwave network, fibre Electrical infrastructure, including switching, transformers, load banks and batteries and chargers (excluding compressor-site generators) Fire and gas detection equipment

30 This table sets out the scope of the asset categories that has been applied to derive the reclassifications to the capital expenditure between 2005 and 2020, and also reflects the proposed scope of those categories for future access arrangement periods, except where explicit changes are made to the treatment of certain assets. It is understood that DBP is proposing that "intelligent pigging" be treated as operating expenditure in future periods, which, if accepted, would imply that these activities would no longer be included within the scope of the change to the scope of "Cathodic / corrosion protection" category.

Other	Assets that do not fit into the previous categories.	Office fit-outs and office equipment Staff amenities Tools Caplitalised management activities / initiatives Equipment storage

B. Proportions of capital expenditure reclassified into the new categories

			Destination category Computers and Motor Vehicles	Cathodic / Corrosion Protection	SCADA, ECI and Communications
Original category	2005	Pipeline			
		Compression			1.27%
		Metering			
		Other	59.36%		34.02%
	2006	Pipeline			
		Compression			0.70%
		Metering			
		Other	62.95%		
	2007	Pipeline			
		Compression			
		Metering			
		Other	23.26%		61.27%
	2008	Pipeline		0.02%	
		Compression			18.66%
		Metering			
		Other	61.69%		6.18%
	2009	Pipeline			
		Compression			
		Metering			100.00%
		Other	13.25%		11.84%
	2010	Pipeline		2.83%	
		Compression			3.90%
		Metering			1.67%
		Other			16.99%
	2011	Pipeline		31.95%	10.16%
		Compression		0.01%	29.61%
		Metering		37.12%	52.98%
		Other	11.92%		41.43%
	2012	Pipeline		34.80%	-4.53%
		Compression		-0.02%	29.97%
		Metering		16.08%	85.75%
		Other	29.94%	-0.55%	38.03%
	2013	Pipeline		41.42%	6.77%
		Compression			16.93%
		Metering		11.39%	68.50%
		Other	16.74%	1.47%	19.09%
	2014	Pipeline		32.13%	6.85%
		Compression			44.79%
		Metering			59.16%
		Other	11.80%	10.17%	27.88%
	2015	Pipeline		25.29%	
		Compression	5.98%		51.64%
		Metering	0.00%	4.54%	61.58%
		Other	21.14%	5.23%	27.23%
	2016	Pipeline		60.15%	39.85%
		Compression	3.91%	2.43%	55.44%
		Metering		0.09%	
		Other	46.31%		19.37%
	2017	Pipeline		79.82%	20.18%
		Compression		4.65%	46.90%
		Metering		3.94%	
		Other	33.14%		16.07%
	2018	Pipeline		87.43%	10.89%
		Compression		9.51%	24.49%
		Metering			
		Other	49.25%		21.38%
	2019	Pipeline		97.89%	1.97%
		Compression	4.01%	11.00%	53.34%
		Metering		3.24%	
		Other	35.03%		34.32%
	2020	Pipeline		80.67%	16.75%
		Compression		13.08%	22.10%
		Metering			
		Other	34.15%		29.06%