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Aurizon submission on the Arc Infrastructure proposed Costing Principles

19 April 2024

Dear Jeremy,

Aurizon welcomes the opportunity to provide a submission to the Economic Regulation Authority (**ERA**) in response to Arc Infrastructure's (**Arc**) proposed Costing Principles.

Aurizon is Australia's largest rail operator, with its operations extending across both Arc's rail network in WA and more generally across Australia, including the large-scale bulk haulage of iron ore and coal, integrated supply chain services for other bulk products and the recent introduction of inter-city containerised freight services. Aurizon has strong ambitions to grow its containerised freight and bulk supply chains, which can only be achieved by driving new freight volumes to rail. Accordingly, the ability to efficiently access Arc's rail network is crucial to Aurizon's ability to offer attractive rail haulage services to its customers.

The Costing Principles form a critical foundation for the development of a regulatory asset base (**RAB**) for the Arc network based on a depreciated optimised replacement cost (**DORC**) valuation methodology, and the ongoing assessment of network costs. Hence, they will provide essential guidance in future access price negotiations.

Aurizon's submission contains no confidential information and is in a form suitable for publication by the ERA. Should you have any questions or require further information, please do not hesitate to contact Gayle Andrews at Gayle.Andrews@aurizon.com.au.

Kind regards,

A handwritten signature in black ink, appearing to read "D Steele".

David Steele
Head of Customers and Growth, Bulk

Arc Infrastructure Proposed Costing Principles

Submission to ERA

19 April 2024



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1 Introduction and overview

1.1 Introduction

Aurizon welcomes the opportunity to provide a submission to the Economic Regulation Authority (**ERA**) in response to the Arc Infrastructure (**Arc**) proposed Costing Principles.

Arc has submitted revised Costing Principles as required in accordance with the December 2023 amendments to the *Railways (Access) Code 2000* (**Code** and **Code Amendments**), which have expanded the scope of information required to be addressed. The Costing Principles form a critical foundation for the development of a regulatory asset base (**RAB**) for the Arc network based on a depreciated optimised replacement cost (**DORC**) valuation methodology, and the ongoing assessment of network costs including the roll-forward of the RAB and the assessment of total and incremental costs. The floor and ceiling price tests assessed from these costs are then used to guide negotiations when a party seeks access to Arc's network.

Aurizon is Australia's largest rail operator, with its operations extending across Australia, including the large scale bulk haulage of iron ore and coal, integrated supply chain services for other bulk products and the recent introduction of national inter-city containerised freight services. Aurizon operates extensively across Arc's rail network, and the ability to efficiently negotiate 'fit-for-purpose' access to this network is critical to Aurizon's ability to offer attractive rail haulage services to its customers.

An overarching concern with Arc's proposed Costing Principles is that they do not include sufficient detail to provide effective guidance around the methodologies to be used in establishing a DORC value for the Arc rail network, or in the subsequent establishment and roll-forward of the RAB. The Code Amendments create a major change to the methodology for assessing costs, and as a result to the methodology for determining floor and ceiling prices for a proposal. This will, for the first time, result in costs that reflect the current age and condition of the railway infrastructure, including through depreciation of the asset base. However, the Costing Principles as currently drafted, not only fail to confirm the applicability of previously established regulatory precedent (noting that there are substantial similarities in developing the 'ORC' element of a DORC valuation and the previously adopted Gross Replacement Value (**GRV**) methodology, but also provide no substantive guidance as to how depreciation will be assessed.

As a result, the proposed Costing Principles mean that consideration of all of these issues will be delayed until the valuation itself (due to be submitted by Arc to the ERA in mid 2025). This will unnecessarily complicate and likely delay the ERA's review of the DORC valuation. This reflects that the ERA will need to address these fundamental methodology issues as part of its review of the valuation, and any required change to these methodology issues is likely to create delays due to extent of the required changes to the valuation. The lack of detail in the Costing Principles also creates substantial uncertainty for access seekers and holders, for an extended time period, around the way in which costs will practically be assessed under the Code Amendments.

Beyond this, the lack of detail within the proposed Costing Principles reduces the efficacy of the document in providing guidance around the application of key processes within the Code, and does not achieve the desired increase in transparency around Arc's costing processes.

1.2 Overview of key issues

Aurizon has sought a range of clarifications and/or amendments of the proposed Costing Principles. A number that will potentially have a material impact on the effectiveness of either the initial DORC

valuation of the network or the subsequent RAB roll-forward in generating total costs, in generating economically efficient boundaries to price negotiations.

The key issues that we have identified are:

1. Identification of Modern Equivalent Asset (MEA) standard

The proposed Costing Principles silent on how this standard should be established. The DORC valuation is intended to reflect the value of assets with the equivalent remaining service potential as the existing assets and having regard to the actual quality of service provided. On this basis, options are to either:

- Set the MEA standard to reflect an efficient supply chain solution (which is likely to be a minimum 21TAL standard), however this is much higher standard than is provided in many cases (particularly on the narrow gauge grain lines) and it would be essential to adjust the resulting asset value to reflect the impact of the actual asset compared to MEA;
- Set the MEA standard broadly reflecting the design standard of the existing infrastructure, for example, grain lines valued at a 19TAL/80kph or 16TAL/60kph standard. While there will remain a need to adjust the value to reflect differences between the actual asset and the MEA, these differences will be less. However, this option will have only a modest impact on replacement cost, but will impose materially higher costs on above rail operators and if access charges were set at the resulting ceiling price, it would embed a supply chain cost structure that is higher than would occur under a hypothetical new entrant. Accordingly, the access charge would be inconsistent with the objectives of achieving allocative, productive and dynamic efficiency.

Aurizon considers that the second option is better aligned with the objectives of a DORC valuation, but this is conditional on adopting a robust methodology to adjust the asset value to reflect the difference between actual and MEA standard.

2. Depreciation for the DORC valuation

Assessment of accumulated depreciation is the key mechanism for ensuring that the asset value reflects the current age and condition of the assets, however, the proposed Costing Principles providing very little detail around this.

- (a) Where there are differences between the actual infrastructure standard and the MEA standard, there will be implications for both Arc's costs in maintaining and renewing the infrastructure, and in the costs incurred by operators running train services. In order to ensure that the asset value is internally consistent with the ongoing maintenance costs and is consistent with an efficient supply chain cost, it is essential that adjustments be made to the DORC value:
 - The NPV impact of Arc's higher maintenance or capex costs (compared to the case for the MEA asset) over the remaining asset life should be deducted from the asset value; and
 - The cost impact on operators should also be reflected, either by shortening the asset lives on the assumption that the MEA train service is operated, or by deducting the NPV impact on operator costs (compared to the case for the MEA standard service) over the remaining asset life from the asset value.
- (b) Remaining asset lives should be set at the lesser of remaining physical or economic life, with earthworks retaining a 100 year standard life. To the extent that information is available on asset commissioning date, this – together with standard lives - should be used as a starting point in assessing remaining useful life, with asset condition then informing the assessment. Where assets remain in place following expiry of their standard life, they should be ascribed a value of zero. This reflects the principle that assets should only be depreciated once.

(c) Depreciation should be calculated on a straight line basis, consistent with standard regulatory precedent.

3. Depreciation for the RAB rollforward

The natural incentive for an owner of a regulated asset to maximise the initial DORC value of its asset by adopting long remaining lives to minimise accumulated depreciation, and then, once the RAB is established, to shorten remaining economic life to accelerate depreciation and reduce asset stranding risk. Therefore it is important that decisions to change economic life, or to change the depreciation profile of the assets, only occur where Arc can demonstrate that there is a material change in circumstances that impact on the expected use or risk of a route, and that warrant the change in economic life or change in depreciation profile.

Beyond this, Arc should not be permitted to accelerate depreciation to reflect its remaining lease term. Lease term is not relevant to the economic life of the assets, but rather to the value of Arc's lease compared to DORC value. Permitting Arc to accelerate depreciation of the assets over the remaining term of its lease will distort the position of current and future users of the route, by requiring the current generation of users to pay more for the asset than future generations of users. It will also change the balance of lease value, increasing the value of Arc's current lease and reducing the value of any subsequent lease. Such a decision is the responsibility of the WA Government, and Arc should not be permitted to increase its lease value (to the detriment of a future railway manager) through the Costing Principles.

2 Initial RAB

2.1 DORC valuation methodology

2.1.1 Purpose of the DORC valuation methodology

A major element of the Code Amendments has been to change the basis for assessing costs for the purpose of assessing Ceiling Price from the previous cost annuity approach using a GRV valuation, which essentially assessed capital and operating costs assuming a new replacement asset, to a more conventional building blocks cost assessment. Key elements of this approach include:

- > Assets to be valued using the DORC valuation methodology, and incorporated into a RAB;
- > The RAB to be annually rolled forward to reflect economic depreciation as well as efficient capital additions; and
- > Operating costs to be assessed having regard to the actual age and condition of the assets.

The DORC valuation methodology is the most commonly used methodology for regulatory valuations of natural monopoly assets in these circumstances, as it reflects the costs that a hypothetical new entrant would pay to develop a replacement asset with equivalent service potential, and hence represents the maximum value that would be placed on that asset if it were able to be traded in a hypothetically competitive market for used assets. A DORC valuation will yield the highest tariff that may be consistent with the objectives of achieving allocative, productive and dynamic efficiency, as a tariff above this level would support inefficient bypass of the existing asset.

However, the context of the DORC valuation for Arc's rail network is a little different to most regulated assets. In most regulatory settings, a DORC valuation is undertaken for assets that are broadly consistent with MEA, and where willingness to pay and demand generates revenue sufficient to fund full replacement of the assets. In this context, the primary purpose of the asset valuation is to determine the maximum allowable revenue and services as a binding revenue constraint.

In contrast, for many of Arc's routes, the rail infrastructure standard is substantially less than the MEA, and the demand and willingness to pay of users is often insufficient to fund full replacement of the assets. In this context, in determining to adopt the DORC valuation methodology, a key benefit identified by WA Treasury was to more accurately represent the permissible range of economically efficient prices. This is because the ceiling price will more closely reflect the service potential and actual costs incurred by the railway owner given the condition of the asset, and therefore provides more realistic guidance around the maximum price.¹ This emphasises the need for the asset valuation to reflect a reasonable representation of the service potential of the asset in order to support prices, demand and revenue commensurate with the sustainable provision of rail services on those corridors.

In conducting a DORC valuation of Arc's existing infrastructure, it is critical that any decisions on the methodology and approach for that valuation are grounded by reference to this purpose.

¹ Department of Treasury (2020) Review of the Western Australian Rail Access Regime: Final Decision Paper, February, p.7, 14-15

2.1.2 DORC assessment process

There is a strong body of regulatory precedent for developing DORC values for transport infrastructure including rail networks. The process most typically followed to establish a RAB using a DORC valuation is:

- > First, to determine the current cost of replacing the assets using modern equivalent assets (replacement cost or **RC**);
- > Second, to optimise the modern equivalent assets so that the network is appropriately specified to meet the actual and reasonably projected demand (optimised replacement cost or **ORC**);
- > Third, to depreciate the assets to reflect their remaining service potential given their actual age and condition (depreciated optimised replacement cost or **DORC**); and
- > Finally, to make any adjustments required prior to establishing the RAB such as the removal of contributed assets.

While, consistent with the requirements of the Code Amendments, the proposed Costing Principles clearly specify that Contributed Capital will be excluded from the RAB, the process for doing so is unclear, with Clause 2.1 stating that this should be excluded at the RC step, but Clause 2.4 implying that the adjustment occurs in establishing the initial RAB.

Aurizon considers that optimisation can only practically be assessed having regard to all of the assets valued in the 'RC' step, and therefore that the adjustment to exclude Contributed Capital should occur *after* this step, consistent with the typical process described above. Aurizon recommends that Clause 2.1 of the Costing Principles be amended to reflect this.

2.2 Replacement Cost

2.2.1 Assets to be valued

The Costing Principles do not specifically discuss the assets to be included in the valuation, except to state that the valuation will include applicable Railway Infrastructure for each Route Section.² Railway Infrastructure is defined in the Code as meaning:

the facilities necessary for the operation of a railway, including —

- a) railway track, associated track structures, over or under track structures, supports (including supports for equipment or items associated with the use of a railway); and
- b) tunnels and bridges; and
- c) stations and platforms; and
- d) train control systems, signalling systems and communication systems; and
- e) electric traction infrastructure; and
- f) buildings and workshops; and

² Arc Infrastructure Proposed Costing Principles, CI 2.1

- g) associated plant machinery and equipment,
- but not including —
- h) sidings or spur lines that are excluded by section 3(3) or (4) of the Act from being railway infrastructure; and
 - i) rolling stock, rolling stock maintenance facilities, office buildings, housing, freight centres, and terminal yards and depots.

There is some ambiguity whether, and if so, the extent to which cuttings and embankments form part of Railway Infrastructure. Schedule 4, Division 1, Cl 2 of the Code provides that, for the purpose of determining capital costs, railway infrastructure includes a cutting or embankment made for any reason after the commencement of this Code. It is inferred that cuttings and embankments made prior to commencement of the Code are excluded from Railway Infrastructure, but this is not explicit.

The exclusion of pre-2000 cuttings and embankments is a reasonable and appropriate recognition that once a cutting and embankment has been undertaken then it is effectively an endowment to the lessor of the railway for which the lessor is unlikely to incur costs in maintaining or replacing. That is, they no longer represent a cost in the provision of the railway. Consequently, the replacement cost of these cuttings and embankments should not be considered an efficient cost for the purpose of ceiling limit. For these reasons, this same approach was adopted in NSW in setting the initial RAB for rail infrastructure in the Hunter Valley rail network.³

In previous GRV assessments of Railway Infrastructure, the ERA has confirmed the scope of assets to be included in a valuation of Railway Infrastructure, including requiring the exclusion of cuttings and embankments made prior to commencement of the Code.⁴ The Costing Principles should explicitly identify assets to be included in the valuation, which should be consistent with the ERA's previous determinations on this issue.

In addition, while not covered within the definition of Railway Infrastructure, Schedule 4, Division 1, Clause 5 provides for capital costs to include amounts in relation to the amortisation of costs incurred in relation to the acquisition of land used for constructing, maintaining or operating a relevant railway, where these costs have been incurred after commencement of the Code. While such land is not to be included in the DORC valuation (as the Code explicitly provides for this to be valued at cost), the Costing Principles should identify how any land costs will be identified and how they will be incorporated into the assessment of costs under the Code.

2.2.2 Identification of MEA Standard

The Costing Principles state that the asset replacement costs will be based on construction of modern equivalent assets or MEA. However, they provide no guidance as to the standard for which MEA is to be assessed.⁵

The MEA is normally defined as that required to deliver an equivalent level of service (in terms of both service quality and quantity) as the incumbent asset. For Arc's most heavily trafficked routes (eg the Eastern Goldfields Route), defining the MEA by reference to the service quality of the incumbent

³ IPART (1999), Aspects of the NSW Rail Access Regime, p.24.

⁴ See for example ERA (2009); WestNet Rail's Floor And Ceiling Costs Review – Final Determination on the Proposed 2009-10 Floor and Ceiling Costs; 30 June 2009, p.15-16.

⁵ Arc Infrastructure Proposed Costing Principles, Cl 2.3

infrastructure asset is uncontroversial, as the service standards provided by the infrastructure are consistent with contemporary efficient train operating paradigms.

However, there are significant elements of the Arc network – particularly the narrow gauge grain lines – where the current infrastructure service quality is far below both the standard required for efficient contemporary train services, or the standard to which any new infrastructure would ever be built.

In previous GRV assessments, the ERA defined a range of MEA standards with, for example, grain lines valued at a 19TAL/80kph or 16TAL/60kph standard.⁶ However, we make the following observations about these previously used MEA standards:

- > The Code specified that the GRV would be calculated as the lowest current cost to replace existing assets with assets that have the capacity to provide the level of service that meets the actual and reasonably projected demand and are, if appropriate, MEA.⁷ In interpreting this requirement, the regulator highlighted that the approach to estimating the floor and ceiling price was not based on the actual cost of the network but rather the hypothetical GRV assuming efficient practices. The regulator confirmed that there was no obligation for the railway owner to provide a network that is MEA, but Schedule 4, Clause 13(c)(i) requires the price for access to reflect the standard of the infrastructure.⁸
- > Given this objective, the regulator reasonably required that the MEA standard not be set above the current design standard of the infrastructure, as this would have inappropriately resulted in a higher assessed replacement cost to reflect an infrastructure standard that was not being provided.
- > Nevertheless, these MEA standards are set lower than would actually be constructed by a hypothetical new entrant. New rail infrastructure in Australia is typically constructed to at least a 21TAL standard, enabling the operation of consistent fleets utilising readily acquired rollingstock. A lower TAL requirement imposes a requirement for bespoke lightweight locomotives and low capacity wagons. The available reduction in capex to build infrastructure to a lighter standard is modest, and is insufficient to compensate for the loss in above rail efficiency;
- > In many cases, the actual standard of service provided by the network is lower again than the nominated MEA standard (particularly in relation to allowable speed, especially during summer months where heat restrictions are applied).

In contrast to the previous GRV method, the DORC valuation is intended to reflect the value of assets with the equivalent remaining service potential as the existing assets. Accordingly, the implications of the actual quality of service provided by those assets compared to the MEA must therefore be addressed.

We have discussed the issues associated with the difference between actual standard and nominated MEA standard in section 2.4 under asset depreciation. However, there is a fundamental issue around how the MEA standard itself should be defined. There are two broad options available:

- A. A broader range of MEA standards could be adopted, aligning with the design standards for the existing infrastructure. This is consistent with the approach previously accepted by the ERA under the GRV methodology, and will reduce the extent to which differences between actual standard and nominated MEA standard need to be considered as part of asset depreciation. However, the concern with this approach is that, if access charges were set at the ceiling price, it would embed a supply chain cost structure that is higher than would occur under a hypothetical new entrant. This will occur as the modest cost savings associated with constructing to a lower infrastructure standard would not be sufficient to offset the higher costs that this infrastructure standard imposes on rail operators

⁶ See for example ERA (2009); WestNet Rail's Floor And Ceiling Costs Review – Final Determination on the Proposed 2009-10 Floor and Ceiling Costs; 30 June 2009, p.42-43.

⁷ Railways (Access) Code 2000; 5 December 2015; Schedule 4, Division 1, Clause (4)(c)

⁸ Office of the Rail Access Regulator (2002); Costing Principles to Apply to Westnet Rail; p.7-8

compared to a contemporary efficient practices. It follows that if access charges were to be set at the resulting ceiling price, this would not be consistent with the objectives of achieving allocative, productive and dynamic efficiency;

- B. A smaller range of MEA standards could be adopted, aligning with contemporary efficient train operating practices. This would, for example, be likely to mean that all routes would be valued as if they were at minimum 21TAL. However, this approach would give rise to much larger differences between MEA and actual standards, and it would be essential that adjustments were made to fully account for these differences.

Aurizon considers that the second option is better aligned with the objectives of the DORC valuation, as it will more closely reflect the actual remaining service potential of the rail infrastructure. We note that the ACCC has previously taken this approach in its assessment of the valuation of existing rail infrastructure being introduced into the Hunter Valley RAB. In its valuation of the Gap to Turravan section, it considered setting the MEA standard at either 25TAL (reflecting current network capability) or 30TAL (reflecting future planned network capability). Ultimately, it adopted a 25TAL MEA standard, as it considered it unclear whether it would be more optimal from a supply chain perspective to adopt a 30TAL MEA standard. However, the ACCC acknowledged that setting the MEA standard at 30TAL would have impacts on both the replacement cost of the asset, but also on the remaining life of the existing asset, as this would need to be set on the assumption that 30TAL trains were operating on the existing asset, resulting in more wear and tear and shorter remaining lives.⁹ Accordingly, adopting a robust methodology used to adjust the asset value to reflect the difference between actual and MEA standard is critical, if this second option is to be adopted.

2.2.3 Construction approach

Consistent with typical regulatory precedent, the construction approach to be adopted should reflect:

- > A brownfields development environment – that is while the infrastructure is assumed to be developed from a virgin site, it should have regard to the current surrounding land use and development; and
- > Construction in a single stage.

The Costing Principles appear consistent with the first point¹⁰ (although this could be more clearly stated) but should be amended to specify an assumption of a single stage construction approach.

2.2.4 Financing costs

Aurizon acknowledges that the inclusion of interest during construction, based on the regulatory WACC over a realistic project development duration, reflects typical regulatory precedent. However, the Costing Principles are ambiguous on the WACC to be applied, simply stating that it should be the 'appropriate WACC'.¹¹ We consider that the Costing Principles should clarify that the WACC to be applied is:

- > The WACC determined by the ERA to be appropriate as at the valuation date; and
- > Expressed in real terms.

The use of a real WACC for assessing IDC is important, as the valuation is assessed in current dollars as at the valuation date, and already incorporates any inflation impacts that would have occurred over the project development duration.

⁹ ACCC (2013); Position Paper – Australian Rail Track Corporation's proposed variation of the Hunter Valley Access Undertaking to include the Gap to Turravan Segments; 12 December 2013; p.24-25

¹⁰ Arc Infrastructure Proposed Costing Principles, CI 2.6

¹¹ Arc Infrastructure Proposed Costing Principles, CI 2.3

2.3 Optimisation

The Costing Principles include a very high level statement around how optimisation will be applied.¹² Aurizon considers that the Costing Principles should provide more specific guidance around the matters that will and won't be considered as part of the optimisation step.

When assessing a DORC valuation of rail infrastructure assets, regulators have typically:¹³

- > Accepted the alignment and gauge of the existing rail network;
- > Optimised the asset base to remove redundant and over-capacity assets, on the basis that the use of a MEA standard asset will automatically remove any over-designed features of the existing assets. Over-capacity assets are assessed on the basis of existing and anticipated future demand for rail services on the network.

The Costing Principles should include additional detail around the considerations in determining actual and future demand, and the level of service required to meet that demand.

In addition, the impact on a DORC asset value due to the actual asset differing from the assumed MEA standard have, in different valuations, been considered as part of optimisation¹⁴, depreciation¹⁵ or subsequent adjustments.¹⁶ For the purpose of this submission, we have addressed this issue under the depreciation step, however consider that the valuation step at which this issue is addressed is not the important issue, provided that it is ultimately reflected in the final valuation. The Costing Principles should clearly specify the valuation step where these issues will be considered.

2.4 Depreciation

The approach taken to depreciation of Arc's Railway Infrastructure will be critical in ensuring that the resulting DORC valuation achieves its purpose of valuing the remaining service potential of the existing assets. However, the proposed Costing Principles provide little guidance to how depreciation will be assessed.¹⁷ Aurizon considers that it is essential that the Costing Principles provide greater guidance as to the assessment of depreciation for Arc's infrastructure assets. The key issues that we consider need to be addressed are grouped as follows:

- > Difference between actual infrastructure standard and MEA standard.
- > Assessment of remaining asset life; and
- > Depreciation profile to be adopted.

¹² Arc Infrastructure Proposed Costing Principles, CI 2.5

¹³ See for example GHD Advisory (2021); Developing a Regulatory Asset Base value for the Australian Rail Track Corporation Interstate Network, using the Depreciated Optimised Replacement Cost method – Concluding Public Report; 7 October 2021; p.60-61.

¹⁴ ACCC (2014); Decision – Australian Rail Track Corporation's variation of the Hunter Valley Access Undertaking to include the Gap to Turravan Segments; 25 June 2014; p.31-32

¹⁵ QCA (2000), Draft Decision on QR's Draft Undertaking, Volume 3 – Reference Tariffs, p.161.

¹⁶ GHD Advisory (2021); Developing a Regulatory Asset Base value for the Australian Rail Track Corporation Interstate Network, using the Depreciated Optimised Replacement Cost method – Concluding Public Report; 7 October 2021; p.90-97

¹⁷ Arc Infrastructure Proposed Costing Principles, CI 2.7

2.4.1 Difference between actual infrastructure standard and MEA standard

Where there are differences between the actual infrastructure standard and the MEA standard, a number of ongoing cost implications can arise, including:

- > Arc's actual maintenance cost profiles (including major periodic maintenance and capex) may be higher than would be the case if a MEA standard asset were in place; and
- > The costs incurred by rail operators using that infrastructure may be higher than would be the case if a MEA standard asset were in place.

These issues are addressed in turn.

Network maintenance cost implications

One of the main benefits of moving to the DORC valuation methodology is to properly reflect the actual age and condition of the asset in both the assessment of the asset value, and in the assessment of future maintenance and capex costs, hence providing more accurate information on the permissible range of economically efficient prices.¹⁸ One of the ongoing concerns with the previous GRV methodology is that it relied upon assessment of operating expenditure under hypothetical conditions, with the result that the assessed efficient operating cost bore no real relevance to the actual operating costs incurred. This was a key contributor to the floor price assessed under the GRV methodology being less than Arc's incremental cost of continuing to provide the infrastructure.

When considering this same issue in relation to ARTC's Gap to Turrawan segment, the ACCC highlighted that the use of a hypothetical expenditure profile (based on the MEA asset) could create an incentive for ARTC to minimise operating and maintenance expenditure on old assets, as it would be unable to recover these costs in its permitted opex allowances.¹⁹

In order to ensure internal consistency between the assessment of future operating and maintenance costs and the initial asset valuation, it is therefore necessary to adjust the asset value to reflect differences between Arc's operating and maintenance cost profiles given the existing asset condition, and those that would be expected from the assumed MEA standard asset. The approach that is usually taken is to calculate the NPV of operating expenditure savings that would be anticipated due to:²⁰

- > The assumption of MEA standard assets, where higher costs are expected to be incurred given the nature of the actual existing assets; and
- > Optimisation, where assets are excluded from the optimised network configuration for valuation purposes, but where the actual configuration of assets means that costs will continue to be incurred in maintaining those assets.

In calculating this NPV:²¹

- > The opex cost savings should be calculated using the remaining life of the existing assets, on the assumption that the opex cost penalty will continue until such time that the assets are either disposed of or renewed and on the assumption that the assets would be replaced with MEA. If for any reason the assets are not replaced at the end of the assumed life (eg, if their life is effectively extended with

¹⁸ WA Department of Treasury (2020); Review of the Western Australian Rail Access Regime – Final Decision Paper, February 2020, p.14-15

¹⁹ ACCC (2014); Decision – Australian Rail Track Corporation's variation of the Hunter Valley Access Undertaking to include the Gap to Turrawan Segments; 25 June 2014; p.26

²⁰ See for example GHD Advisory (2021); Developing a Regulatory Asset Base value for the Australian Rail Track Corporation Interstate Network, using the Depreciated Optimised Replacement Cost method – Concluding Public Report; 7 October 2021; p 92-93

²¹ GHD Advisory (2021); Developing a Regulatory Asset Base value for the Australian Rail Track Corporation Interstate Network, using the Depreciated Optimised Replacement Cost method – Concluding Public Report; 7 October 2021; p 92.

higher maintenance costs), then the assets will be held in the RAB at zero value, no further opex deductions would be applied;

> The discount rate to be applied should again be the ERA approved WACC, expressed in real terms.

Rail operator cost implications

In some cases, the differences between the actual asset and the MEA standard asset have implications not only for the ongoing costs of operating and maintaining the infrastructure, but also for the ongoing costs for rail operators to run services on that infrastructure. On Arc's network, these above rail cost implications are most acute on the narrow gauge grain lines where the actual lines are heavily speed restricted compared to MEA standard (particularly during summer months) and often require the imposition of additional restrictive operating practices. Further, TAL limits on these lines require the operation of lightweight locomotives and lightly loaded wagons, which imposes a requirement to run more train services than would be required if the railway were actually constructed to MEA standard.

If the additional cost consequences for rail operators from the actual infrastructure being less than MEA standard are not reflected in adjustments to the DORC value of that infrastructure, then the resulting total supply chain cost for end customers (assuming prices are set at the ceiling price) would exceed the costs if a hypothetical new entrant were to replace the assets. This outcome would not be consistent with the objectives of achieving allocative, productive and dynamic efficiency.

There are two options for how the supply chain cost implications can be reflected in the asset valuation:

- A. The remaining lives for existing assets could be assessed based on the assumption that trains will operate at the MEA standard. This is the approach that was anticipated in the ACCC's assessment of the DORC valuation of ARTC's Gap to Turrowan segment²², where it was acknowledged that setting the MEA standard at 30TAL would have impacts on both the replacement cost of the asset, but also on the remaining life of the existing asset, as this would need to be set on the assumption that 30TAL trains were operating on the existing asset, resulting in more wear and tear and shorter remaining lives.
- B. Alternately, the NPV of ***rail operator*** operating expenditure savings anticipated due to the assumption of MEA standard assets could be deducted from the DORC valuation. This is consistent with the approach used to adjust for network maintenance cost implications.

The first approach may be the most reasonable approach to adopt in circumstances where the differences between actual and MEA standard are modest, and it is in fact possible to run a MEA standard train service on the actual asset. This reflects the case for the ARTC's Gap to Turrowan assessment, where the use of higher axle load trains was presumably possible, but with the implication of significantly shortening the life of the existing assets.

However, it is conceptually difficult to apply this approach if the actual standard of the infrastructure means that it is not possible to run a MEA standard service, as we consider likely to be the case on much of Arc's narrow gauge grain network. For example, would this mean that there is no remaining life for existing assets unable to be used for the MEA standard service and that they should therefore be valued at zero?

Accordingly, Aurizon considers that the second approach may be better suited to application on Arc's network, given the extent of differences between the actual infrastructure and the MEA standard.

²² ACCC (2013); Position Paper – Australian Rail Track Corporation's proposed variation of the Hunter Valley Access Undertaking to include the Gap to Turrowan Segments; 12 December 2013; p.24-25

2.4.2 Assessment of remaining asset life

Process for assessing remaining asset life

The proposed Costing Principles provide that the optimised replacement cost will be depreciated to reflect the Railway Infrastructure's Economic Life as at the valuation date. Economic Life is defined in the definition sections, consistent with the Code, to mean the period over which the asset is reasonably expected to remain economically usable by one or more entities. However, the proposed Costing Principles go on to specify the approach that will be used in determining Economic Life, which essentially describe the process of assessing remaining physical life based on current asset condition and the forecast rate of asset consumption.²³

Aurizon considers that the process and terminology used in the proposed Costing Principles are confusing, and should clearly delineate the concepts of physical life and economic life. For regulatory purposes, the life of an asset is generally assessed as the shorter of its economic or physical life. This reflects that a regulatory valuation is made for the purpose of assessing charges for the use of the asset. If an asset remains in good physical condition, but there is no remaining demand for a service, the any asset value remaining at that time will be stranded.

Remaining physical life

The process specified in the Costing Principles for assessing remaining physical life should be consistent with the approach typically adopted in regulatory DORC valuations, which is:

- > Where possible, identify the asset commissioning date for the relevant asset;
- > Identify the nominal remaining physical asset life, given the standard design life for that asset type;
- > Review the nominal remaining physical asset life based on the asset's condition, and adjust the remaining asset life depending on:
 - the relativity of the current asset condition compared to that which would normally be expected given standard design life;
 - the expected remaining life of the asset given current and expected use; and
 - any planned earlier replacement.

However, as has been the case for other rail infrastructure DORC valuations where initial infrastructure construction occurred decades ago, while it will be possible to identify the initial construction date for rail routes, we assume that Arc will not have reliable commissioning date information for many assets where they have been replaced since initial construction. For this reason, we agree that it is necessary to also provide a methodology for assessing remaining useful life where there is no data on asset commissioning date. In these circumstances, we agree it is reasonable to assess remaining physical life based on the physical condition of the asset and the expected rate of asset deterioration (as described in the proposed Costing Principles). However, where information on asset commissioning date is available, this should form a starting point for assessing remaining physical life.

Economic life expectations

As set out in the Code, the economic life of an asset refers to the life over which it is expected to provide a service of value to users, and therefore reflects the period over which demand for the service is expected to continue.

²³ Arc Infrastructure Proposed Costing Principles, CI 2.7

A DORC value is intended to reflect the value of the remaining service potential of assets. If those assets are expected to have a finite economic life, and if this economic life has substantially expired, then the economic service potential of those assets has also substantially expired. In these circumstances, the asset should be depreciated over its economic life – as anticipated by the Code.

Accordingly, when assessing remaining asset life for the DORC valuation, the Costing Principles should clearly specify:

- > any Route Sections for which Arc considers have an economic life constraint due to an expected cessation in demand, together with its nominated Economic Life for those Route Sections; and
- > that the remaining life for an asset will be the lesser of its remaining physical life or the remaining Economic Life of the relevant Route Section.

Life of earthworks assets

In the proposed Costing Principles, Arc has proposed to change the standard life for earthworks assets from its previously adopted 100 year life²⁴ to a perpetual life.²⁵

In regulatory DORC valuations of railway assets, earthworks are typically assigned a finite life, with accumulated depreciation recognised in the valuation. All regulatory DORC valuations of rail infrastructure that we have reviewed have taken this approach, usually adopting a standard life of 100 years. This includes the following valuations:²⁶

- > The 2000 valuation of the Central Queensland Coal Network accepted by the QCA, where earthworks were depreciated over a 100 year life from when the route was initially constructed or rebuilt to heavy haul standard;²⁷
- > DORC valuations of the ARTC interstate rail network accepted by the ACCC in 2001²⁸ and 2007²⁹ where earthworks were depreciated according to their age relative to a life of 100 years;
- > The 2009 valuation of the Springsure-Nogoa-Burngrove route in central Queensland, accepted by the QCA where earthworks were depreciated with a capped remaining economic life of 50 years for Nogoa-Burngrove and 30 years for Springsure-Nogoa;³⁰
- > The 2010 valuation of ARTC's Hunter Valley Zone 3 existing rail infrastructure, where the ACCC accepted that, notwithstanding that ARTC considered earthworks to be physically perpetual in nature, they were depreciated by a factor of 50%, presumably to reflect an estimate of the economic life consumed;³¹

²⁴ Arc Infrastructure (2020), Part 5 Instruments – Costing Principles, Revision 1.09 Approved May 2020, p.17

²⁵ Arc Infrastructure Proposed Costing Principles, CI 2.7

²⁶ Note, the initial value of the Hunter Valley Rail Network included no value for corridor formation assets on the basis that they were not vested in Rail Access Corporation (the owner of the rail network), refer IPART (1999), Aspects of the NSW Rail Access Regime, p.24.

²⁷ QCA (2000), Draft Decision on QR's Draft Undertaking, Volume 3 – Reference Tariffs, p.164, 169.

²⁸ Booz Allen & Hamilton (2001); ARTC Standard Gauge Rail Network DORC; February 2001, p.23

²⁹ Booz Allen Hamilton (2007), Standard Gauge Rail Network DORC; January 2007; p.22.

³⁰ QCA (2009), Draft Decision on QR Network's Draft Amending Access Undertaking – West Blackwater Reference Tariff, March 2009, p.8.

³¹ ACCC (2010), Position paper in relation to the Australian Rail Track Corporation's proposed Hunter Valley Rail Network Access Undertaking, December 2010; p.494 and Booz & Co (2008), ARTC Standard Gauge Rail Network DORC, June 2008, p.18.

- > the DORC valuation of the Gap to Turrowan segment accepted by the ACCC in 2014, in which accumulated depreciation was applied to earthworks assets, again presumably to reflect an estimate of the economic life consumed;³² and
- > in developing a RAB for Queensland Rail's West Moreton rail network in 2014, the QCA applied a nominal life of 100 years to earthworks assets, and given the time that had expired since they were originally constructed (over 100 years) treated these assets as fully life expired³³ (this is discussed further below).

We acknowledge that, in developing its DORC valuation for ARTC's Interstate Network, GHD took the view that earthworks should be treated as a perpetual asset with no accumulated depreciation applied.³⁴ However, we also note that the ACCC raised concerns with this approach,³⁵ and given that this did not ultimately get incorporated in an ACCC endorsed RAB, the ACCC did not make a final determination on this issue.

Aurizon does not consider the Code provides the flexibility to classify an asset as a perpetual asset as it would not satisfy the requirements for establishing the initial asset base under section 47J, which requires the regulator to have also approved the depreciation schedule under section 47K(3). Where an asset is considered a perpetual asset then there is no annual depreciation for that asset. However, section 47K(5) requires the depreciation schedule to set out, among other things:

- > the annual depreciation profile for each asset or group of assets;
- > provide for each asset or group of assets to be depreciated over its economic life; and
- > that each asset be depreciated only once.

Clearly, the depreciation schedule required under section 47K and which determines forward looking depreciation must also recognise the extent of accumulated depreciation.

Even if the Code were to allow the classification of earthworks as a perpetual asset, this would not be a reasonable nor appropriate outcome for the following reasons:

- > Formation assets do physically deteriorate over time and with continued use. Further, ongoing evolution in construction standards mean that the service potential embodied in these assets does not remain constant over the longer term – newly constructed railway alignments provide for a higher quality, more resilient railway;
- > The price limits set for Arc's past access charges include recovery of earthworks assets, with ceiling price determinations previously made under the Code reflecting a 100 year life for earthworks assets. This ceiling price has been used in the assessment of over-payments for Code based access agreements, and has also influenced access seekers' decisions as to whether to pursue a Code based access agreement (which would in turn give access to over-payment entitlements). To now exclude accumulated depreciation on earthworks would be akin to allowing Arc to earn a return on previously depreciated assets, and would therefore be inconsistent with the principle established in the Code that asset be depreciated only once (i.e. current customers would be required to pay for the economic benefit which has accrued to prior users of the railway);

³² While not specifically discussed in the ACCC's decision on the Gap to Turrowan segment, the application of depreciation to earthworks assets can be seen from the report Marsden Jacob Associates (2013); Review of Australian Rail Track Corporation's valuation for the Gap to Turrowan Segment of the Hunter Valley rail network; 30 November 2013; p.52.

³³ QCA (2016); Decision on Queensland Rail's Draft Access Undertaking, June 2016, p.207.

³⁴ GHD Advisory (2021); Developing a Regulatory Asset Base value for the Australian Rail Track Corporation Interstate Network, using the Depreciated Optimised Replacement Cost method – Concluding Public Report; 7 October 2021; p 82-84.

³⁵ ACCC (2021); DORC Valuation of ARTC's Interstate Network – ACCC consultation paper; p.14.

- > The initial investment in rail corridors was undertaken under public ownership, and this investment was:
 - unlikely to have been made on the expectation of a perpetual asset life; and
 - made for the purpose of broader economic and public interest criteria that achieved the recovery of the original capital investment through economic returns to the state.

The treatment of earthworks as a perpetual asset where this was not the basis for the original investment decision will therefore likely deliver windfall or speculative gain to the railway owner.³⁶

While the proposed Costing Principles, provide for earthworks to be treated as a physically perpetual asset, they also provide that the optimised replacement cost will be depreciated to reflect the Railway Infrastructure's Economic Life as at the valuation date.³⁷ Accordingly, it is unclear how Arc ultimately proposes to treat earthworks in the DORC valuation.

Aurizon considers that the proposed Costing Principles should be amended to revert to the previously established precedent of a 100 year life for earthworks assets.

Assets with continuing use beyond initial life expectations

Given the age of much of Arc's network, there is an issue around how assets should be valued where they continue to be used beyond their initially expected useful life. This was considered in detail by the QCA as part of the initial valuation of Queensland Rail's West Moreton system, with the QCA concluding that if an asset's actual life exceeds its expected useful life (except where this is achieved through life extending capex) it can reasonably be anticipated that it has been fully depreciated, and it should not then be revalued and included in the RAB to allow the investment to be recovered a second time. It follows that a life expired asset should not be included in the initial asset base as this would enable double recovery of the investment. Accordingly, the QCA required that any assets that continued to be used beyond their initially expected life should be valued at zero. This included long life assets such as formation, tunnels and bridges that had initially been constructed over 100 years prior to the valuation, but remained in use, facilitated by ongoing maintenance works.³⁸

The QCA's approach to this issue was reviewed by Professor Flavio Menezes, who confirmed the view that allowing an infrastructure owner to earn a return on assets with an expired life would yield windfall gains, and would be inconsistent with the objectives of achieving allocative, productive and dynamic efficiency. Professor Menezes concluded that the QCA's proposal to place a zero value on longstanding assets with expired expected useful lives was appropriate and mitigates the risk that access prices are set too high and impact adversely on competition in a relevant market.³⁹

Consistent with this established regulatory precedent, Aurizon considers that any assets that continue to be used beyond their initially expected useful life, and which are not subject to any prospect of uneconomic duplication, should be valued at zero. This requirement should be specified in the Costing Principles.

We acknowledge that there may be concern around the combined effect of our recommended approaches for adjusting the asset value to reflect differences in costs associated with the actual asset compared to the MEA asset, the requirement that assets be depreciated over the shorter of their

³⁶ Professor Flavio Menezes (2015); A preliminary view: Regulatory economics assessment of the proposed Western System asset valuation approaches; 8 April 2015; p.24-25

³⁷ Arc Infrastructure Proposed Costing Principles, CI 2.7

³⁸ QCA (2014); Draft Decision – Queensland Rail's 2013 Draft Access Undertaking; October 2014; p.137-138 and QCA (2016); Decision on Queensland Rail's Draft Access Undertaking, June 2016, p.207.

³⁹ Professor Flavio Menezes (2015); A preliminary view: Regulatory economics assessment of the proposed Western System asset valuation approaches; 8 April 2015; p.24-25.

expected physical or economic life (with a maximum 100 year life applied to earthworks assets) and that assets that continue in use beyond their expected useful life be valued at zero. We consider that these recommendations can be applied in an internally consistent way, provided that the DORC deductions to reflect differences in costs associated with the actual asset compared to the MEA asset are assessed over the remaining life of the asset. Where the asset is continuing to be used beyond its expected useful life and is valued at zero, there will be no remaining life for that asset, and no opex related deduction would be applied.

2.4.3 Depreciation profile to be adopted

The Costing Principles are silent on the depreciation profile to be adopted in the DORC valuation, stating only that the projected life of the asset will be compared to the Standard Effective Life, and the optimised replacement cost will be reduced proportionally.⁴⁰

In almost all circumstances, regulatory DORC values adopt a straight line depreciation assumption. We consider that Arc should apply straight line depreciation in its DORC valuation, and that this should be clearly specified in the Costing Principles.

2.4.4 Summary of conclusions on depreciation

In summary, in order to effectively ensure that the DORC value reflects the remaining service potential of the existing assets, in determining the accumulated depreciation:

- > Where there are differences between the actual infrastructure standard and the MEA standard, in order to ensure that the asset value is internally consistent with the ongoing maintenance costs and is consistent with an efficient supply chain cost, it is essential that adjustments be made to the DORC value:
 - The NPV impact of Arc's higher maintenance or capex costs (compared to the case for the MEA asset) over the remaining asset life should be deducted from the asset value; and
 - The cost impact on operators should also be reflected, either by shortening the asset lives on the assumption that the MEA train service is operated, or by deducting the NPV impact on operator costs (compared to the case for the MEA standard service) over the remaining asset life from the asset value.
- > Remaining asset lives should be set at the lesser of remaining physical or economic life, with earthworks retaining a 100 year standard life. To the extent that information is available on asset commissioning date, this – together with standard lives - should be used as a starting point in assessing remaining useful life, with asset condition then informing the assessment. Where assets remain in place following expiry of their standard life, they should be ascribed a value of zero. This reflects the principle that assets should only be depreciated once.
- > Depreciation should be calculated on a straight line basis, consistent with standard regulatory precedent.

⁴⁰ Arc Infrastructure Proposed Costing Principles, CI 2.7

2.5 Contributed Capital

The proposed Costing Principles provide for the exclusion of Contributed Capital, broadly consistent with the requirements of the Code Amendments. However, the way in which the Costing Principles reflect this requirement differs at a drafting level from the requirements of the Code, which we consider introduces some ambiguity in its planned application.

The way in which contributed assets are normally excluded from a RAB is that the specific assets funded through the contribution are identified, and these assets are then removed from the RAB. This process can clearly be identified from the ACCC's assessment of a RAB value for the Port of Newcastle, where contributed assets was a major issue of contention.⁴¹ The ACCC required a similar approach in the DORC valuation for ARTC's interstate network in relation to the treatment of grant funded assets.⁴² This is also the approach contemplated in the Code which provides in Clause 47G that:

A railway owner must not, when valuing railway infrastructure under or for the purposes of this Code, include the following:

- (a) if particular contributed capital is funded wholly by an entity other than the railway owner or an associate of the railway owner — the value of that contributed capital...

Taking the approach of excluding the specific assets that have been funded by the contribution from the RAB ensures internal consistency between the value of the assets and the value of the contribution.

However, the proposed Costing Principles appear to take a different approach, stating that where:⁴³

The entirety of an asset was funded by others, 100% of the **contribution value** will be removed from the asset replacement cost. [emphasis added].

This instead implies that the contribution value has a different value to the asset replacement cost, and raises the question of how Arc will assess the contribution value. For example, if Arc were to assess the contribution value as the historic value of the contribution, and were then to deduct this from the current asset replacement cost, then there would almost certainly be a residual value for that asset retained in the RAB. Even if Arc were to inflate the contribution to current dollar terms, then there is still a likelihood that there would be a residual value for that asset in the RAB if the current value of the asset has increased faster than inflation. It is also unclear whether Arc would reflect oncosts and financing costs in its assessment of the contribution value of a contributed asset.

Aurizon considers that the foundation principle for the treatment of Contributed Capital is that, where assets have been contributed by another party, there should be no value for those assets remaining in the RAB. Accordingly, the Costing Principles should require that the contribution value be equal to the DORC value of the assets that were contributed or funded by the contribution.

⁴¹ ACCC (2018); Final Determination Statement of Reasons – Access dispute between Glencore Coal Assets Australian Pty Ltd and Port of Newcastle Operations Pty Ltd, 18 September 2018, p.108-137.

⁴² GHD Advisory (2021); Developing a Regulatory Asset Base value for the Australian Rail Track Corporation Interstate Network, using the Depreciated Optimised Replacement Cost method – Concluding Public Report; 7 October 2021; p 98-101.

⁴³ Arc Infrastructure Proposed Costing Principles, CI 2.4.

3 Annual RAB Update

3.1 RAB rollforward process

The process set out in the proposed Costing Principles for an annual roll-forward of the RAB is generally in accordance with typical regulatory processes, however Aurizon considers that clarification and/or amendment is required in relation to the following points:

- > In relation to Asset Indexation (Clause 3.2) we consider it would be clearer to define the term RAB as “the opening RAB at the start of the relevant year”;
- > In relation to Capital Expenditure (Clause 3.3):
 - The proposed Costing Principles provide that assets added to the RAB will be assumed to have the Economic Life relevant to their Asset Class, as specified in Appendix 2, however Appendix 2 sets out standard physical lives for each Asset Class. As discussed in relation to the initial DORC valuation, the Costing Principles should more clearly delineate between the concepts of physical and economic lives, by providing for the asset lives of new assets to be the shorter of the physical lives for the relevant Asset Class (as per Appendix 2) or the remaining Economic Life of the Route Section (as defined in the Code);
 - The proposed Costing Principles assume that investments will occur on average at mid year, which we consider to be uncontroversial. However, the approach typically used to reflect this in the RAB is to apply a half year indexation to the assets to arrive at the closing RAB. This reflects that once new assets are installed, they are able to be used in a revenue generating capacity. Accordingly, the return component should be recognised in the allowable capital charge rather than being capitalised into the RAB itself;
 - The proposed Costing Principles provide that, where Capital Expenditure creates an additional Route or Route Section, this will be valued using the DORC methodology and otherwise in accordance with the Costing Principles. Aurizon questions the need to undertake a DORC valuation of a newly installed Route or Route Section, and considers that it is more appropriate to value new infrastructure as equal to the efficient capital expenditure incurred in developing that infrastructure. Applying a DORC valuation creates the risk of a different value being ascribed to that asset, which may potentially create a windfall gain or loss for Arc.
- > In relation to Disposed, Redundant and Stranded Railway Infrastructure (Clause 3.6):
 - Clause 47N(3)(e) of the Code requires that, in updating the RAB, the value of Railway Infrastructure that is disposed of, or becomes redundant or stranded during a relevant period, should be deducted from the RAB. However, the proposed Costing Principles seek to address this requirement by stating that Railway Infrastructure will be considered stranded where that Railway Infrastructure has been fully depreciated as per section 3.5 of the Costing Principles and taken out of service due to lack of foreseeable demand.⁴⁴ We do not consider that this is consistent with the requirements of the Code. The term ‘stranded assets’ refers to the circumstance where there is no foreseeable demand for the assets, and no alternate use for those assets. This circumstance may apply irrespective of whether there is a value for those assets in the RAB – with asset stranding risk referring to the risk that the assets are not fully depreciated at this time. Accordingly, the requirement that the assets have been fully depreciated as per section 3.5 of the Costing Principles in order to be able to be considered stranded, should be removed.

⁴⁴ Arc Infrastructure Proposed Costing Principles, CI 3.6.

- Consistent with the point above in relation to treatment of capex, while it is reasonable to assume that asset disposals occur mid year, this should be addressed by deducting a half year indexation of these assets from the closing RAB. The return component should be addressed in the calculation of the capital charge.

3.2 Depreciation

3.2.1 Depreciation Schedule

The proposed Costing Principles provide that Arc will prepare a Depreciation Schedule, which will set out the depreciation to be applied against particular assets within the relevant asset groups over their Economic Life. The Code requires that the Depreciation Schedule be approved by the ERA, with Clause 47K(5) sets out the requirements that the ERA must be satisfied with prior to providing such approval.

While Clause 3.5 of the proposed Costing Principles refers to Clause 47K(5), it goes onto paraphrase these provisions, creating the risk of potential inconsistencies between the Costing Principles and the Code itself. We consider that, to the extent these factors are stated in the Costing Principles, they should directly reflect the requirements of the Code.

In applying these provisions, the Costing Principles should specify that straight line depreciation will be the default depreciation methodology, and that any change to the depreciation profile will only occur where Arc can demonstrate there has been a material change in circumstances that have impacted on the use or risk of the asset, and that is appropriately addressed through a change in depreciation profile.

3.2.2 Contributed Capital

Aurizon recognises that due to the uncertainty of future demand the Railway Owner may also require the Access Seeker to fully fund an expansion, upgrade or asset replacement expenditure over the term of its access agreement. Where the railway owner has required such conditions, the assets should normally be reflected as Contributed Capital and excluded from the RAB. However, if for some reason the investment is not classified as Contributed Capital – for example if the accelerated capital recovery is earned through the access charge itself rather than through a separate capital recovery charge - this requirement should be reflected as accelerated depreciation within the depreciation schedule, with the economic life for the investment set to reflect the term of the access agreement.

3.2.3 Circumstances where Arc may change Economic Life

The proposed Costing Principles enable Arc to change an asset's Economic Life in a number of circumstances, including:⁴⁵

- > To accelerate depreciation where there is a risk of asset stranding or where Arc expects that it would not continue to manage and control the use of the route (that is, to the end of Arc's lease term for the railway); or
- > To accelerate (or decelerate) depreciation where there is a change in the projected Economic Life.

Changes in projected Economic Life

While it is reasonable for the railway owner to be able to adjust the remaining life of the asset to reflect changes in the anticipated longevity of use, care must be taken in order to ensure that this is not

⁴⁵ Arc Infrastructure Proposed Costing Principles, CI 3.5.

manipulated to inflate the capital charges assessed under the Code. The natural incentive for an owner of a regulated asset is to:

- A. maximise the initial DORC value of its asset by adopting long remaining asset lives in order to minimise the assessed accumulated depreciation; and
- B. once the RAB is established, to seek to shorten the remaining economic life of the assets in order to accelerate depreciation and reduce asset stranding risk.

The most extreme example of this would be if Arc were permitted to treat its earthworks assets as having a perpetual life for the initial DORC valuation, but then subsequently sought to depreciate the assets due to a changed view that they had a finite economic life or because Arc would not continue to manage and control the lease. This particular risk was raised in the context of the DORC valuation for the Port of Newcastle, where Port of Newcastle Operations (**PNO**) considered that its channel assets had a perpetual life. The ACCC accepted the application of a perpetual life for these assets, but only on the basis that PNO would not be permitted to subsequently re-classify the assets from perpetual to depreciating.⁴⁶ This reflected that PNO knew, at the time of the valuation, of the risks around the long term use of the channel given the likelihood of coal exports declining and ceasing over time, and if it elected to treat the channel as perpetual now, in full knowledge of this risk, it should not be able subsequently start to depreciate the asset to reflect this stranding risk.

Similarly, the QCA in its consideration of proposed Aurizon Network access undertakings has not accepted proposals to change the remaining economic life of its assets without a material change in the risk or use of the asset.⁴⁷ Aurizon considers that the Costing Principles should also limit Arc's ability to change Economic Life to where it can demonstrate that there is a material change in circumstances that impact on the expected use of the route that has led to the change in Economic Life.

Relevance of lease term

Arc's control of the WA rail network is granted through two leases – one each for the narrow gauge and standard gauge elements of the network.⁴⁸ Under these agreements, Arc has the right to the relevant corridors and rail infrastructure for a term of 49 years from commencement of the lease, that is, until 2049.⁴⁹ In doing so, Arc is required to comply with the rail access regime.⁵⁰

Following expiry of the lease, the network will revert back to the WA Government and may then be managed by a Government entity or be subject to a further lease (either with Arc or another railway manager). The subsequent railway manager will continue to provide users with access to the rail network on reasonable commercial terms, subject to the Code.

The lease term is not relevant to the Economic Life of the asset, instead it is relevant to the value of Arc's lease relative to the DORC value of the asset. The leases place a requirement on Arc to maintain the infrastructure over the lease term, and specifies the required condition of the infrastructure upon expiration of the term.⁵¹ The leases do not include any detail about the Arc's ability to recover the value of

⁴⁶ ACCC (2018); Final Determination Statement of Reasons – Access dispute between Glencore Coal Assets Australian Pty Ltd and Port of Newcastle Operations Pty Ltd, 18 September 2018, p.186.

⁴⁷ See for example the QCA's decision to reject assessment of economic life based on weighted average mine life, QCA (2016), Final Decision: Aurizon Network 2014 Access Undertaking - Volume IV - Maximum Allowable Revenue, April 2016, p.193-197

⁴⁸ Rail Freight Corridor Land Use Agreement (NarrowGauge) and Railway Infrastructure Lease 2000 (Narrow Gauge Lease) and Rail Freight Corridor Land Use Agreement (StandardGauge) and Railway Infrastructure Lease 2000 (Standard Gauge Lease)

⁴⁹ Narrow Gauge Lease, Cl 5; Standard Gauge Lease Cl 5

⁵⁰ Narrow Gauge Lease, Cl 4.9; Standard Gauge Lease Cl 4.9

⁵¹ Narrow Gauge Lease, Cl 15; Standard Gauge Lease Cl 15

the infrastructure from access holders over the term of the lease and nor do they include any specification around the residual value of the lease.

Hence, the implied value of Arc's current leases is the NPV of its earnings from the provision of access to the network for the lease term, where access is provided in accordance with the Code. The value of any subsequent lease will be the NPV (at that time) of the earnings from the provision of access to the network for the subsequent lease term, where access is provided in accordance with the Code (at that time).

Permitting Arc to accelerate depreciation of the assets over the remaining term of its lease will accelerate depreciation of the asset even where there is no economic life constraint on the route. This will distort the position of current and future users of the route, by requiring the current generation of users to pay more for the asset than future generations of users. It will also change the balance of lease value, increasing the value of Arc's current lease and reducing the value of any subsequent lease. Such a decision is the responsibility of the WA Government, and Arc should not be permitted to increase its lease value (to the detriment of a future railway manager) through the Costing Principles.

Asset stranding risk

Aurizon agrees that it is reasonable for the railway owner to be able to adjust the remaining life of the asset to mitigate asset stranding risk, however we consider that this is already addressed by the second dot point in this section which enables the railway owner to accelerate depreciation where there is a change in the projected Economic Life. Inclusion of a separate provision in the Costing Principles relating to asset stranding risk is unnecessary and will create ambiguity around how the two provisions are to be applied.

3.3 ERA review of updated RAB

Clause 47P of the Code provides that, each five years, a railway owner must submit its updated RAB to the ERA for review. As part of this review, the ERA will consider whether the railway owner's updated RAB complies with the requirements of the Code, including in relation to the depreciation schedule applied (Clause 47Q) and the efficiency of capex inclusions in the RAB (Clause 47V). This review may result in changes being required to be made to the RAB.

The Costing Principles should specify how the RAB will be adjusted in the event that the ERA requires a change to the RAB as a result of such a review.

4 Costs

For each of Operating Costs, Capital Costs – Risk Adjusted Return, Capital Costs – Depreciation and Overhead Costs, the proposed Costing Principles specify that, for the purposes of responding to a Proposal pursuant to section 9(1)(b)(ii) of the Code, the Access Seeker will be provided with the sum of the relevant cost category applicable in respect of each year of the term of the Proposal.⁵²

Aurizon considers that this cost information should instead be provided for each year of the proposed term. This reflects that Clause 9(1)(b)(ii) requires the railway owner to provide the costs for each route section on which the floor price and the ceiling price for the proposed access have been calculated, and

⁵² Arc Infrastructure Proposed Costing Principles, CI 4.2-4.5

Clause 9(1)(b)(i) requires the floor price and the ceiling price to be provided for each year of the proposed access term.

5 Cost recordkeeping

Aurizon notes that the proposed Costing Principles include limited detail in relation to the required cost record keeping arrangements. There may be benefit in further detail being included in the Costing Principles on this issue, with the nature of any specific requirements best assessed by the ERA as part of its consideration of its expected compliance process.

6 Route sections

The Code requires that a railway owner's Costing Principles specify the Route Sections into which each applicable part of the railway network is divided, and which are to be used for a range of purposes, including:

- > Determining the DORC value for each Route Section (Clause 47J(1)(a));
- > Development and maintenance of the RAB for each Route Section (Clause 47J and 47N);
- > Submission of operating expenditure for each Route Section (Clause 47R);
- > Assessment of total costs for each Route Section for the purpose of calculating the floor price and the ceiling price for an access seeker's proposed access (Schedule 4);
- > Reporting of information on network capability and performance for each Route Section (Schedule 2).

The proposed Costing Principles set out Arc's planned Route Sections in Appendix 1, which includes a table listing 48 Code Routes, with Route Sections then defined within these Code Routes. In some cases, there are many Route Sections within a single Code Route.

Aurizon's concerns with this approach are twofold. First, the definition of Route Sections is unclear – in numerous instances the Route Section is defined by a single location, with the start and end point of the section not defined. But in any case, Aurizon questions the practicality of maintaining such a large number of Route Sections for the purpose of the Code. We consider that this will result in information on cost and performance being provided at such a disaggregated level that it will create unnecessary complexity in assessing the information, potentially creating difficulty in assessing this information in a meaningful way.

Aurizon considers that it would be preferable to treat the nominated Code Routes as the Route Sections for the purpose of the Code, but note that cost data will be able to be identified down to the route components where it is necessary to assess the costs associated with part of a route.