Economic Regulation Authority

Arc Infrastructure costing principles

Approval Decision

16 May 2024

D276397

Economic Regulation Authority

1. Level 4, Albert Facey House
2. 469 Wellington Street, Perth WA 6000
3. **Telephone** 08 6557 7900
4. **Email** info@erawa.com.au
5. **Website** www.erawa.com.au

6. This document can also be made available in alternative formats on request.
7. National Relay Service TTY: 13 36 77
8.

Contents

Executive summary

The *Railways (Access) Code 2000* contains provisions for the negotiation of access agreements between railway owners and access seekers, the arbitration of disputes and the regulator's role in these processes. These provisions are set out under the requirements of Part 2 of the *Railways (Access) Act 1998*. The main object of the Act is to establish a rail access regime that encourages the efficient use of and investment in railway facilities by facilitating a contestable market for rail operations.

The Code was amended on 19 December 2023. The amendments constituted a change in regulatory scheme from one based on a Gross Replacement Value asset valuation to a scheme based on a Depreciated Optimised Replacement Cost valuation.

The new cost assessment scheme requires the ERA to consider a number of new factors, including depreciation and optimisation of asset values and the establishment of regulatory asset bases. Under the Code, existing railway owners are required to submit costing principles to the ERA for approval, within 60 days of the new Code coming into effect.

Those costing principles are required to provide principles. rules, and practices that are to be applied and followed by the railway owner.

- When determining the depreciated optimised replacement cost of applicable railway infrastructure,
- When determining the updated regulatory asset base of applicable railway infrastructure,
- When determining the costs referred to in Schedule 4 clauses 7 and 8, and
- In the keeping and presentation of the railway owner's accounts and financial records so far as they relate to the determination of those costs.

On 19 March 2024, Arc Infrastructure submitted costing principles for the ERA's approval. The ERA published Arc's proposed costing principles and called for submissions on 20 March 2024. The ERA received three submissions, from Co-operative Bulk Handling (CBH), Aurizon, and Pacific National.

Following the public submissions period, Arc provided two supporting documents, on 1 May 2024 and 3 May 2024, aiming to clarify the proposed costing principles. The ERA has published these supporting documents.

The ERA appointed Marsden Jacob and Associates as consultants to review the proposed costing principles, Arc's 1 May 2024 supporting document, and public submissions. The Marsden Jacob report has been published on the ERA website. Marsden Jacob did not review Arc's second supporting document, submitted on 3 May 2024.

This decision:

- Summarises Arc's proposed costing principles by numbered section.
- Assesses issues raised in submissions and by Marsden Jacob.
- Provides the ERA's decisions and required amendments (where applicable).

The ERA has approved Arc's proposed costing principles, with 20 amendments.[1]

Arc must now provide the approved costing principles to the ERA for publication on the ERA website by 31 May 2024.

[1] Section 47H(3) requires the ERA to approve the proposed costing principles with or without amendment, or to determine what are to constitute the costing principles.

1. Section 1 - Introduction

Sections 1.1 - 1.3 - Railway Owner, Purpose, Scope

1. Section 1.1 of the proposed costing principles provides an overview of the railway network, and the role and functions of Arc as the railway owner.

2. Section 1.2 describes the purposes of the costing principles, which are given as meeting the requirements of sections 47H(1) and 47H(2) of the Code. Section 1.3 of the proposed costing principles outlines the relevant other sections of the Code which the costing principles give effect to.

3. There are no issues raised in third party public submissions or by Marsden Jacob in relation to sections 1.1 - 1.3 of the proposed costing principles.

Submissions

Arc

4. In its first supporting document, Arc stated:

> The Costing Principles are intended to describe the general principles, rules and practices Arc will apply in preparing certain matters for submission to the Regulator and are not designed to be prescriptive in accounting for every possible set of circumstances. Arc will provide supporting material demonstrating the basis of each submission, including the efficiency of expenditure, to the Regulator at the relevant approval stage to support its submissions, as required by the Code. The Regulator will determine the sufficiency of the supporting information based on the circumstances at the time.[2]

ERA considerations

5. The ERA does not require any amendments to sections 1.1-1.3 of the proposed costing principles.

Sections 1.4 - 1.5 - Definitions, interpretation

6. Section 1.4 of the proposed costing principles provides a table of definitions.

7. Section 1.5 provides some notes on interpretation and notation. These notes include that Arc has elected to capitalise Code defined terms that are not capitalised in the Code.

Submissions

CBH

8. CBH submitted that the Arc's nominated Consumer Price Index (CPI) index was not appropriate. Arc nominated the Australian Bureau of Statistics' (ABS) Perth index, but CBH submitted that the ABS' eight capital cities index reflects notional investor consideration of inflation across Australia, and is consistent

[2] Arc Explanatory Supporting Document 1, page 3.

with the approach taken by the ERA in all determinations of weighted average costs of capital.[3]

9. CBH submitted that the definition of Weighted Average Cost of Capital in section 1.4 of the proposed costing principles should be replaced with a definition of the acronym "WACC" but did not suggest why this is required.[4]

Pacific National

10. Pacific National submitted that the All groups eight capital cities CPI should be used instead of the Perth CPI, and that this would support regulatory harmonisation with other rail networks and regulated industries.[5]

Arc

11. In its first supporting document, Arc submitted that the proposed Perth CPI (all groups) is the index it typically uses for access and expenditure agreements.[6] Arc stated that a significant portion of Arc's expenses are based in Western Australia. In particular, since insourcing its maintenance activities in 2016 the entirety of Arc's labour cost is based in Western Australia.

Marsden Jacob report

12. Marsden Jacob found that the definition of the CPI in Arc's proposed costing principles is inconsistent with Arc's previous costing principles and with established regulatory practice. The regulatory approach in Australia (and in other regulated industries in Western Australia) is to use a measure of economy-wide inflation such as the ABS' eight Capital City All Groups CPI published by the Australian Bureau of Statistics.

ERA considerations

13. The ERA has found that a number of definitions proposed in section 1.4 are not consistent with their proposed use in the costing principles.

14. The proposed costing principles defines CPI in section 1.4 as the Perth Consumer Price Index (all Groups). The ERA has noted Arc's submission in its Explanatory Supporting Document 1 in support of this proposal.

15. The weighted average cost of capital is determined based on broader capital market considerations than the Western Australian economy. A state-based CPI would be inconsistent with these established regulatory approaches.

16. The ERA notes that CBH and Pacific National support this position.

17. The ERA does not agree with the CBH submission that a definition of WACC should replace the definition of Weighted Average Cost of Capital in section 1.4 of the costing principles, as it is the prerogative of Arc to employ

---

3 CBH submission Arc Infrastructure - Proposed Costing Principles - Invitation for public submission (erawa.com.au) paragraph 46(b).

4 CBH submission paragraph 24(a).

5 Pacific National submission Arc Infrastructure - proposed costing principles (erawa.com.au) page 6.

6 Arc Explanatory Supporting Document 1, page 7.

acronyms in its document as it sees fit. The ERA notes that the Code does not employ an acronym for the weighted average cost of capital, but that an acronym is defined in section 1.4 of the proposed costing principles.

18. The ERA notes that the definition of Amendment Code in section 1.4 is not referred to in the costing principles and is therefore redundant and should be removed.

19. The ERA notes that in section 1.4, the definition of Capital Costs includes the words "section 2, Division 1 of Schedule 4 of the Code", and the definition of Total Costs includes the words "section 1, Division 1 of Schedule 4 of the Code", and the definition of Weighted Average Cost of Capital includes the words "section 3 of Schedule 4 of the Code". These references are not appropriate as Schedules to the Code consist of clauses (not sections).

20. The ERA considers the definition of Valuation Date in section 1.4 is redundant, and should be removed, as the term is defined in section 2.2 of the proposed costing principles.

Required Amendment 1

In section 1.4:

- In the definition of Consumer Price Index, the words "Means Perth Consumer Price Index (All Groups)" must be amended to "Means Australian Bureau of Statistics Eight Capital Cities All Groups CPI".
- The definitions of Amendment Code and Valuation Date must be removed.
- In the definition of Capital Costs, the words "section 2, Division 1 of Schedule 4 of the Code" must be replaced with "clause 2, Schedule 4 to the Code".
- In the definition of Total Costs, the words "section 1, Division 1 of Schedule 4 of the Code" must be replaced with "clause 1, Schedule 4 to the Code".
- In the definition of Weighted Average Cost of Capital, the words "section 3 of Schedule 4 of the Code" must be replaced with "clause 3, Schedule 4 to the Code".

2. Section 2 - Initial RAB

21. Section 2 of the proposed costing principles outlines the practices Arc will follow to establish the depreciated optimised replacement cost (DORC) of applicable railway infrastructure.

Section 2.1 - Purpose

22. Section 2.1 of the proposed costing principles describes the means by which Arc will establish the initial regulatory asset base (Initial RAB). The Initial RAB is defined in section 1.4 of the proposed costing principles to have the meaning given to initial regulatory asset base in section 47J(7) of the Code.

23. Section 2.1 says that, to determine the DORC, Arc will:

- First, determine the replacement cost of the modern equivalent asset.
- Second, remove any contributed capital from the modern equivalent asset.
- Third, optimise the modern equivalent asset so it has the capacity to meet the actual and reasonably projected demand.
- Fourth, depreciate the optimised replacement cost of the asset to reflect accumulated depreciation.

Arc states that the resulting valuation will be known as the Initial RAB.

Submissions

Aurizon

24. Aurizon submitted that there is a strong body of regulatory practice in developing DORC values for transport infrastructure, and that the process most typically followed is:[7]

- First, develop the replacement cost (denoted RC).
- Second, optimise the modern equivalent asset so the network is appropriately specified to meet actual and reasonably projected demand (denoted ORC).
- Third, to depreciate the assets to reflect their remaining service potential (denoted DORC).
- Fourth, make adjustments such as removal of contributed assets.

25. Aurizon submitted that Arc's process for exclusion of contributed capital is unclear, with section 2.1 indicating that it will occur after the first step, but section 2.4 indicating that the adjustment will occur in establishing the initial RAB.[8] Aurizon submitted that section 2.1 should be amended to reflect the process outlined in the paragraph above.[9]

---

7 Aurizon submission Arc Infrastructure Proposed Costing Principles / Submission to ERA (erawa.com.au) page 7.

8 Aurizon submission page 7.

9 For ERA considerations, refer to paragraph 34.

Arc

26. In its second supporting document, Arc submitted that its proposed method is the most effective and accurate method for calculating the Initial RAB. In particular, when making adjustments for contributed capital, Arc will not remove the asset itself from the RAB, but will make an adjustment to the asset value equivalent to the value of the capital contribution to ensure development of accurate costs and avoidance of double-counting on an ongoing basis. Therefore, the asset will remain in the RAB for consideration during the optimisation step. Arc submitted that, in any case, the practical outcome of the method order proposed by Aurizon would be the same as that included in its costing principles.[10]

Marsden Jacob report

27. Marsden Jacob reported that section 2.1 describes that replacement costs are first determined for assets and then these assets are optimised. Marsden Jacob reported that, in practice, this process is not a linear one, in that the replacement costs may depend on the optimisation process. Marsden Jacob said that, for example, optimisation may result in specifying rail that is suitable for higher axle loads than is currently the case, which in turn affects the replacement cost.

28. Marsden Jacob recommended that the third dot point in section 2.1 (optimising the MEA) should be amended to state that the replacement cost will be adjusted when optimising the modern equivalent asset, and that this change would be more consistent with the way DORC is described elsewhere.

29. Marsden Jacob recommended also that the contributed capital deduction should occur after the optimised replacement cost has been developed, and reported that this would ensure that the deduction of contributed capital in the DORC calculation has the same result as removing the funded asset (or the proportion funded) from the DORC.

ERA considerations

30. The costing principles will be used to show how Arc will establish the initial RAB, which is to be a DORC valuation. The ERA considers that this is a well-recognised regulatory approach to valuing regulated assets.

31. The ERA notes that Arc did not provide a worked example to demonstrate that the practical outcome of the method order proposed by Aurizon would be the same as that included in Arc's costing principles.

32. The ERA agrees with the Marsden Jacob report that, in section 2.1, the proposed costing principles should be amended under the third dot point to indicate that the replacement cost will be adjusted when optimising the modern equivalent asset.

33. In relation to Aurizon's submission, Aurizon did not provide examples of where its alternative process to determine the RAB has been followed. Marsden Jacob advised that the capital contribution deduction should occur

[10] Arc Explanatory Supporting Document 2, page 4.

after the optimised replacement cost has been developed. Marsden Jacob did not have the opportunity to assess Arc's second supporting document.

34. The ERA considers that adjustments for contributed capital should not follow the depreciated step, as suggested by Aurizon. It is not appropriate to depreciate a ORC which includes a contribution value as it would result in a depreciation value higher than it should be. The ERA therefore considers that the method suggested by Marsden Jacob provides the appropriate process to determine the initial RAB for the purpose of section 47J of the Code.

35. The ERA notes that the treatment of contributed capital is covered by sections 2.4 and 3.4 of the proposed costing principles.

Required Amendment 2

Section 2.1 must outline the process for determining the Initial RAB as follows:

- Firstly, determine the replacement cost of the modern equivalent asset;
- Secondly, optimise the modern equivalent asset so it has the capacity to meet the actual and reasonably projected demand. The replacement cost will be adjusted when optimising the Modern Equivalent Asset;
- Thirdly, remove any Contributed Capital from the optimised modern equivalent asset; and
- Finally, depreciate the optimised replacement cost of the asset to reflect accumulated depreciation.

Sections 2.3-2.7 must be re-ordered to reflect the hierarchy of dot points shown in section 2.1.

Section 2.2 - Valuation Date

36. Section 2.2 of the proposed costing principles outlines the nomination of the valuation date, which is the date assigned to the Initial RAB. The valuation date is given as 31 December 2024, or such other date as agreed with the ERA.

Submissions

37. There were no comments in submissions relating to section 2.2 of the proposed costing principles.

Marsden Jacob report

38. Marsden Jacob did not report on section 2.2 of the proposed costing principles.

ERA considerations

39. The ERA accepts 31 December 2024 as an appropriate initial valuation date. The ultimate valuation date will be determined by the timing of the ERA's approval of Arc's RAB functions, which must be submitted 12 months from approval of the costing principles.

Section 2.3 - Replacement cost

40. Section 2.3 of the proposed costing principles outlines the means by which the asset replacement cost used in the initial RAB will be established. This is the valuation step referred to in the first dot point in paragraph 22 above.

41. The proposed costing principles indicate that Arc will base asset replacement cost on construction of Modern Equivalent Assets (MEA).[11] Section 2.3 provides an outline of the considerations included in determining the asset replacement cost, including design development planning and approvals costs, material and construction costs, project and construction management costs, and funding (opportunity) costs.

42. Section 2.3 provides that these costs will be based on those of typical efficient entities developing an asset to scale, considering variations in costs relating to distance, geography and local factors at each route section.

43. Components of the asset replacement cost are outlined in Section 2.3 of the proposed costing principles. Section 2.1 refers to the requirement to determine the DORC of applicable "railway infrastructure", which is defined in section 1.4.

[11] Modern equivalent asset is not defined in the Code or in Arc's proposed costing principles. Arc provides for the use of the acronym MEA in section 2.3 of its proposed Costing Principles.

Submissions

CBH

44. CBH submitted that section 2.3 of the proposed costing principles provides less guidance on how Arc will develop the key elements of replacement costs than was included in the 2020 costing principles.[12] CBH submitted that the 2020 costing principles stated that Arc would make a costing model available to the ERA, containing unit rates and assumptions, and that the proposed costing principles do not contain equivalent provisions. CBH submitted that section 2.3 should include a description of the method that Arc will use to estimate each category of asset replacement cost.[13] CBH submitted that section 2.3 should explain how unit rates will be determined and applied.

45. CBH submitted that the costing principes should include a requirement for the MEA scope to be defined on the basis that meets the closest comparable service standard to the existing asset, and that assumptions (including axle loads and speeds) used to determine the MEA for each route section should also be documented.[14]

46. CBH submitted that the definition of railway infrastructure in section 2.3 should provide for the exclusion of cuttings and embankments made prior to the commencement of the Code, as required by clause 2 of Schedule 4 to the Code.[15]

47. CBH submitted that section 2.3 should demonstrate how asset replacement costs will reflect the lowest current cost to replace railway infrastructure, as required by the Code.[16] CBH provided the following examples of ways this is done in other regulatory regimes:

- Recent and historic tenders and construction contracts.
- In-house cost and financial databases.
- Public domain information such as unit cost benchmarking for material and construction costs.
- A comparison of how the percentage uplift on outturn costs for design development planning and approval costs, and project and construction management costs compare to industry standards.

48. CBH submitted that the use of the word “appropriate” ahead of the word “WACC” in section 2.3 creates ambiguity, as the Code requires the ERA to determine the weighted average cost of capital.[17]

49. CBH submitted that section 2.3 does not provide information on how the profile of construction costs will be determined over the duration of a project.[18] CBH submitted that an efficient operator would construct the network as a single stage project, comprised of several individual projects that would occur

12 CBH submission paragraph 19.
13 CBH submission paragraph 20(c).
14 CBH submission paragraph 20(a).
15 CBH submission paragraph 20(b).
16 CBH submission paragraph 22.
17 CBH submission paragraph 24(b).
18 CBH submission paragraph 24(c).

concurrently as this would result in the shortest realistic time required to complete the network build, and that this is consistent with the approach adopted in Australian Rail Track Corporation's (ARTC) 2021 DORC valuation.

Aurizon

50. Aurizon submitted that, for many of Arc's routes, the rail infrastructure (service) standard is substantially less than the MEA, and the demand and willingness of users to pay is often insufficient to fund full replacement of the assets.[19] Aurizon noted that the Western Australian Department of Treasury's rationale for adopting the DORC method was to more accurately represent the permissible range of economically efficient prices, as the ceiling price will more closely reflect the service potential and actual costs incurred by the railway owner given the condition of the asset.

51. Aurizon suggested that either a broader range of MEA standards could be adopted, consistent with the ERA's approach under the previous gross replacement valuation method, or that a smaller range of MEA standards could be adopted, aligning with contemporary efficient train operating practices.[20]

52. Aurizon submitted that the latter of the two approaches is better aligned with the objectives of the DORC valuation, as it would more closely reflect the actual remaining service potential of the rail infrastructure, and that the ACCC has previously taken this approach.[21] Aurizon submitted that a robust method to adjust the asset value to reflect the difference between actual and MEA standard is required to achieve this outcome under the second approach.

53. Aurizon submitted, where there are differences between the actual infrastructure standard and the MEA standard, that 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 the following adjustments be made to the DORC value:[22]

    - The Net Present Value (NPV) impact of Arc's higher maintenance or capital expenditure costs (compared to the case for the MEA asset) over the remaining asset life should be deducted from the asset value.
    - 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.

54. Aurizon submitted that the proposed costing principles do not outline the assets to be included in the valuation, except to state that the valuation will include applicable railway infrastructure for each route section.[23]

55. Aurizon submitted that the costs of cuttings and embankments should not be included in the RAB, except where these have been incurred since the

19 Aurizon submission page 6, also pp 8-9.

20 Aurizon submission pp 9-10.

21 Aurizon submission page 10.

22 Aurizon submission page 18.

23 Aurizon submission page 7.

commencement of the Code, as they are effectively an endowment for which the lessor is unlikely to incur costs in maintaining or replacing.[24]

56. Aurizon submitted that the costing principles should identify how any land acquisition costs will be identified and how they will be incorporated into the assessment of costs under the Code.[25] This is because the Code does not allow land costs to be valued on a DORC basis and included in the DORC, but valued at cost.

57. Aurizon submitted that section 2.3 is ambiguous on the weighted average cost of capital to be applied, simply stating that it should be the "appropriate WACC".[26] Aurizon submitted that the costing principles should clarify that the WACC is to be the WACC determined by the ERA.

Pacific National

58. Pacific National submitted that Arc should provide for full disclosure of costs (that is, design development, planning and approvals costs, material costs, construction costs, project and construction management costs and funding costs) with costs calculations made available to rail operators and access seekers.[27] Pacific National submitted that this is required to ensure access seekers are not at a disadvantage when negotiating access prices, being unable to assess the reasonableness of a proposed access charge.

59. Pacific National submitted that the construction approach should outline the need for prudency in developing the cost of constructing the asset and specify that only development and construction costs that are prudent and based on economic merit are to be included.[28]

60. Pacific National submitted that in section 2.3 of the proposed costing principles, the use of "efficient entities" as a benchmark should be defined and updated to include examples of the efficient entities that will be considered.[29] Pacific National submitted that detail should be provided as to what constitutes an "experienced entity".

Marsden Jacob report

61. Marsden Jacob reported that, with regard to the types of assets included in the initial RAB, section 2.3 of the costing principles should also explicitly mention that:

- Consistent with the Code (section 2(5)), costs incurred in acquiring interest in land are not included in the initial capital (depreciation and risk adjusted return) calculations unless the ERA determines that they relate to the acquisition of interest in land after the commencement of the Code.
- Consistent with the ERA's decision for the 2020 costing principles, cuttings and embankments should not be included in the initial capital

[24] Aurizon submission page 8.

[25] ibid.

[26] Aurizon submission page 10.

[27] Pacific National submission page 3.

[28] Pacific National submission page 5.

[29] Pacific National submission page 4.

calculations, although expenditure since commencement of the Code to create capacity or expand the network, or to improve standards and efficiency, are to be included (2020 costing principles section 2.2).

62. Marsden Jacob recommended that section 2.3 of the costing principles should be amended to provide greater direction on what is meant by "lowest current cost" for MEA in the context of the definition of depreciated optimised replacement cost in section 3 of the Code, which is:

> Depreciated optimised replacement cost, in relation to railway infrastructure, means –
>
> a) The lowest current cost to replace the railway infrastructure with assets that –
>
> i) Have the capacity to provide the level of service that meets the actual and reasonably projected demand; and
>
> ii) Are modern equivalent assets; less
>
> b) Accumulated depreciation in accordance with the costing principles for the time being approved or determined by the Regulator under section 47H.

63. Marsden Jacob noted that a reference is made to lowest cost in section 2.5 of the proposed costing principles (the optimisation section) in relation to meeting the actual and reasonably projected demand through the use of the words "least cost".

64. Marsden Jacob noted that the replacement cost section of the proposed costing principles (section 2.3) does not refer to lowest cost in relation to the modern equivalent asset, pursuant to the definition of depreciated optimised replacement cost in section 3 of the Code.

65. Marsden Jacob considers that the costing principles would benefit from greater clarity around how level of service is defined and forms part of the DORC framework. In particular, Marsden Jacob advised that it would be beneficial to define level of service in the costing principles and how it will be considered to determine capacity.

66. Marsden Jacob noted that the Code provides some guidance on this matter in the definition of infrastructure capacity (in section 3 of the Code):

> Infrastructure capacity, in relation to a route, means the total number of rail operations that can be accommodated on the route during a particular time having regard to –
>
> a) the characteristics of the route; and
>
> b) the length of the rolling stock comprising a train that can be operated on the route, and the speed at which it can be operated; and
>
> c) the requirements of any written law; and
>
> d) the technical requirements for the relevant rolling stock.

ERA considerations

67. The ERA notes that depreciated optimised replacement cost is defined in section 3 of the Code as the lowest current cost to replace the railway infrastructure with assets that have the capacity to provide the level of service

that meets the actual and reasonably projected demand; and are modern equivalent assets; less accumulated depreciation.

68. The ERA considers that the MEA scope for a replacement asset should be defined on the basis that it meets the closest comparable service standard to the existing asset, and that Arc should undertake to document the assumptions (including axle loadings and speeds) used to determine the MEA for each route section, when a cost determination is required.

69. The ERA considers that this is consistent with the undertakings provided in Arc's 2020 costing principles.[30]

70. The ERA does not agree with CBH's submission that section 2.3 of the costing principles should include a description of how Arc will estimate each category of asset cost. The ERA notes that section 2.3 of the proposed costing principles provides an assurance that all costs determined for the initial RAB will be based on those typical for an efficient entity. Pursuant to section 41 and section 47J(1)(b)(ii) of the Code, Arc will be required to submit supporting material, including any cost modelling, demonstrating the basis of each determination, at the time those determinations are made.[31]

71. The ERA notes that section 2.3 of the proposed costing principles does not refer to the "lowest current cost to replace the railway infrastructure" which is the terminology used in the definition of the depreciated optimised replacement cost in section 3 of the Code.

72. The ERA agrees with the CBH submission that section 2.3 should provide information on how the profile of construction costs will be determined. The ERA agrees that a single stage project comprised of concurrent individual projects is the appropriate form, and is consistent with the 2021 DORC valuation for ARTC.[32]

73. The ERA agrees with Marsden Jacob that, consistent with Arc's 2020 costing principles and regulatory precedent, section 2.3 of Arc's costing principles should ensure that the costs of cuttings and embankments made prior to the commencement of the Code are excluded, consistent with clause 2(2) of Schedule 4 to the Code.

74. The ERA agrees with submissions that the word "appropriate" should not be used to describe the weighted average cost of capital, as the weighted average cost of capital is determined by the ERA, as required by clause 3 of Schedule 4 to the Code, and as indicated in the definition of weighted average cost of capital in section 1.4 of the proposed costing principles.

75. Aurizon submitted that the proposed costing principles do not outline the assets to be included in the valuation, however, the ERA notes that these are outlined under the definition of railway infrastructure in section 1.4.

---

30 Arc Infrastructure 2020 Costing principles Arc-Proposed-Costing-Principles.PDF (erawa.com.au) pp. 7-8.

31 Section 41 of the Code says that in performing its functions under section 47H the Regulator may be informed in such manner as the Regulator thinks fit. Section 47J(1)(b)(ii) says that the Railway Owner must submit within a period (12 months in Arc's case) its DORC determinations and supporting material demonstrating the basis of each determination.

32 GHD Advisory, Developing a Regulatory Asset Base value for the ARTC interstate network, using the DORC method. Draft public report, 2021, p. 18.

76. The ERA agrees with the Aurizon submission and the Marsden Jacob report that section 2.3 of the costing principles should outline the inclusion of amortised amounts of the costs of acquiring any interest in or access to land incurred after the commencement of the Code. This is because the Code does not allow land costs to be valued on a DORC basis.

77. The Code requires costs to be those that would be incurred by a body managing the railways network and adopting efficient practices applicable to the provision of railway infrastructure, including operating a particular route in combination with other routes for the achievement of efficiencies. The ERA has noted the Pacific National submission but does not consider that the terms "efficient entity" or "experienced entity" require further explanation in section 2.3 of the costing principles, as these are contemporary regulatory terms.

Required Amendment 3

The first sentence of section 2.3 must be:

> "The asset replacement cost used in the Initial RAB will be the lowest current cost to replace the Railway Infrastructure based on Modern Equivalent Assets (MEAs)"

Section 2.3 must be amended by adding the following sentence at the end of the first paragraph:

> "The MEA scope will be defined on the basis that it meets the closest comparable service standard to the existing asset."

Section 2.3 must be amended by adding the following sentence after the first paragraph:

> "The key capital cost drivers that the Railway Owner will adopt to specify the MEA will be:
>
> - The operating standards (axle load, maximum speed, maximum train length);
> - Population of supporting infrastructure (bridges, culverts);
> - Topography of route (gradient and track curvature)."

Section 2.3 must include the following paragraphs prior to the paragraph commencing with the words "Design development":

> "Costs of cuttings and embankments made prior to the commencement of the Code will not be included in the asset replacement cost used in the Initial RAB."

and

> "The asset replacement cost will include amortised amounts of the costs of acquiring any interest in or access to land incurred after the commencement of the Code."

The following words must be included at the end of the last paragraph of section 2.3:

> "The profile of construction costs will be determined on the basis of a single stage project comprised on concurrent individual projects."

In section 2.3, the words "appropriate WACC" must be replaced with "WACC".

Section 2.4 - Contributed capital

78. Section 2.4 of the proposed costing principles outlines the process by which the initial RAB will be adjusted for contributed capital. This is the valuation step referred to in the second dot point in section 2.1 of the proposed costing principles (shown in paragraph 23 above). Contributed capital is defined in section 1.3 of the proposed costing principles consistent with the definition of contributed capital in section 47B of the Code. The adjustment is proposed to be on a proportional rate reflecting the percentage of the asset funded by parties other than Arc or its associates.

Submissions

CBH

79. CBH submitted that section 2.4 of the proposed costing principles should clarify that the contribution value is the current value of the asset that was paid for by the contributed funds and that when an asset has been entirely funded by others that the asset will not be included in the DORC.[33] CBH submitted that the approach outlined in the second dot point of section 2.4 of the costing principles is an appropriate approach, but that a simple example should be included to support the application of this principle.[34] CBH submitted that the documentation of capital contribution assumptions should be made available to the ERA and to access seekers.[35]

Aurizon

80. Aurizon submitted that section 47G of the Code requires the railway owner to not include the value of contributed capital if particular contributed capital is funded wholly by an entity other than the railway owner, and that by excluding from the RAB the specific assets that have been funded by the contribution, this ensures internal consistency between the value of the assets and the value of the contribution.[36]

81. Aurizon submitted that the proposed costing principles state that where the entirety of an asset is funded by others, that 100 per cent of the contribution value will be removed from the asset replacement cost.[37] Aurizon submitted that this approach 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.

82. Aurizon submitted 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.[38] Aurizon submitted that the costing principles should require that the

[33] CBH submission paragraph 27.

[34] CBH submission paragraph 29.

[35] CBH submission paragraph 30.

[36] Aurizon submission page 19.

[37] ibid.

[38] ibid.

contribution value be equal to the DORC value of the assets that were contributed or funded by the contribution.

Arc

83. In its first supporting document, Arc submitted that it has proposed to adjust asset values associated with contributed assets, but that the asset itself will remain in the RAB enabling Arc to accurately reconcile specific assets as they are installed, replaced or removed from the network on an ongoing basis to ensure development of accurate costs and avoidance of double counting.[39] Arc provided the following worked examples to illustrate the proposed adjustments for contributed capital:

> Assume a third party has historically contributed $100m to fully fund the construction of a Railway Infrastructure Asset which has a MEA replacement cost of $200m at the Valuation Date. In this circumstance, the Initial RAB will be adjusted to remove the full $200 value of this asset at the Valuation Date
>
> Assume a third party has historically contributed $50m towards the construction of a $100M Railway Infrastructure asset, funding 50% of the total asset. The MEA replacement cost of the total asset at the Valuation Date is $200m, double the value at the time of the investment. In this circumstance, the Initial RAB will be adjusted to remove 50% of the full value of the asset at the Valuation Date, being an adjustment of $100m.

Marsden Jacob report

84. Marsden Jacob reported that section 2.4 should be amended so that it is clear that the value of the contributed capital (referred to in section 47H(2)) is the replacement cost of the asset that was funded, if the asset was funded entirely by others.

85. Marsden Jacob reported that where the asset is part funded by contributions, the value of the contributed capital is equal to the replacement cost of the asset multiplied by the proportion of the original cost of the asset that was funded. Marsden Jacob reported that the costing principles would benefit from a worked example to illustrate how this would work.

ERA considerations

86. The ERA agrees with the Aurizon submission that the term “contribution value” in the first dot point of section 2.4 of the proposed costing principles is not an appropriate term as it is not defined. The ERA considers that the first dot point should be re-worded to refer to replacement cost of the contributed asset.

87. The ERA considers that the wording “The Railway Owner will adjust the Initial RAB” is potentially misleading. Initial RAB is described in section 2.1 as the outfall of the calculation process described in section 2.1, and so the wording above may suggest that the adjustment will occur after the Initial RAB is calculated. The ERA considers the wording should be amended to clarify that the adjustment is a part of the calculation of the initial RAB, and not an ex-post adjustment.

[39] Arc Explanatory Supporting Document 1, page 5.

88. The ERA agrees with Marsden Jacob that a worked example would aid clarity on the operation of section 2.4. The ERA considers that the worked examples provided in Arc's first supporting document would be an appropriate insertion.

89. The ERA notes and accepts Arc's explanation that, in the case of assets fully funded by contribution, it intends to remove the asset replacement value of the asset from the RAB, but not the asset itself.

Required Amendment 4

In section 2.4, the words "The Railway Owner will adjust the Initial RAB to exclude any Railway Infrastructure that has been funded by Contributed Capital" must be amended to "As part of the calculation of the Initial RAB, the Railway Owner will exclude any Railway Infrastructure that has been funded by Contributed Capital".

In section 2.4, the words "100% of the contribution value will be removed from the asset replacement cost" must be replaced with "the replacement cost of the asset will be removed from the Initial RAB".

The worked examples provided by Arc in its Explanatory Supporting Document 1 must be added to section 2.4.

Section 2.5 - Optimisation

90. Optimisation is the valuation step referred to in the third dot point in section 2.1 of the proposed costing principles (shown in paragraph 23 above).

91. Section 2.5 of the proposed costing principles provides for an optimised asset configuration which will be the asset configuration which has the capacity to meet the actual and reasonably projected demand, within the physical constraints of the existing railway corridor, that can be constructed at least cost.

92. Section 2.5 says "the asset base replacement cost will be based on an optimised asset configuration where the existing asset configuration is adjusted as required to deliver the level of service."

Submissions

CBH

93. CBH submitted that section 2.5 of the proposed costing principles does not provide sufficient guidance on the optimisation process as it does not indicate:

- How Arc will forecast demand for the purposes of determining capacity and service requirements.
- The level of service that will be assumed for the optimisation.

- How asset configuration will be optimised to deliver the level of service required to meet reasonably projected demand.[40]

94. CBH submitted that a method for forecasting demand, capacity and service requirements should include reference to historical demand data and a clear forecast period of at least 10 years based on 10 years of historical demand data, consistent with the ARTC 2021 DORC valuation.[41]

95. CBH submitted that the level of service assumed for optimisation should not be greater than the level of service that access seekers can obtain on the route.[42]

96. CBH submitted that the optimisation method should include the removal of redundant assets and optimisation of design.[43]

Aurizon

97. Aurizon submitted that section 2.5 provides only a very high-level statement around how optimisation will be applied, and that it should provide more specific guidance.[44]

98. Aurizon submitted that when assessing a DORC valuation of rail infrastructure assets, regulators have typically (1) accepted the alignment and gauge of the existing railway network, and (2) 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.[45] Over-capacity assets are assessed on the basis of existing and anticipated future demand for rail services on the network.

99. Aurizon submitted that 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.[46]

100. Aurizon submitted that the impact on a DORC asset value due to the actual asset differing from the assumed MEA standard – in different valuations – have been considered as part of optimisation, depreciation or subsequent adjustments.[47] Aurizon submitted that the costing principles should clearly specify the valuation step where these issues will be considered.

Pacific National

101. Pacific National submitted that more detail on the optimisation process should be provided in Arc's costing principles, including what the "reasonably projected demand" is and how it will be calculated.[48] Pacific National

40 CBH submission paragraph 32.
41 CBH submission paragraph 33(a).
42 CBH submission paragraph 33(b).
43 CBH submission paragraph 3(c).
44 Aurizon submission page 11.
45 ibid.
46 ibid.
47 Aurizon submission cited examples of each of these on page 11.
48 Pacific National submission page 5.

submitted that Arc should use at least 10 years' historical data to inform its projections and provide a clear explanation of the forecasting method.

102. Pacific National submitted that a set of optimisation principles should be included in Arc's costing principles, and provided an outline of the optimisation approach that was proposed for the ARTC Interstate Network as an example.[49]

Arc

103. Arc provided the following further explanation for section 2.5 of its proposed Costing Principles in its first supporting document:[50]

> In determining the optimised asset configuration, Arc expects to take steps such as:
>
> - identify and verify redundant assets, including assets which a rational commercial investor would not invest in to safely and efficiently deliver the required and foreseeable demand;
> - assess MEA capability against existing asset capability to identify any technical superiority;
> - assess demand forecast to verify any required changes in service capability of assets;
> - determine the value of the optimisation; and
> - adjust the replacement cost by the optimisation to calculate the optimised replacement cost.
>
> The optimisation seeks to be that which a theoretical new entrant would undertake to provide a Network capable of providing capacity currently required and reasonably projected to be required in the near term. This includes consideration of factors including tonne axle load, number of train paths, train path journey times, Network availability, maximum track speeds and standard of maintenance. Current requirements are informed by the highest prevailing standard Arc has currently contracted to, or agreed with, Access Holders. Reasonably projected demand includes these standards, as reasonably projected to be required by operations which Arc has sufficient information to believe are probable future Access Holders in typical "feasibility to commencement" timeframes.
>
> Where the modernised, optimised network standard is expected to result in a material difference in ongoing operating and maintenance costs compared to that of the actual Railway Infrastructure, Arc will calculate the net present value of estimated operating expenditure savings. The Initial RAB will be adjusted by this net present value as part of the optimisation stage.

104. In its second supporting document, Arc acknowledged that both CBH and Aurizon noted that the potential differences between the theoretical MEA network and the actual railway infrastructure could lead to a disconnect between the ongoing costs associated with the theoretical MEA network and the actual expenditure Arc will incur maintaining the railway infrastructure.[51]

---

49 ibid.

50 Arc Explanatory Supporting Document 1, page 5.

51 Arc Explanatory Supporting Document 2, page 6.

105. Arc acknowledged Aurizon's submission that this difference may have implications for an above rail operator's ongoing cost, and that Aurizon proposed two options for addressing the cost implications, being:

A. An adjustment to the initial RAB to account for the difference in remaining asset lives between the MEA network and the actual railway infrastructure; or

B. An adjustment to the initial RAB to account for the NPV of the above rail operator's expenditure savings because of the difference between the MEA network and the actual railway infrastructure.

106. Arc accepts that an adjustment should be made to the initial RAB to account for any potential cost variances to the railway owner due to the difference between the theoretical MEA network and the actual railway infrastructure. Arc submitted that this matches the intent of the proposed costing principles, with the adjustment intended to be made in accordance with the first option proposed by Aurizon.[52]

107. Arc submitted that it does not support the second option proposed by Aurizon for an adjustment to the initial RAB, as this would require Arc to be responsible for the opportunity costs of above rail operators. Arc considers the costs as they relate to the costing principles ought only to relate to those of the railway owner, consistent with the Code.[53]

108. Arc proposed to insert the following text at the end of section 2.5:

> To account for the differing maintenance costs of the actual asset configuration versus the modernised and optimised asset configuration, the net present value of the difference between the forecast operating cost of the actual Railway Infrastructure and the modernised and optimised Railway Infrastructure will be subtracted from the asset replacement cost. The discount rate used in this calculation will be the appropriate WACC.[54]

Marsden Jacob report

109. Marsden Jacob reported that section 2.5 of the costing principles should provide more information on the optimisation approach that will be adopted and how railway infrastructure will be optimised for different types of assets (for example, standard gauge versus narrow gauge) and different route sections. The costing principles in section 2.5 should also state that the MEA minimum standard (for example, for axle loads) could be different than that which is currently in place when optimised for reasonably projected demand considerations.

110. Marsden Jacob reported that the Code provides guidance on the definition of infrastructure capacity in section 3:

> Infrastructure capacity, in relation to a route, means the total number of rail operations that can be accommodated on the route during a particular time having regard to –
>
> a) The characteristics of the route; and

52 Arc Explanatory Supporting Document 2, page 7.

53 Ibid.

54 Ibid.

b) The length of the rolling stock comprising a train that can be operated on the route, and the speed at which it can be operated; and

c) The requirements of any written law; and

d) The technical requirements for the relevant rolling stock.

111. Marsden Jacob reported that the costing principles in section 2.5 should state that the railway infrastructure will be optimised in developing the initial RAB, as per Section 47J of the Code.

112. Marsden Jacob reported that section 2.5 of the costing principles should provide more information on the optimisation approach that will be adopted by Arc, and that this would include explaining that:

(a) Redundant assets will be identified and removed from the DORC valuation.

(b) The MEA will be an optimised asset that aligns with the level of service that is considered appropriate for the reasonably projected demand.

(c) Demand forecast will be used to project reasonably projected demand.

(d) Assets will be optimised for each route section.

113. Marsden Jacob recommended that section 2.5 be amended so that the value of maintenance and operating cost savings associated with optimised modern equivalent assets is calculated in the DORC valuation that forms the Initial RAB. Marsden Jacob acknowledged that this matter was addressed in Arc's Explanatory Supporting Document 1. Marsden Jacob did not have the opportunity to examine Arc's Explanatory Supporting Document 2.

ERA considerations

114. The ERA agrees with the Pacific National submission that, consistent with the approach proposed for the ARTC Interstate Network (referred to by Pacific National in paragraph 102) and the recommendation in the Marsden Jacob report, that section 2.5 of the costing principles should include a description of the optimisation process in more detail, including the forecasting method and the determination of the appropriate optimised level of service for determining "reasonably projected demand".

115. The ERA agrees with the Marsden Jacob report that section 2.5 of the costing principles should provide more information on the optimisation approach that will be adopted by Arc. The ERA notes that Arc provided further relevant information (as noted above in paragraph 103) in its first supporting document, that the ERA will use in requiring an amendment to section 2.5 of the costing principles.

116. The ERA agrees with the Marsden Jacob report and Arc's second supporting document, that section 2.5 of the costing principles should include provision for adjustment to the initial RAB to account for any potential cost variances

to the railway owner due to the difference between the theoretical MEA network and the actual railway infrastructure.[55]

Required Amendment 5

Section 2.5 must be amended to read as follows:

"The optimised asset configuration will be the asset configuration which has the capacity to meet the actual and reasonably projected demand, within the physical constraints of the existing railway corridor, that can be constructed at least cost.

The level of service associated with the actual and reasonably projected demand will be defined in terms of:

- Maximum axle loads;
- Maximum train speeds; and
- Maximum train lengths.

The asset replacement cost will be based on an optimised asset configuration where the existing asset configuration is adjusted as required to deliver the level of service associated with the actual and reasonably projected demand.

The Railway Owner will:

- Identify redundant assets;
- Assess MEA capability against existing asset capacity;
- Assess demand forecast to identify any required changes in service capacity of assets;
- Determine the value of the optimisation; and
- Adjust the replacement cost by the optimisation to calculate the Depreciated Optimised Replacement Cost.

To account for the differing maintenance costs of the actual asset configuration versus the optimised asset configuration, the net present value of the difference between the forecast operating cost of the actual Railway Infrastructure and the optimised Railway Infrastructure will be subtracted from the asset replacement cost.

The Railway Owner will provide a ten year demand forecast based on ten years of historical demand data, and will provide a clear explanation of the forecasting method."

[55] Marsden Jacob noted that this approach is consistent with the approach taken by the ACCC (2014) Australian Rail Track Corporation's variation of the Hunter Valley Access Undertaking to include the Gap to Turrawan Sections.

Section 2.6 - Construction Approach

117. Section 2.6 of the proposed costing principles outlines a construction approach based on a greenfield approach, adjusted for considerations of proximate non-railway network infrastructure. The construction approach relates to the replacement cost of the railway infrastructure to be used in determining the Initial RAB.

Submissions

CBH

118. CBH submitted that section 2.6 of the proposed costing principles creates a "hybrid" greenfield/brownfield approach.[56] CBH submitted that a brownfields approach with a clear definition should be adopted as it more closely reflects the environment in which a replacement asset would be constructed, and that this is consistent with the approach in other jurisdictions.

119. CBH submitted that the definition of the brownfields approach would exclude access roads, power infrastructure, fibre optics, water networks, land acquisition and cuttings and embankments made before the commencement of the Code.[57]

Aurizon

120. Aurizon submitted that, 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.[58] Aurizon submitted that section 2.6 of the proposed costing principles appears to be consistent with this approach.

121. Aurizon submitted that section 2.6 should clearly refer to a brownfields construction approach, and specify construction in a single stage.[59]

Arc

122. In its first supporting document, Arc provided some clarification that the "non-Railway Network Infrastructure" referred to in its proposed construction approach refers to the actual features surrounding the railway infrastructure that must be considered in the asset replacement cost, including above ground power lines, underground water pipes, application of environmental legislation or the existence of residential buildings adjacent to the railway network.[60]

---

56 CBH submission paragraph 35.

57 CBH submission paragraph 36.

58 Aurizon submission page 10.

59 ibid.

60 Arc Explanatory Supporting Document 1, page 6.

123. Arc clarified that its proposed construction approach will assume a realistic duration, expected to be a single stage project with appropriate sub-projects to reflect realistic market capability.

Marsden Jacob report

124. Marsden Jacob provided the following definitions for greenfields and brownfields valuations:

- Under a greenfields valuation, a new rail segment is developed assuming that no development has occurred in the area, including roads, water, electricity or communities. Therefore, a theoretical track could be laid across an area of land that is free of any development.
- Under a brownfields valuation, a new rail segment is developed assuming that construction occurs around existing infrastructure, including those relating to above rail development, roads and communities. Therefore, brownfields valuation optimises the route of the segment taking into account existing developments. Moreover a brownfields valuation is limited in its ability to optimise the route path in the way that a greenfields valuation is able to.

125. Marsden Jacob reported that Arc has proposed a greenfields approach with some allowances for a brownfields considerations, as it takes into account proximate infrastructure.

126. Marsden Jacob reported that direct discussions with Arc Infrastructure have indicated that the construction approach assumes that the rail track follows existing routes and allows for proximate infrastructure, and that this indicates a brownfields approach to the valuation.

127. Marsden Jacob recommended that the construction approach outlined in the costing principles should be based on a brownfields valuation with some caveats. Marsden Jacob reported that most DORC valuations in rail have been based on brownfields approaches, and that the key feature of brownfields approaches is that the rail infrastructure is valued at the same location and route as the existing assets and assuming current supporting infrastructure (for example, access roads, electricity etc).[61]

128. Marsden Jacob reported that this approach is indicated by the costing principles, with reference to proximate non-railway infrastructure, in section 2.6, but should be made clear that it is a brownfields approach, and should include the following caveats which state that:

- Cuttings and embankments are not included in the initial DORC value, although expenditure since the commencement of the Code to create capacity or expand the network, or improve standards or efficiency, are included.
- The new railway infrastructure is constructed without any existing traffic on the rail.[62]

[61] GHD 2021, MJ 2013.

[62] This is consistent with the cost that a new entrant would face if they constructed a new rail line, and was assumed in the Gap to Turrawan DORC valuation (MJA, 2013).

- Planning and development costs should be included to the extent to which they are required to integrate with existing infrastructure (e.g. metropolitan areas).[63]

ERA considerations

129. The ERA notes the CBH and Aurizon submissions that a brownfields construction approach is consistent both with Arc's considerations in its proposal and with regulatory precedent.

130. The ERA notes the distinction between brownfields and greenfields approaches provided by Marsden Jacob (shown at paragraph 124) and notes that a greenfield approach is associated with new projects on otherwise undeveloped land, and that a brownfield approach is associated with projects on land which has pre-existing infrastructure in place.

131. The ERA has considered the Marsden Jacob advice and agrees that the reference in the proposed Costing Principles to considerations "where proximate non-Railway Network Infrastructure exists" is consistent with a brownfield approach.

132. The ERA considers that a brownfield approach is appropriate for replacement of Arc Infrastructure assets, and that the considerations listed by Marsden Jacob (shown at paragraph 128) are relevant.

Required Amendment 6

Section 2.6 must be amended to read as follows:

"The asset replacement cost will represent the cost of developing and constructing an asset on a brownfields basis, with the following considerations:

- Cuttings and embankments are not included in estimating the initial DORC, although expenditure since the commencement of the Code to create capacity, or expand the network, or improve standards or efficiency, are included
- The new infrastructure is constructed without existing traffic on the rail
- Planning and development costs are included to the extent that they are required to integrate with existing infrastructure."

Section 2.7 - Accumulated Depreciation

133. Section 2.7 of the proposed costing principles outlines that the optimised replacement cost will be depreciated to reflect the railway infrastructure's economic life at the valuation date. This is the valuation step referred to in the fourth dot point in section 5.1 of the proposed costing principles (shown in paragraph 23 above).

134. Section 2.7 shows that Arc proposes to determine the economic life of an asset by considering:

[63] This is consistent with MJA 2013.

(1) the current physical state of the asset
(2) the forecast rate at which the asset will be consumed,
in order to reduce the optimised replacement cost proportionally to the difference between the projected (remaining) life of the asset and the standard effective life (as outlined in Appendix 2 of the proposed Costing Principles).

Submissions

CBH

135. CBH submitted that it does not object to the approach outlined in section 2.7 of the proposed costing principles.[64]

136. CBH submitted that "Standard Effective Life" is not a term widely used or understood by the industry and may cause some uncertainty in interpretation.[65] CBH submitted that "Standard Design Life" is a more appropriate term.

137. CBH submitted that section 2.7 requires more detail to explain how the physical condition of assets will be assessed and how the forecast rate of consumption will be determined, and how Arc will address differences in usage patterns across its network.[66]

138. CBH submitted that section 2.7 should include a commitment to make supporting material available, including but not limited to: [67]

- Asset commissioning date.
- Asset condition information (using an accepted sampling approach).
- Information on variations of performance from given design life, including explanations, including renewal work which may have extended the asset life.

139. CBH submitted that the intention in proposing the introduction of DORC was to ensure that assets found to be in use for longer than their economic *(sic)* life will be given a zero residual value, and therefore be excluded from the RAB.[68] CBH submitted that section 2.7 should explicitly state that assets that have been in use for longer than their economic life will be excluded from the RAB.

Aurizon

140. Aurizon submitted that, consistent with established regulatory precedent, any asset that continues to be used beyond its initially expected useful life, and which is not subject to any prospect of uneconomic duplication, should be valued at zero, and that this should be specified in the costing principles.[69]

64 CBH submission paragraph 39.
65 CBH submission paragraph 40.
66 CBH submission paragraph 41.
67 CBH submission paragraph 42.
68 CBH submission paragraph 43.
69 Aurizon cited a QCA example on page 17 of its submission.

Pacific National

141. Pacific National submitted that it is reasonable to consider that assets whose actual lives have exceeded their expected useful life have been fully depreciated and that to not remove them from the RAB would amount to double-counting and excessive returns.[70]

Arc

142. In its first supporting document, Arc provided further detail around its proposed process for assessing the "projected life" of an asset.[71] These processes included identifying where possible the asset commissioning date, and assessing the remaining "physical life" and the "expected remaining life" of the asset.

143. Arc also provided a worked example to illustrate the application of accumulated depreciation based on the projected life of the asset, as follows:

> If, at the Valuation Date, an asset is projected to have 30% of its Standard Effective Life remaining, then for the purpose of the Initial RAB, the asset will be assumed to have accumulated depreciation equivalent to 70% of the optimised replacement cost. Therefore, the remaining value of the asset to be included in the Initial RAB will be 30% of the optimised replacement cost.

144. In its second supporting document, Arc acknowledged that public submissions recommended that the costing principles specify that where an asset has exceeded its expected useful life, it will be valued at zero in the RAB to avoid double counting, even where the asset is continuing to be used.

145. Arc submitted that Aurizon noted elsewhere in its submission that unless an asset's life has been extended through life-extending capital expenditure, it can reasonably be anticipated that the asset has been fully depreciated. [72]

146. Arc submitted that, when determining the initial RAB, it will determine the accumulated depreciation of the railway infrastructure as at the valuation date, in accordance with the Code and section 2.7 of the costing principes. As part of this process, Arc will determine the projected life of the railway infrastructure to determine the appropriate accumulated depreciation at that point in time. The projected life is a result of a number of factors, including investment and maintenance prior to the valuation date, which may have led to an extension or renewal of the economic life of the railway infrastructure.

147. In response to Aurizon's submission specifically, Arc did not support the suggestion that an asset's value for the purposes of setting the initial RAB relies wholly on the *initially* expected useful life. Arc acknowledges this is one of the factors that should be considered in assessing an asset's useful life and remaining value, being the commissioning date and standard effective life of the asset. Arc submitted that these are simply some of the factors to be considered, not the only considerations. Arc believes the method it has proposed and explained is the most reasonable means of dealing with availability of historical information and of making a reasonable judgement,

---

70 Pacific National cited a 2013 QCA draft decision on Queensland Rails Draft Access Undertaking.

71 Arc Explanatory Document 1, page 7.

72 Arc Explanatory Document 2, page 7.

consistently, about the appropriate value of the accumulated depreciation. In particular, it reflects the definition of economic life in the Code: "the period over which the asset is reasonably expected to remain economically usable by 1 or more entities"; because the future economic usability of the asset is what is of value to both the railway owner and the access seeker.

Marsden Jacob report

148. Marsden Jacob has reported that section 2.7 should be complemented by a formula which shows how accumulated depreciation is calculated for the optimised replacement cost and how it then impacts on the DORC, and that a worked example would also be useful.

149. Marsden Jacob reported that section 2.7 should also provide more detail on how the current physical condition of the asset will be established, which is needed to estimate the projected life of the asset.

ERA considerations

150. The terms "projected life", "physical life", and "expected remaining life" are not defined in Arc's proposed costing principles.

151. The ERA agrees with the CBH submission that the costing principles should adopt the term "Standard Design Life" in place of the proposed "Standard Effective Life". The term "effective life" is referred to by the Australian Taxation Office in relation to the economic life of an asset, not the design life.[73] Specifically, a distinction is drawn between the physical life of an asset (being its design life), and the effective life of an asset (being an estimate of the period the asset can be used by any entity for a specified purpose), which is often not the whole of its physical life. An asset's physical life can be seen as the outer limit of its effective life.

152. Section 47K(5)(b) requires the ERA to be satisfied that each group of assets is depreciated over its economic life when approving a railway owner's applicable depreciation schedule. The ERA is not able to consider a measure other than economic life in this matter.

153. The ERA considers that references to alternative measures of economic life other than the standard design life (including projected life and projected economic life) should be changed to "Economic Life".[74] This is consistent with the use and explanation of these alternative terms by Arc in its second supporting document, shown at paragraphs 146 and 147 above.

154. The ERA agrees with Marsden Jacob that a formula showing how accumulated depreciation is calculated would enable access seekers and other interested parties to understand how Arc intends to determine the depreciation amount and should be included in section 2.7 of the costing principles, along with a commitment to make appropriate supporting material available.

---

[73] Australian Taxation Office Taxation Ruling 2022/1 TR 2022/1 - Income tax: effective life of depreciating assets (applicable from 1 July 2022) Ruling (Published on 29 June 2022) | Legal database (ato.gov.au)

[74] Which is defined in section 3 of the Code as "the period over which the asset is reasonably expected to remain economically useable by 1 or more entities".

155. Marsden Jacob has provided a suggested description of method for the calculation of DORC. In its first supporting document, Arc provided a worked example illustrating the application of accumulated depreciation based on the projected (economic) life of the asset. This is shown in paragraph 143. This example should be included in section 2.7 of the Costing Principles.

156. The ERA does not agree with the CBH, Aurizon and Pacific National submissions that section 2.7 should include a statement indicating that assets found to be in use for longer than their standard effective life will be given a zero residual value and excluded from the RAB. The economic life of the asset is a result of a number of factors, including investment and maintenance prior to the valuation date, which may have led to an extension or renewal of the asset's Economic Life.

Required Amendment 7

In section 2.7, all references in the Costing Principles to "Standard Effective Life" should be replaced with "Standard Design Life".

In section 2.7, all references in the Costing Principles to "projected life", and the reference to "projected Economic Life" must be replaced with "Economic Life".

The definition of Standard Effective Life in section 1.4 must be removed and replaced with a definition of Standard Design Life, being "means the standard technical design life for certain Asset Classes, as set out in Appendix 2."

Section 2.7 must include the following words after the final paragraph:

> "As an example - if, at the Valuation Date, an asset is projected to have 30 per cent of its Standard Design Life remaining, then for the purpose of the Initial RAB, the asset will be assumed to have accumulated depreciation equivalent to 70 per cent of the optimised replacement cost. Therefore, the remaining value of the asset to be included in the Initial RAB will be 30 per cent of the optimised replacement cost."

and

> "The Railway Owner will provide the Regulator with all supporting material necessary for the Regulator to meet its obligations under section 47K in the evaluation of the Railway Owner's depreciation schedules. This material will include:
>
> - asset commissioning date,
> - asset condition information (using an accepted sampling approach), and
> - information on variations of performance from given design life, including explanations, and renewal work which may have extended the asset life."

3. Section 3 - Annual RAB Update

157. Section 3 of the proposed costing principles outlines the way Arc will determine the updated RAB for each route section.[75] Updated RAB is defined in section 1.4 of the proposed costing principes, consistent with the use of the term updated regulatory asset base in section 47N of the Code.

Section 3.1 - Purpose

158. Section 3.1 of the proposed costing principles provides an undertaking that Arc will determine the updated RAB within 60 days of the end of each relevant period. Relevant period is defined in section 1.4 as:

a) In respect of the first Updated RAB, the period commencing from the Valuation Date until 30 June in the year following the date the Regulator determines the Initial RAB; and

b) In respect of each subsequent Updated RAB, a 12 month period commencing 1 July of each year.

159. Section 3.1 of the proposed costing principles shows the calculation procedure for determining the updated RAB. The procedure is:

- take the current RAB of the route section;
- Add asset indexation for the relevant period;
- Add the value of capital expenditure incurred by the railway owner during the relevant period;
- Deduct depreciation over the relevant period; and
- Deduct the value of railway infrastructure that was disposed of or became redundant or stranded during the relevant period.

The calculation procedure is consistent with the required procedure shown in section 47N(3) of the Code.

Submissions

Aurizon

160. Aurizon submitted that "the process put in the proposed Costing Principles for an annual roll-forward of the RAB is generally in accordance with typical regulatory processes."

161. Aurizon submitted that section 47P of the Code requires a railway owner to submit its updated RAB to the ERA for review.[76] 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 (section 47Q) and the efficiency of capital expenditure inclusions in the RAB (section 47V). This review may result in changes being required to be made to the RAB. Aurizon submitted that the costing principles

[75] There are 220 route sections listed in Appendix 1 of the proposed Costing Principes.

[76] Aurizon submission p. 23.

should specify how the RAB will be adjusted if the ERA requires a change to the RAB as the result of such a review.

Arc

162. In its second supporting document, Arc acknowledged that CBH and Aurizon both provided submissions regarding the period between the valuation date and the first updated RAB likely not being a full year, and accepted that allowances will need to be made in the case the relevant period for the first updated RAB is less than a full year. The valuation date is proposed to be 31 December 2024, however, there remains an ability for the ERA and Arc to agree an alternate date if circumstances require. Arc considers the proportional adjustments required for a partial relevant period to be standard adjustments that it will perform and submit supporting documentation for the ERA's approval at the appropriate approval stage.[77]

163. Arc suggested that the following words be added to the proposed Costing Principles at the end of section 3.1:[78]

> Where a Relevant Period for an Annual RAB Update is not equal to one full year (most likely, only the first Relevant Period), relevant proportional adjustments (for example indexation) will be made to account for the shorter or longer period, as applicable. Any such adjustments will be described in full in the supporting information submitted to the ERA.

Marsden Jacob report

164. Marsden Jacob reported that the general RAB calculation and updating method contained in section 3.1 of the proposed costing principles are consistent with the RAB definition in section 47J and requirements for the updating of the RAB as defined in section 47N(1).

ERA considerations

165. The ERA does not agree with Aurizon's submission that section 3.1 of the proposed costing principles should specify how the RAB will be adjusted in the event that the ERA requires a change to the RAB as the result of any reviews required under sections 47Q or 47V. The ERA considers that prescribing an adjustment mechanism may prejudge any instruction given by the ERA as a result of any such review.

Section 3.2 - Asset indexation

166. Section 3.2 of the proposed costing principles defines asset indexation as the value of asset indexation to be added to the RAB (second dot point referred to in paragraph b)), to be calculated as:

Asset indexation = $RAB \times (CPI_n / CPI_o) – RAB$; or

= $RAB \times (CPI_n / CPI_o - 1)$

where:

[77] Arc Explanatory Supporting Document 2, page 8.

[78] Arc Explanatory Supporting Document 2, page 9.

CPI_n is the Perth Consumer Price Index (all Groups) for the June quarter of the Relevant Period;

CPI_o is the Perth Consumer Price Index (all Groups) for the June quarter of the prior Relevant Period;

For the avoidance of doubt, the Asset Indexation value shall not be less than zero.

167. Relevant period is defined in section 1.4 of the proposed costing principles and that definition is consistent with the definition shown in section 47N(4) of the Code.

Submissions

CBH

168. CBH submitted that the indexation approach should not apply to the first RAB update, as that would overcompensate Arc for inflation, and that asset indexation for the first RAB update should be based on the change in CPI from the December quarter 2024 to the June quarter 2025.[79]

169. CBH submitted that the eight capital cities CPI is a more appropriate than the Perth index as it reflects that the notional investor will consider inflation across Australia.[80]

170. CBH submitted that there is no valid reason why asset indexation should be less than zero, if inflation is negative.[81] The proposed constraint would result in Arc's investors being overcompensated for the risk of inflation, and should be removed.

Aurizon

171. Aurizon submitted that it would be clearer to define the term RAB as "the opening RAB at the start of the relevant year."[82]

Pacific National

172. Pacific National disagreed with Arc's proposal that the asset indexation value should not be less than zero, and that the CPI should apply regardless of the direction of its movement.[83] Pacific National submitted that allowing the proposed wording would result in the railway owner being overcompensated.

Arc

173. In its first supporting document, Arc submitted that asset indexation not being less than zero is a standard term to match Arc's access agreements. Arc submitted that local labour forms a significant portion of Arc's expenditure and these costs do not decrease in a negative CPI environment.[84]

79 CBH submission paragraph 46(a).

80 CBH submission paragraph 46(b).

81 CBH submission paragraph 46(c).

82 Aurizon submission page 20.

83 Pacific National submission page 5.

84 Arc Explanatory Supporting Document 1, page 7.

174. Arc submitted that, as the asset valuation date is 31 December 2024 (or as otherwise agreed between Arc and the ERA) and the updated RAB is based on financial years, the indexation calculation for the first updated RAB is expected to need an adjustment to allow for a partial year.[85]

Marsden Jacob report

175. Marsden Jacob reported that the statement in section 3.2 "Asset Indexation value shall not be less than zero" should be removed, as it does not appear to be consistent with or allowed for under the Code.

176. Marsden Jacob reported that section 3.1 of the costing principles should provide greater clarity around what time of year the RAB will be first set and updated, as well as clarifying how the indexation formula will apply for the first indexation of the RAB.

ERA considerations

177. The ERA notes the CBH submission that the reference to CPI in section 3.2 should be changed to the 8 Capital Cities all group index, and considers this is unnecessary. The ERA has already required (see Required Amendment 1) that the definition of CPI in section 1.4 of the Costing Principles refer to the 8 Capital Cities all group CPI, and not the Perth CPI.

178. In section 3.2 of the costing principles, it is sufficient to remove the reference to the Perth CPI from the definitions of CPI_n and CPI_o, but that the addition of a reference to the 8 Capital Cities index is not necessary.

179. The ERA does not consider it necessary to specify the proportion of CPI indexation that will apply to the first RAB update, as it is not clear what that proportion will be and as it is standard regulatory practice to adjust that proportion appropriately.

180. The ERA does not agree with Aurizon that it would be clearer to define the term RAB as "the opening RAB at the start of the relevant year." The Code does not use that wording, but, conversely, refers to the "updated RAB" (closing RAB) which is the terminology adopted by Arc in its proposed costing principles.

181. The ERA agrees with the CBH and Pacific National submissions and the Marsden Jacob report that the statement in section 3.2 "Asset Indexation value shall not be less than zero" should be removed, as it is not consistent with regulatory practice and that inclusion of the statement would allow Arc's investors to be overcompensated for the risk of inflation.

[85] ibid

Required Amendment 8

Section 3.2 must be amended as follows:

- Amend the definition of CPI_n to:

  "CPI for the June quarter of the Relevant Period"

- Amend the definition of CPI_o to:

  "CPI for the June quarter of the prior Relevant Period"

- Remove the words:

  "for the avoidance of doubt, the Asset Indexation value shall not be less than zero"

Section 3.3 - Capital expenditure

182. Section 3.3 of the proposed costing principles refers to the capital expenditure to be to be added to the RAB. Capital expenditure is defined in section 1.4 of the proposed costing principles as:

> The capital expenditure incurred by the Railway Owner or an Associate of the Railway Owner in relation to the Railway Network including capital:
>
> a) to maintain capacity to meet existing levels of demand;
>
> b) to increase the capacity, level of service or life of an asset to meet increased demands;
>
> c) to maintain or improve the safety of rail operations;
>
> d) to maintain the integrity of rail operations;
>
> e) to comply with regulatory obligations or requirements;
>
> f) approved under section 47S of the Code; and…

This definition is consistent with the definition of capital expenditure in the Code at Sections 47O and 47S.

183. Section 3.3 of the proposed costing principles states:

> Investments will be assumed to occur, on average, mid-year, so that a half- WACC will be added to the Capital Expenditure to compensate for the six-month period before Capital Expenditure is included in the RAB.

184. Section 3.3 states:

> Where Capital Expenditure creates an additional Route or Route Section, this addition will be valued using the DORC methodology and otherwise in accordance with these Costing Principles.

Submissions

CBH

185. CBH submitted that the Code requires Arc to ensure that any capital expenditure incurred is efficient, and referred to section 47V and clause 4 of

Schedule 4.[86] CBH submitted that section 3.3 of the proposed costing principles should specifically require capital to be efficient and prudent for that capital to qualify for inclusion in the RAB. CBH submitted that greater transparency in the costing principles would provide all parties with greater certainty around future costs.

186. CBH submitted examples of efficiency assurances, being:[87]

- Specifying that only prudent or efficient capital expenditure can be added to the RAB.
- Assuring that the network operator has engaged with network users to support proposed capital expenditure.
- Provision of business cases to support proposed capital expenditure.
- Benchmarking of costs against other comparable infrastructure owners.
- Demonstration of competitive tendering processes.

187. CBH submitted that section 3.3 should include a formula to demonstrate the calculation of the proposed half-year WACC.[88]

188. CBH submitted that the application of the DORC method to value additional routes is inappropriate and inconsistent with the purpose of the DORC which is to estimate the replacement cost of existing assets, not new assets.[89]

Aurizon

189. Aurizon submitted that there should be a clearer delineation 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 (in Appendix 2) or the remaining economic life of the route section (as defined in the Code).[90]

190. Aurizon submitted that the typical approach to reflect investments occurring on average mid-year is to apply a half year indexation to the assets to arrive at the closing RAB.[91] Aurizon submitted that this reflects that once new assets are installed, they are able to be used in a revenue generating capacity, and that accordingly, the return component should be recognised in the allowable capital charge rather than being capitalised into the RAB itself.

191. Aurizon submitted that it is appropriate to value new infrastructure as equal to the efficient capital expenditure incurred in developing that infrastructure, and that to value it on a DORC basis creates the risk of a different value being ascribed to that asset, which may potentially create a windfall gain or loss for Arc.[92]

---

86 CBH submission paragraph 48. Schedule 4 of the Code requires capital expenditure to be efficient. Section 47V requires the Regulator to assess the efficiency of capital expenditure.

87 CBH submission paragraph 52.

88 CBH submission paragraph 51.

89 CBH submission paragraph 53.

90 Aurizon submission page 20.

91 ibid.

92 ibid.

Pacific National

192. Pacific National submitted that Arc should provide stakeholders and the ERA with sufficient information to assess the prudency of capital expenditure and this information should be auditable.[93] Pacific National submitted that the costing principles should include a consultation policy that sets out how the railway owner will consult with access seekers on a capital expenditure project, and suggested a process involving public consultation.

Arc

193. Arc submitted that it accepts both CBH and Aurizon's submissions that capital expenditure to create a new route or route section should be valued at the efficient cost rather than on a DORC basis. Arc suggested that the wording of the last sentence of section 3.3 of the costing principles be amended by replacing the word "DORC" with the word "same".[94]

Marsden Jacob report

194. Marsden Jacob reported that the statement referring to a "half-WACC" requires clarification, and that a formula is needed to explain the application of this sentence. Marsden Jacob recommended the following explanation be included in section 3.3:

> Capital expenditure that is added to the RAB at the end of the relevant year is equal to capital expenditure multiplied by $(1+WACC)^{(1/2)}$

This approach is consistent with the post-tax revenue models published by the Australian Energy Regulator.

195. Marsden Jacob reported that section 3.3 of the proposed costing principles should include reference to how costs incurred to acquire land (as per clause 2(5)(a) and (b) Schedule 4 to the Code) are to be amortised when included as part of capital costs.

196. Marsden Jacob reported that section 3.3 of the proposed costing principles should be amended to state that capital expenditure will be efficient, as required by section 47N(3) of the Code.[95] Marsden Jacob reported that the costing principles should provide more information on how Arc intends to develop forecast capital expenditures.

ERA considerations

197. The ERA agrees with the CBH submission and Marsden Jacob that the statement referring to a "half-WACC" requires clarification, and that a formula is needed to explain the application of this sentence. The ERA agrees that the explanation suggested by Marsden Jacob should be included in section 3.3 of the costing principles.

---

93 Pacific National submission page 6.

94 Arc Explanatory Supporting Document, page 10.

95 Note (b) under section 47N(3) to the Code states: "The Regulator must assess each updated regulatory asset base determination and determine in accordance with section 47V whether capital expenditure added under paragraph (c) for the purposes of making the updated regulatory asset base determination is efficient or inefficient."

198. The ERA agrees with the Aurizon submission and Marsden Jacob that the costing principles must include a description of how costs incurred to acquire land are to be amortised when included as part of capital costs. The ERA considers that, as this will be adequately defined in section 2.3 (as per required amendment 3), it is not required to be described in section 3.3 also.

199. The ERA agrees with the CBH submission and Marsden Jacob that section 3.3 of the costing principles should provide some information on how Arc intends to develop forecast capital expenditures, and should include a statement that capital expenditure will be efficient, as required by section 47N(3) [note b] of the Code, and provide for that to be evidenced for the purpose of informing the ERA in the discharge of its obligations under section 47V.[96]

200. The ERA notes the concerns raised in Aurizon's and CBH's submissions that to value new infrastructure on a DORC basis creates the risk of a different value being ascribed to that asset, which may potentially create a windfall gain or loss for Arc. The ERA agrees that it is appropriate to value new infrastructure as equal to the efficient capital expenditure incurred in developing the infrastructure. The ERA agrees with the view that the purpose of DORC is to value replacement assets, not new assets. Arc's submission regarding this matter in its explanatory document is also noted. The ERA agrees that the last sentence of section 3.3 of the costing principles should be amended.

201. The ERA agrees with the Aurizon submission that there should be a clearer delineation between the concept of physical and economic lives. This has been addressed in paragraph 152 and 153 and in Required Amendment 7.

202. This decision has required (see required amendment 7) that all references to standard effective life should be amended to standard design life. The ERA considers that the reference in the second paragraph of section 3.3 to "Economic Life relevant to their asset class, as specified in Appendix 2" should be corrected to read "Economic Life equal to the Standard Design Life relevant to their asset class as specified in Appendix 2".

Required Amendment 9

The following words must be added to section 3.3, after the first paragraph:

"The Railway Owner will ensure that Capital Expenditure is efficient and will provide the Regulator with all supporting material necessary for the Regulator to meet its obligations under section 47N and section 47V in the determination of the efficiency of the Railway Owner's capital expenditure. The supporting material will include:

- Provision of business cases to support proposed capital expenditure;
- Benchmarking of costs against other comparable infrastructure owners; and
- Demonstration of competitive tendering process"

[96] Section 47V – Regulator to assess efficiency of capital expenditure.

The words “Economic Life” in second paragraph of section 3.3 must be replaced with “Economic Life equal to the Standard Design Life”:

The following words must be added to section 3.3 following the third paragraph:

> “Capital expenditure that is added to the RAB at the end of the relevant year is equal to capital expenditure multiplied by $(1+WACC)^{(1/2)}$”

The final paragraph of section 3.3 must read:

> “Where Capital Expenditure creates an additional Route or Route Section, this addition will be valued using the same methodology and otherwise in accordance with these Costing Principles ”

Section 3.4 - Contributed Capital

203. Section 3.4 of the proposed costing principles outlines the process by which the capital expenditure to be added to the RAB will be adjusted for contributed capital. The adjustment is proposed to be on a proportional rate reflecting the percentage of the asset funded by parties other than Arc. This process is analogous to the adjustment process outlined for contributed capital in the initial RAB, described in paragraph 78 of this document.

204. Section 3.4 of the proposed costing principles is analogous to section 2.3 of the proposed costing principles, with section 2.4 applying to the Initial RAB and section 3.4 applying to capital expenditure. Apart from these objects, the sections are worded identically.

Submissions

Aurizon

205. Aurizon submitted that where Arc requires an access seeker to fully fund an expansion, upgrade or asset replacement over the term of an agreement, the assets should normally be reflected as contributed capital and excluded from the RAB.[97] Aurizon submitted that if the investment is not classified as contributed capital – for example, if the accelerated capital recovery is earned through access charges rather than 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.

Marsden Jacob report

206. Marsden Jacob reported that section 3.4 should be amended so that information from the definition in section 47B of the Code, which defines terms used in the division of the Code dealing with regulatory asset base functions, is included. This would provide further information on the definition of contributed capital.

207. Marsden Jacob reported that contributed capital applies to both new capital expenditure and expenditure for optimised replacement assets, and that the

[97] Aurizon submission page 21.

costing principles refer only to new capital expenditure. Section 47G, which deals with prohibition of contributed capital, requires that "when valuing railway infrastructure under or for the purposes of this Code", contributed capital should also be excluded when considering the optimised replacement cost of assets.

ERA considerations

208. The ERA notes that the definition of contributed capital in section 47B of the Code is used as the definition of contributed capital in section 1.4 of the proposed costing principles. The ERA does not agree with the Marsden Jacob report advice that the definition should be duplicated in section 3.4.

209. The ERA notes that 100 per cent of contributed capital is valued as the "contribution value" at the time it is contributed, and therefore that the wording amendment required in section 2.4 of the proposed costing principles, dealing with how contributed capital is to be treated, is not necessary in section 3.4.[98] Nevertheless, the ERA considers that, for consistency, an equivalent amendment should apply to section 3.4. This would also ensure that the term "contribution value" does not occur anywhere in the proposed costing principles.

210. Section 47B of the Code contemplates the recovery of capital charges by payments which are not charges for access. The ERA agrees with Aurizon that if capital recovery is earned through access charges rather than a separate capital recovery charge, that the capital recovery component should be reflected as accelerated depreciation within the depreciations schedule, with the economic life for the investment set to reflect the term of the access agreement. Doing this would ensure that assets are accounted for in a manner consistent with the Code requirement and would avoid double counting.

Required Amendment 10

In section 3.4, the words "100% of the contribution value will be removed from the asset replacement cost" must be replaced with "the replacement cost of the asset will be removed from the Updated RAB".

The following words must be added to section 3.4:

> "If an investment which is contributed is not classified as Contributed Capital – for example if capital recovery is earned through access charges rather than a separate capital recovery charge – the contribution should be reflected as accelerated depreciation within the depreciations schedule, with the economic life for the investment set to reflect the term of the access agreement."

[98] See Required Amendment 4.

Section 3.5 - Depreciation

211. Section 3.5 of the proposed costing principles provides for the preparation of a depreciation schedule in respect of railway infrastructure assets, which will set out the depreciation to be applied against particular assets within relevant asset groups over their economic life.

212. Section 3.5 outlines that Arc will establish a depreciation schedule and describes how it will depreciate assets over their economic life pursuant to the depreciation schedule.

213. The term economic life is defined in section 1.4 of the proposed costing principles as having the meaning of economic life as defined in section 3 of the Code.[99]

214. Depreciation schedule is defined in section 1.4 as having the meaning of depreciation schedule referred to in section 47Q of the Code. Section 47Q refers to applicable depreciation schedule, which is not defined in the Code, but is required at section 47K(5) to meet the following requirements:

> a) sets out an annual depreciation profile for each asset or group of assets that is applicable railway infrastructure; and
>
> b) provides for each asset or group of assets to be depreciated over its economic life (whether the depreciation is distributed uniformly or otherwise); and
>
> c) provides for each asset to be depreciated only once, that is, so that the sum of the return of capital that is attributable to an asset over its economic life, via depreciation or otherwise, does not exceed the value of the asset at the time at which it is first included in a regulatory asset base; and
>
> d) is designed so that access prices will vary over time in a way that promotes efficient growth in the market for rail access; and
>
> e) allows, as far as reasonably practicable, for adjustments that reflect changes in the expected economic life of a particular asset or group of assets; and
>
> f) allows for the legitimate business interests of the railway owner, access seekers and access holders.
>
> Note for this subsection:
>
> Section 60 provides for certain transitional arrangements that apply despite paragraphs (d) and (f) of this subsection.

215. Section 3.5 of the proposed costing principles provides that the depreciation schedule will meet the requirements of section 47K(5) of the Code.

216. Section 1.4 of the proposed costing principles includes the following words under the definition of depreciation schedule:

> For the purposes of these Costing Principles, the Depreciation Schedule will describe depreciation in respect of each year of an asset's Economic Life. Depreciation may be applied evenly over an asset's Economic Life, or may vary over time.

[99] **economic life**, in relation to an asset that is railway infrastructure, means the period over which the asset is reasonably expected to remain economically usable by 1 or more entities,

217. Section 3.5 of the proposed costing principles provides for Arc to change the economic life of an asset in order to:

- accelerate depreciation, where there is a risk of asset stranding (pursuant to section 47K(6)(a) of the Code) or where the Railway Owner expects that it would not continue to manage and control the use of the Route;
- accelerate or decelerate depreciation, where there is a change in the projected Economic Life of the asset (pursuant to section 47K(5)(e); or
- defer depreciation, where the market for access to the asset is relatively immature (pursuant to section 47K(6)(b) of the Code).

218. Section 3.5 indicates that where economic lives are reassessed, the applicable depreciation will also be reassessed with reference to the depreciation schedule, that this will not occur more than once per relevant period, and that it is subject to approval by the ERA pursuant to sections 47K(3) (dealing with the approval of the applicable depreciation schedule) and 47Q (when submitting a regulatory asset base review statement dealing with the assessment of an applicable depreciation schedule) of the Code.

219. Section 3.5 states that in the event that the remaining value of the asset is less than the amount of depreciation calculated and attributable to the asset in the relevant period, the lesser value will be used, in compliance with the double counting provisions in section 47F of the Code.

Submissions

CBH

220. CBH submitted that section 3.5 should be amended to explicitly state that straight line depreciation will be the default depreciation schedule that will apply except in circumstances where it is appropriate to accelerate or decelerate depreciation in line with the provisions of section 47K(6) of the Code.[100] CBH submitted that section 47K(6) establishes accelerated or deferred depreciation as exceptions to depreciation "distributed uniformly across each year of the economic life of the asset or group of assets."[101]

221. CBH submitted that accelerating depreciation where the railway owner expects it would not continue to manage and control use of the route is inconsistent with the Code, and confuses the concept of depreciating Arc's cost of acquiring the asset and the economic value of the asset, which are distinct.[102] CBH submitted that this would result in a maximum depreciation period equal to the outstanding term of Arc's lease (around 25 years), undermining the standard design lives for many of the high capital value assets. CBH submitted that economic use of an asset by at least one user applies, regardless of whether Arc manages and controls use of the network, and that changes in control do not affect an asset's economic life.[103]

222. CBH submitted that the third dot point in the second set of points in section 3.5 of the proposed costing principles "defer depreciation, where the market

[100] CBH submission paragraph 59.

[101] CBH submission paragraph 58.

[102] CBH submission paragraph 61.

[103] CBH submission paragraph 62.

for access to the asset is relatively immature (pursuant to section 47K(6)(b) of the Code)" should be changed to "Depreciation may also be deferred where the market for access to the asset is relatively immature (pursuant to section 47K(6)(b) of the Code)."[104] This is because deferring depreciation does not change the economic life of an asset.

223. CBH submitted that section 3.5 of the proposed costing principles leaves it open for Arc to adjust the economic life (and depreciation profile) of an asset at least once per relevant period (that is, once per year).[105]

224. CBH submitted that any change in depreciation profiles should be contingent on Arc demonstrating that there has been a material change in circumstances that could not have been foreseen by a prudent owner at the time the depreciation profile was last assessed, and that this would reduce uncertainty by linking changes to depreciation profiles to cases of clear and significant changes in market conditions.[106]

Aurizon

225. Aurizon submitted that the requirements of section 47K(5) of the Code are paraphrased in section 3.5 of the proposed costing principles and that this creates the risk of potential inconsistencies.[107] Aurizon submitted that, to the extent that Code provisions are stated in the costing principles, they should directly reflect the requirements of the Code.

226. Aurizon submitted that the proposed costing principles are silent on the depreciation profile to be adopted, 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.[108] Aurizon submitted that in almost all circumstances, regulatory DORC values adopt a straight line depreciation assumption, and that this should be clearly specified in Arc's costing principles.

227. Aurizon submitted that the costing principles should limit Arc's ability to change economic life to where it can demonstrate 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.[109]

228. Aurizon submitted 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.[110] Aurizon submitted that permitting Arc to accelerate depreciation of the assets over the remaining term of its lease will accelerate depreciation of the assets in the absence of an economic life constraint on the route. Aurizon submitted that this would change the balance of the lease value, increasing the value of Arc's current lease, and reducing the value of

[104] CBH submission paragraph 64 and Recommendation 9(e) page16.
[105] CBH submission paragraph 65.
[106] CBH submission paragraph 66.
[107] Aurizon submission page 21.
[108] Aurizon submission page 18.
[109] Aurizon submission pp. 21-22.
[110] Aurizon submission pp. 22-23.

any subsequent lease. Aurizon submitted that Arc should not be permitted to use the costing principles to increase the value of its lease.

Pacific National

229. Pacific National submitted that the costing principles should reflect the reference in the Code at section 47K(5) (Applicable depreciation schedule), to parameters around the depreciation profile and economic life, and that more information should be provided about how economic life will be set and the process to be used.[111]

230. Pacific National submitted that the process for setting or adjusting asset lives should be designed to minimise the risk of price shocks, and submitted that the costing principles provide clarity on how Arc will manage this to minimise uncertainty for rail operators.[112]

231. Pacific National referred to section 47K(5)(d) of the Code which states that the depreciation schedule should be:

> Designed so that access prices will vary over time in a way that promotes efficient growth in the market for rail access and allow for the legitimate business interests of the railway owner, access seekers and access holders. [113]

Arc

232. In its first supporting document, Arc submitted that the Code allows for depreciation to be non-uniform and for an asset's life to be changed. Arc submitted that the proposed costing principles do not allow an asset's economic life and applicable depreciation to be changed more than once per relevant period and, moreover, not without the ERA's approval.[114]

233. Arc provided an example where it may seek to change an asset's depreciation profile without changing its economic life; being where the market for access to the railway infrastructure is immature. Arc submitted that, in this circumstance, Arc would seek to change to a different depreciation profile with the same economic life, deferring depreciation until later years of the economic life, and reducing the percentage of depreciation in the earlier years.[115]

234. Arc does not consider the expiry of the network lease as a relevant factor in determining an asset's depreciation profile or economic life.[116]

235. Arc submitted that the final paragraph of section 3.5 of the proposed costing principles is to prevent double counting and that if, for example, an asset's depreciation profile stipulates that an asset should be depreciated by $100 but there is only $20 of the asset value remaining in the RAB to be depreciated, then the depreciation applied will be $20.[117]

---

111 Pacific National submission page 6.

112 ibid.

113 Pacific Nation submission page 6

114 Arc Explanatory Supporting Document 1, page 7.

115 Ibid.

116 Ibid.

117 Ibid.

Marsden Jacob report

236. Marsden Jacob reported that the depreciation method described in section 3.5 of the proposed costing principles is consistent with the Code, but that:

- The approach to depreciation should be more clearly stated. For example, whether the approach is distributed uniformly (which would be interpreted as straight line depreciation) or some other method is used. Where a mix of approaches are intended to be applied, the costing principles should give some indication as to the circumstances under which they would apply.
- For consistency, "for access prices to vary over time" should be changed to "is designed so that access prices will vary over time in a way that promotes efficient growth in the market for rail access."

237. Marsden Jacob reported that the words "or where the Railway Owner expects that it would not continue to manage and control the use of the Route" should not be removed from section 3.5 as those words are not consistent with the Code.

238. Marsden Jacob reported that straight line depreciation is used in the Hunter Valley Coal Network Access Undertaking.

239. Marsden Jacob found that the last paragraph in section 3.5 is confusing and should be re-worded. The paragraph in question currently states:

> In reassessing an asset's Economic Life, the Railway Owner will also redetermine the applicable depreciation for that asset by reference to the Depreciation Schedule. The Railway Owner will apply that depreciation in respect of the asset for the Relevant Period and for the remainder of the asset's reassessed Economic Life or until such time as the Economic Life of that asset is reassessed again. The Railway Owner will not change an asset's Economic Life or relevant depreciation more than once per Relevant Period.

240. Marsden Jacob reported that the section 47H(4) of the Code requires that:

> If the statement specifies that assets will be grouped for the purpose of determining the depreciated optimised replacement cost of applicable railway infrastructure, the Regulator must not approve the statement under (3)(a) unless the Regulator is satisfied that –
>
> a) assets will only be grouped with other assets that are –
>
> i) in the same route section; and
>
> ii) the same, or a similar, category of railway infrastructure; and
>
> iii) of a similar age and condition
>
> b) assets will not be grouped in a way that will result in access holders paying for assets they do not use; and
>
> c) asset will not be grouped in a way that will interfere with the Regulator's ability to monitor compliance by the railway owner with the provisions of the Code.[118]

241. Marsden Jacob reported that, as section 3.5 of the proposed costing principles indicates that assets will be grouped to determine depreciation, the

[118] Section 47H(4) of the Code.

requirements of section 47H(4) of the Code should be addressed in the costing principles.

ERA considerations

242. The ERA considers that the approach to the depreciation profile is stated clearly in Arc's proposed costing principles and that the reference to uniform depreciation is plain and in common usage. The ERA notes that the Code requires that the applicable depreciation schedule "provides for each asset or group of assets to be depreciated over its economic life (whether the depreciation is distributed uniformly or otherwise)."[119]

243. The ERA notes that this terminology does not concur with the views of CBH and Marsden Jacob, but that Aurizon and Pacific National did not object to the use of the term uniform depreciation.

244. The ERA does not agree with CBH's submission that it is necessary for the costing principles to establish uniform (or straight-line) depreciation as the default depreciation schedule, as this is not a requirement of the Code. The Code does require the ERA to assess the appropriateness of any accelerated or deferred depreciation schedule prior to its approval. Section 60 of the Code deems non-uniform depreciation schedules appropriate under certain circumstances as part of transitional arrangements.

245. The ERA has noted Arc's first supporting document and considers that adequate distinction has been drawn between uniform and non-uniform depreciation, and adequate assurance has been provided that the costing principles do not allow an asset's economic life and applicable depreciation to be changed more than once per relevant period and, moreover, not without the ERA's approval.

246. The ERA agrees with Marsden Jacob that the Code provisions at section 47H(4) relating to the grouping of assets should be addressed in section 3.5 of the costing principles.

247. The ERA agrees with CBH's submission that the third dot point in the second set in section 3.5, which indicates that the railway owner may change an asset's economic life to "defer depreciation, where the market for access to the asset is relatively immature" should be changed to "Depreciation may also be deferred where the market for access to the asset is relatively immature." This is because deferring depreciation does not change the economic life of an asset if the expectation is that the asset can be used for the reminder of its economic life.

248. The CBH submission raised concern that the current wording of section 3.5 of the proposed costing principles allows Arc to adjust the economic life (and depreciation profile) of an asset more than once per relevant period. The ERA considers that section 3.5 does not allow Arc to adjust the economic life (and depreciation profile) of an asset more than once per relevant period. The last sentence in the last paragraph of section 3.5 of the proposed costing principles is clear that:

[119] Section 47K(5)(b) of the Code.

> The Railway Owner will not change an asset's Economic Life or relevant depreciation more than once per Relevant Period.

249. The ERA agrees with CBH and Aurizon that section 3.5 of the costing principles should provide a commitment to provide evidence for changes in circumstances that could not have been foreseen by a prudent owner at the time the depreciation profile was last assessed. This would occur as part of the process of approval of depreciation schedules by the ERA under sections 47K(3) and 47Q of the Code.

250. The ERA does not consider that section 3.5 must necessarily provide replicated wording of section 47K(5) of the Code. The ERA considers that if the relevant section of the Code is referred to, the reference to the Code will supersede any text in the costing principles.

251. Pacific National submitted that the process for setting or adjusting asset lives should be designed to minimise the risk of price shocks, and submitted that the costing principles provide clarity on how Arc will manage this to minimise uncertainty for rail operators.

252. The ERA agrees that for consistency with the section 47K(5) of the Code, the words "for access prices to vary over time" should be changed to "is designed so that access prices will vary over time in a way that promotes efficient growth in the market for rail access" and that this change process should be evidenced in the costing principles.

253. CBH and Aurizon submitted that the term of the asset lease should not be a consideration in allowable changes to the economic life. The ERA agrees with these submissions and Marsden Jacob, and considers that the words "where the Railway Owner expects that it would not continue to manage and control the use of the Route" are not appropriate in section 3.5 of the proposed costing principles.

254. Arc stated in its first supporting document that it does not consider the expiry of the network lease as a relevant factor in determining an asset's depreciation profile or economic life. To the extent that Arc's intention with that wording may have been to indicate that the railway owner expects a route to be closed for economic reasons, the ERA considers that any such route (including those which have previously been closed for economic reasons) remain under the railway owner's management and control as long as those routes remain listed in Schedule 1 to the Code.

Required Amendment 11

Section 3.5 must be amended to include the following words after the first paragraph:

> "Assets will only be grouped with other assets that are in the same route section; in the same, or a similar, category of railway infrastructure; and are of a similar age and condition. Assets will not be grouped in a way that will result in access holders paying for assets they do not use, or in a way that will interfere with the Regulator's ability to monitor compliance by the Railway Owner with the provisions of the Code."

Section 3.5 must be amended to remove the words “or where the Railway Owner expects that it would not continue to manage or control the use of the Route” in the first point of the second set of dot points.

Section 3.5 must be amended, in the third point of the second set of dot points, to replace the words “defer depreciation” to “depreciation may also be deferred” and to make that point as a separate paragraph following the first two points.

Section 3.5 must be amended to add the words “As part of the approval process, the Railway Owner will provide evidence for changes in circumstances that could not have been foreseen by a prudent owner at the time the depreciation profile was last assessed” at the end of the second last paragraph.

Section 3.5 must be amended to add the words “in a way that that promotes efficient growth in the market for rail access” following “for access prices to vary over time” at the end of the point in the first set of dot points

Section 3.6 - Disposed Redundant and Stranded Railway Infrastructure

255. Section 3.6 of the proposed costing principles provides for the updated RAB to be diminished by the value of assets disposed of, made redundant or stranded. These terms are not defined in the proposed costing principles, but are described in section 3.6 as follows:

- Disposed of, where that railway infrastructure has been decommissioned and removed from the railway network.
- Redundant, where that railway infrastructure is no longer in use and is no longer required to be used due to replacement with other railway infrastructure, changes in standards, advancements in technology, or similar.
- Stranded, where that railway infrastructure has been fully depreciated as per section 3.5 of these costing principles and taken out of service due to lack of foreseeable demand.

Submissions

CBH

256. CBH submitted that the description of “disposed of” assets should specifically mention assets that Arc no longer manages or controls, noting that such assets may not be decommissioned but remain in service to be managed and controlled by another party.[120] This would prevent Arc being compensated for assets it no longer manages or controls.

257. CBH submitted that the last dot point on stranded assets is not required, as when an asset is fully depreciated it will fall out of the RAB as part of the standard roll-forward process.[121]

[120] CBH submission paragraph 68.

[121] CBH submission paragraph 69.

258. CBH submitted that Arc has not implemented the rationale for the last paragraph of section 3.6 correctly.[122] Specifically, the "half-WACC" applied to the disposed assets should be deducted from the return on capital allowance for that year, and not from the RAB itself.

Aurizon

259. Aurizon submitted that it is not appropriate to state 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 a lack of foreseeable demand.[123] Aurizon submitted that this is not consistent with requirements of the Code, whereby stranded assets refer to the circumstance where there is no foreseeable demand for the assets, and no alternative use for the assets, and this circumstance - that is, where there is no foreseeable demand for the assets - applies irrespective of whether there is a value for those assets in the RAB. Aurizon submitted that asset stranding risk refers to the risk that assets are not fully depreciated at this time, and that the requirement that assets have been fully depreciated in order to be considered stranded, should be removed.

260. Aurizon submitted that, consistent with its submission in relation to section 3.3 of the proposed costing principles, that the assumed mid-year disposal of assets should be addressed by deducting a half year indexation of these assets from the closing RAB, and the return comment should be addressed in the calculation of the capital charge.[124]

Arc

261. In its second supporting document, Arc acknowledged that CBH recommended including a half-WACC formula in the costing principles, and further recommended that the half-WACC adjustment be added to/deducted from the return on capital allowance, rather than the RAB. Arc acknowledged that Aurizon recommended that only a half year of indexation is added to/deducted from the RAB, and the return component is added to/deducted from the return on capital allowance rather than the RAB.

262. Arc intends that the development of the "return on" component of the capital cost is consistent with clause (2)(4)(a) of Schedule 4 to the Code by "multiplying the current regulatory asset base of each relevant route section, which must be updated annually throughout the relevant period, by the weighted average cost of capital appropriate to the railway infrastructure." In this context, the appropriate means of recognising that any capital added to or deducted from the RAB by the end of the year will have happened on average at the middle of the year (and that there is half a year of return to be taken account of) is to adjust the RAB by this amount. As noted by CBH, this is consistent with other regimes and is considered by Arc to be standard practice.

263. Arc submitted that, in practice, it expects the half-WACC adjustment will be given effect to by combining the additions and disposals and applying the half-WACC to the net capital change figure. On this basis, Arc does not

[122] CBH submission paragraphs 70-71.

[123] Aurizon submission page 20.

[124] Aurizon submission page 21.

support CBH and Aurizon's submissions that the return on capital allowance be adjusted rather than the RAB.

264. Arc submitted that the following words be added to the end of sections 3.3 and 3.6 of the proposed costing principles.

> In practice, the application of the half WACC adjustment will be done in accordance with section 47N of the Code, by updating the RAB by the Net Capex Value by the following method:
>
> $Net\ Capex\ Value = Net\ Capex\ \times (1 + WACC)^{1/2}$
>
> Where Net Capex is investments less any corresponding disposals during the Relevant Period (with appropriate adjustments for any Relevant Period that is not one year in length).

Marsden Jacob report

265. Marsden Jacob reported that in section 3.6, the definition of stranded assets should exclude a reference to the asset being fully depreciated. Marsden Jacob reported that the Code, under section 47N(3)(e) does not allow for an asset to remain in the RAB if it considered stranded, even if it has not been fully depreciated.

ERA considerations

266. The ERA does not agree that the description of "disposed of" assets should include assets that Arc no longer manages or controls. Schedule 1 to the Code dictates the routes to be regulated under the Code. Therefore, the ERA considers that assets included in any routes removed from the railway owner's control will be removed from the railway network as Schedule 1 to the Code lists routes to which the Code applies. The ERA considers that routes closed for economic reasons or "put into care and maintenance" remain under the management and control of the railway owner as long as those routes remain listed in Schedule 1 to the Code.[125]

267. The ERA agrees with CBH's submission that the last dot point in section 3.6 of the proposed costing principles relating to stranded assets should not refer to fully depreciated assets as the Code, under section 47N(3)(e), does not allow for an asset to remain in the RAB value if it is considered stranded, even if it has not been fully depreciated.

268. With reference to CBH's submission that Arc has not implemented the rationale for the last paragraph of section 3.6 correctly, the ERA agrees with Arc's second supporting document that its proposed method for applying the "half-WACC" to disposed assets is consistent with clause 2(4)(a) of Schedule 4 to the Code. The ERA agrees with the additional words suggested by Arc to be added to the end of section 3.6.

[125] For example, the Teir 3 grain routes or the routes south of Picton.

Required Amendment 12

Section 3.6 must be amended by removing the words "fully depreciated as per section 3.5 of these Costing Principles and" from the third dot point.

Section 3.6 must be amended by the addition of the following words after the last paragraph:

> "In practice, the application of the half WACC adjustment will be done in accordance with section 47N of the Code, by updating the RAB by the Net Capex Value by the following method:
>
> $$Net\ Capex\ Value = Net\ Capex\ \times (1 + WACC)^{1/2}$$
>
> Where Net Capex is investments less any corresponding disposals during the Relevant Period (with appropriate adjustments for any Relevant Period that is not one year in length)."

4. Section 4 - Costs

269. Section 4 of Arc's proposed costing principles addresses the requirements laid out in Schedule 4 to the Code, specifically in Division 1 of Schedule 4 to the Code, which relate to determining costs which must be provided to an access seeker in response to an access proposal.

270. Total cost defines the ceiling price test in clause 8 of Schedule 4 to the Code, which forms an upper limit to the price an access holder must pay for access to railway infrastructure.

271. Section 4.1 of the proposed costing principles outlines how Arc will determine total costs. "Total costs" is defined in clause 1 of Schedule 4 to the Code as (in this order):

- Operating costs: Determination of operating costs is outlined in section 4.2 of the proposed costing principles. "Operating costs" is defined in section 3 of the Code. The Code requires operating costs to be prepared pursuant to section 47R of the Code.[126]
- Capital costs: Determination of capital costs is outlined in sections 4.3 and 4.4 of the proposed costing principles. "Capital costs" is defined in clause 2 of Schedule 4 to the Code, as "the costs comprising both the depreciation and risk-adjusted return on the relevant railway infrastructure."
- Overhead costs: Determination of overheads costs is outlined in section 4.5 of the proposed costing principles. Overhead costs are not defined in the Code but are referred to in clause 1 to Schedule 4 to the Code as "the overheads attributable to the performance of the railway owner's access-related functions whether by the railway owner or an associate." Determination of overhead costs is in conjunction with determination of operating costs pursuant to section 47R "Railway owner to submit operating expenditure."

272. Incremental cost defines the floor price test in clause 7 of Schedule 4 to the Code, which forms the lower limit to the price an access holder must pay for access to railway infrastructure. Incremental costs are defined in clause 1 of Schedule 4 to the Code as:

> Incremental costs, in relation to an access holder or group of access holders, means the following that the railway owner or an associate would be able to avoid if it were not to provide access to that access holder or group of access holders –
>
> a) The operating costs; and
>
> b) Where applicable –
>
> (i) the capital costs; and
>
> (ii) the overheads attributable to the performance of the railway owner's access-related functions whether by the railway owner or an associate.

[126] Section 47R - Railway owner to submit operating expenditure. Operating expenditure is defined in section 3 of the Code as "operating costs and overheads attributable to the performance of the railway owner's access-related functions whether by the railway owner or an associate."

273. Section 4.6 of the proposed costing principles outlines the factors that will be taken into consideration by Arc in determining incremental costs.

Submissions

Arc

274. In its first supporting document, Arc submitted that, as per clause 41 of the Code, the parameters for demonstration of efficiency are entirely at the discretion of the ERA. Arc expects the supporting and evidentiary information required to justify efficient costs may change over time and will be dictated according to the specific circumstances at the time of determination.

275. Arc acknowledged that the onus in all cases will fall on Arc to satisfy the standard required by the ERA, and that in responding to a proposal, sufficient detail will be provided to identify the costs in respect of each year of the term of the proposal.

ERA considerations

276. The ERA does not require any amendment to section 4.0.

Section 4.1 - Total Costs

277. Section 4.1 of the proposed costing principles comprises the following words:

> Total Costs are the sum of the Operating Cost, Capital Costs (depreciation and risk adjusted return) and Overhead Costs, as described in the sections below.

Submissions

CBH

278. CBH submitted that the description of how total costs are determined is consistent with the Code when each of the cost components are interpreted as the Code defines them.[127]

Aurizon

279. Aurizon submitted that the proposed costing principles effectively specify that for the purposes of responding to a proposal, the access seeker will be provided with the sum of the relevant cost category in respect of each year of the term of access.[128]

280. Aurizon submitted that the costing principles should specify that, for the purposes of responding to a proposal under section 9(1)(b)(ii) of the Code, Arc will provide the costs for each route section on which the floor price and ceiling price for the proposed access have been calculated, and section

[127] CBH submission paragraph 78.

[128] Aurizon submission p. 23.

9(1)(b)(i) requires the floor price and the ceiling price to be provided for each year of the proposed access term.[129]

ERA considerations

281. The ERA notes that the definition of total costs in clause 1 of Schedule 4 to the Code is as follows:

> total costs means the total of all –
>
> a) operating costs
>
> b) capital costs; and
>
> c) the overheads attributable to the performance of the railway owner's access related functions whether by the railway owner or an associate.

282. The ERA agrees with CBH submission that the description of how total costs are determined is consistent with the Code. The definition of total costs in section 4.1 of the proposed costing principles aligns with the definition of total costs provided in the Code, except that it does not contain overhead costs only referring to those overhead costs attributable to the performance of the railway owner's access-related functions.

283. Access related functions are defined in section 3 of the Code as:

> Access related functions means the functions involved in arranging the provision of access to railway infrastructure under this Code. [130]

284. Arc Infrastructure defines access related functions in section 2 of its Segregation Arrangements as:

> Access Related Functions has the meaning given to the term 'access-related functions' in section 24 of the Act, and includes:
>
> a) Performance of activities specified under the Act and Code including (but not limited to):
>
> i) calculating the incremental and total costs for approval by the Regulator;
>
> ii) applying the costing principles, the overpayment rules, the Train Management Guidelines and the Train Path Policy; Segregation Arrangements;
>
> iii) ensuring that suitable controls, measures and procedures are established to give effect to the segregation arrangements approved by the Regulator; and
>
> iv) undertaking the steps defined in Parts 2 and 3 of the Code for the negotiation of Access Agreements.
>
> b) Negotiation of Access Agreements and granting of Access rights.
>
> c) Management of Access Agreements including performance monitoring and day-to-day operation issues.
>
> d) Collection, use, and dissemination of train running data including manifest details.

[129] Aurizon submission pp. 23-24.

[130] This definition also appears in section 24 of the *Railways (Access) Act 1998.*

e) Train scheduling, train path allocation, publication of Working Timetables, control planning and the granting of ad-hoc train path entitlements.

f) Train control including provision of appropriate authorities for trains to use scheduled train paths (train orders or signals) and real-time management of trains.

g) Emergency management of the Network including co-ordination of emergency service responses.

h) Development, maintenance and monitoring compliance with appropriate rail safety standards for BR's staff, its contractors and any Operators on the Network.

i) Development and authorisation of the BR Rules (including the General Appendix and Working Timetables) and issue of special notices, instructions and warnings related to the rules.

j) Development of train operating standards (to the extent they relate to the rail infrastructure) including maximum braking distances and maximum train lengths.

k) Development of maintenance standards for the rail infrastructure.

l) Maintenance of the track and other rail infrastructure including signalling and communications maintenance.

m) Any administrative or corporate functions required to support the activities referred to in sections 2(a) to 2(l) above.

285. The ERA considers that section 4.1 of the proposed costing principles should include a reference to access-related functions, to ensure that the definition of total costs is complete with reference to the definition in clause 1 of Schedule 4 to the Code, and with the definition of Total Costs in section 1.4 of the Costing Principles.

286. The ERA has considered the Aurizon submission regarding the desirability of the costing principles to specify that, for the purposes of responding to an access proposal the railway owner must provide the costs for each route section on which the floor and ceiling prices have been calculated, as required by section 9(1)(b)(ii) of the Code. The ERA considers that the Code does not require the costing principles to give effect to section 9(1)(b)(ii), but only to provide for the determination of costs referred in clauses 7 and 8 of Schedule 4.

287. The ERA nonetheless considers that section 4.1 of the costing principles would benefit from a statement reflecting the purpose of the costing principles including to show the principles, rules and practices to be followed in determining the costs referred to in Schedule 4 to the Code.

Required Amendment 13

Section 4.1 must read:

"Total Costs are the costs which will be provided to an access seeker pursuant to section 9(1)(b)(ii) of the Code and is the cost referred to in clause 8 of Schedule 4 to the Code which establishes the ceiling price test.

Total Costs are the sum of the Operating Cost, Capital Cost (depreciation and risk adjusted return) and Overhead Costs attributable to the performance of the railway owner's access related functions, as described in the sections below."

Section 4.2 - Operating Costs

288. Section 4.2 of the proposed costing principles says that Arc will:

- Allocate operating costs directly to the route section to which those operating costs are attributable; or
- Where operating costs cannot be directly attributed to a route section, the railway owner will assign operating costs to route sections in accordance with Appendix 3.

289. Section 4.2 states that:

> In responding to a Proposal, the Operating Costs referred to in section 9(1)(b)(ii) of the Code will comprise the sum of the annual Operating Cost applicable, or forecast to be applicable, in respect of each year of the term of the Proposal.

Submissions

CBH

290. CBH submitted that section 4.2 of the proposed costing principles provides insufficient guidance in relation to how current and forecast operating costs will be determined and evidenced as efficient.[131]

291. CBH submitted that section 4.2 should include information on the method Arc will use to estimate and forecast operating costs as well as documentation of assumptions. CBH provided examples of approaches used in other regulatory regimes, being:[132]

- A base-step-trend approach, whereby trend/escalation and step change adjustments are made to a base year of operating expenditure.
- Requirement to publish 10 year maintenance plans and costing manuals.

292. CBH submitted section 4.2 should set out the supporting information and mechanisms that will demonstrate the efficiency of operating costs, for example, cost benchmarking, evidence that contracts were entered into on a competitive tender basis, and oversight by representative bodies of rail users.[133]

[131] CBH submission paragraph 81.

[132] CBH submission paragraph 82(a).

[133] CBH submission paragraph 82(b)

Pacific National;

293. Pacific National submitted that the Code (at section 47W) requires the ERA to assess the efficiency of operating expenditure, and the need for prudent and efficient operating costs should also be reflected in Arc's costing principles.[134] Pacific National submitted that Arc should undertake to provide comparison to benchmarks and industry standards, and submitted that the process Arc intends to use to establish the efficiency of operating costs should be outlined in the costing principles.

Arc

294. In its first supporting document, Arc submitted that operating costs will be determined in consideration of the cost of providing access to specific access holders (or group of access holders), and that each access holder would have different operating costs, dependent on its individual circumstances.[135]

295. Arc submitted that, when forecasting costs, it may consider factors including the:[136]

- Projected life of the assets depending on:
  - The current asset condition.
  - The expected remaining life of the asset given current and expected use.
  - Any planned earlier replacement.
- Estimated replacement cost of the assets.
- Number of contracted train paths as a proportion of the total number of contracted train paths operated on the route section.
- Number of GTK as a proportion of the total GTKs operated on the route section.
- Number of train services as a proportion of the total number of train services operated on the route section.
- Type of rollingstock and product transported.
- Network standard required.
- Future Network requirements.
- Factors outlined in section 4.6 of the costing principles.

Marsden Jacob report

296. Marsden Jacob reported that the costing principles should be amended to state that operating expenditures (operating costs and overhead expenditures) will be efficient and prudent, as required by section 3 of the Code and clause 4 of Schedule 4 to the Code.

297. Marsden Jacob reported that section 4.2 should provide more information about how Arc will ensure that forecast operational expenditures are efficient. Marsden Jacob suggested methods including benchmarking of costs, competitive tendering, ensuring scale and scope of expenditure matches

[134] Pacific National submission page 3.

[135] Arc Explanatory Supporting Document 1, page 9.

[136] Arc Explanatory Supporting Document 1, page 8.

demand, demand forecasting analysis, business cases for larger expenditure, and analysing trends in costs over time.

298. Marsden Jacob reported that the costing principles should have more information on the efficiency of maintenance costs, and referred to Arc's 2020 costing principles, which referred to the inspection and corrective action procedures underpinning routine maintenance, the drivers of the timing of cyclical maintenance for different types of assets, and the maintenance models that will be used to ensure efficient timing of expenditures.

299. Marsden Jacob reported that the costing principles should provide information on how Arc intends to develop efficient forecasts of operating costs. Marsden Jacob noted that Arc has provided information in its first supporting document on how it will develop forecasts.

300. Marsden Jacob reported that section 4 of the costing principles should contain more information on the types of maintenance costs that are included and those that are not. Marsden Jacob noted that the 2020 costing principles contained this information. Marsden Jacob reported that the costing principles should make it clear whether the following costs are included:

- Routine maintenance.
- Cyclical maintenance.
- Cost of repairing fire, flood and derailment damage.
- Annual working capital charge.

301. Marsden Jacob reported that the costing principles should make clear under what circumstances maintenance expenditures could be classified as capital expenditure for the RAB and not operating expenditure.

302. Marsden Jacob reported that section 4.2 of the proposed costing principles should make clear whether Arc intends to base its costs on actual costs over the relevant pricing period, or apply an annualised value of a future maintenance cost over the life of the asset (as indicated in section 3.3 of Arc's 2020 costing principles).

303. Marsden Jacob reported that section 4.2 of the costing principles should make it clear how Arc intends to allocate overheads between its rail access related functions and its other functions.

ERA considerations

304. The ERA agrees with submissions and the Marsden Jacob report that section 4.2 of the costing principles should refer to the definition of efficient costs in section 3 of the Code.

305. The ERA agrees that the costing principles should include descriptive information on the methods Arc will use to estimate and forecast operating costs.

306. The ERA considers that Arc should provide an assurance, in section 4.2 of its costing principles, that it will ensure current and forecast operating costs are efficient, and that it will provide the ERA with evidence to that effect, sufficient to enable the ERA to meet its obligations under section 47T of the Code - Regulator may approve proposed operating expenditure.

307. The ERA does not agree with submissions and the Marsden Jacob report that Arc should provide detailed descriptions of the maintenance provisions that it will undertake into the future, or make commitments to project actual or annualised maintenance costs in respect of individual assets. Instead, the ERA considers that the costing principles should provide a more general description of the factors Arc will consider when forecasting operating costs. The ERA considers that it will assess the efficiency of the operating expenses proposed by Arc at the time those are submitted for approval, in accordance with section 47T of the Code.

308. The ERA agrees with Marsden Jacob that section 4.2 of the costing principles should make it clear how Arc intends to allocate overheads between its rail access related functions and its other functions.

Required Amendment 14

Section 4.2 must include the following words after the first paragraph:

> "The costs will be those that would be incurred by a prudent railway owner acting efficiently in accordance with good industry practice to achieve the lowest sustainable cost of providing access.
>
> When forecasting costs, the Railway Owner may consider factors including the:
>
> - projected life of the assets depending on:
>   - the current asset condition;
>   - the expected remaining life of the asset given current and expected use; and
>   - any planned earlier replacement;
> - estimated replacement cost of the assets;
> - number of contracted train paths as a proportion of the total number of contracted train paths operated on the Route Section;
> - number of GTKs as a proportion of the total GTKs operated on the Route Section;
> - number of train services as a proportion of the total number of train services operated on the Route Section;
> - type of rollingstock and product transported;
> - Network standard required;
> - future Network requirements; and
> - factors outlined in section 4.6 of the Costing Principles.
>
> The Railway Owner will provide the Regulator with adequate supporting material enabling it to assess the efficiency of operating expenditure, and to meet its obligations under section 47T of the Code. This material may include:
>
> - Benchmarking studies
> - Unit costs from competitive tendering processes
> - Industry standards for maintenance based on efficient scope and frequency."

Section 4.3 - Capital Costs Risk Adjusted Return

309. Section 4.3 of the proposed costing principles addresses the determination of the risk-adjusted return component of capital cost. Section 4.3 provides that, for the purposes of responding to a proposal pursuant to section 9(1)(b)(ii) of the Code, the sum of annual risk adjusted returns on the railway infrastructure applicable to the proposal will comprise the relevant return on capital component of the capital cost within the total costs to be provided to the access seeker, and that this will be calculated by multiplying the applicable RAB by the applicable weighted average cost of capital, as per Schedule 4, Section 2(4)(a) of the Code.

Submissions

310. There were no comments in submissions addressing section 4.3.

Marsden Jacob report

311. Marsden Jacob noted that the proposed costing principles do not make a statement that the ERA will determine the weighted average cost of capital. Marsden Jacob reported that, similar to the 2020 costing principles (section 2.5), the costing principles should make a statement that the ERA will determine the weighted average cost of capital at 30 June each year (as per clause 3 in Schedule 4 of the Code).

ERA considerations

312. The ERA notes the reference in section 4.3 of the proposed costing principles to Schedule 4 section 2 of the Code. The ERA considers that the correct reference is to clause 2 of Schedule 4 to the Code.

313. The ERA considers that section 4.3 may rely on the definition of the weighted average cost of capital in section 1.4, which references the Regulator's responsibility to determine the weighted average cost of capital annually. The ERA considers that the Marsden Jacob recommendation that a duplicate statement should be made in section 4.3 is unnecessary.

314. The ERA considers that the use of the term "the WACC applicable, or forecast to be applicable", in section 4.3 of the proposed costing principles, is not appropriate. The ERA has previously required (in required amendment 3) that the use of the term weighted average cost of capital be consistent with the definition used in section 1.4 of the proposed costing principles, which is consistent with the use of the term in clause 3 to Schedule 4 to the Code.

Required Amendment 15

The first paragraph of Section 4.3 must read:

> "For each relevant Route Section, the Railway Owner will multiply the RAB applicable, or forecast to be applicable by the weighted average cost of capital appropriate to the railway infrastructure for each year. This is the annual risk adjusted return on the relevant Railway Infrastructure calculated as per clause 2(4)(a) Schedule 4 to the Code."

Section 4.4 - Capital Costs Depreciation

315. Section 4.4 of the proposed costing principles addresses the determination of the depreciation component of capital cost. It states that:

> For the purposes of responding to a Proposal pursuant to section 9(1)(b)(ii) of the Code, the sum of the annual depreciation amounts applicable or forecast to be applicable, over the term of the Proposal comprises the return of capital component of the Capital Cost within the Total Costs to be provided to the Access Seeker.

316. Section 4.4 also states that this will be determined in accordance with the applicable depreciation schedule pursuant to Section 2(4)(a) of Schedule 4 of the Code.

Submissions

317. There were no comments in submissions addressing section 4.4.

Marsden Jacob report

318. Marsden Jacob reported that the words "relevant Railway Infrastructure applicable" should be inserted into the second paragraph, in order to ensure consistency with the corresponding paragraph of section 4.3 of the proposed costing principles.

ERA considerations

319. The ERA has noted the reference in section 4.4 of the proposed costing principles to section 2 of Schedule 4 of the Code. The ERA considers that that the correct reference is to clause 2 of Schedule 4 to the Code.

320. The ERA agrees with Marsden Jacob that the second paragraph of section 4.4 of the proposed costing principles should reflect the equivalent wording of section 4.3 of the proposed costing principles. The ERA considers that this will remove any ambiguity arising from the difference in the wordings as proposed, or any question that the depreciation amounts do not apply to all relevant railway infrastructure.

Required Amendment 16

The second sentence of the first paragraph of section 4.4 must read:

> "Annual Depreciation is determined in accordance with the applicable Depreciation Schedule determined pursuant to clause 2(4)(b) Schedule 4 to the Code and referred to in further detail in section 3.5 of these Costing Principles "

The second paragraph of section 4.4 must read:

> "For the purposes of responding to a proposal pursuant to section 9(1)(b)(ii) of the Code, the sum of these annual depreciation amounts on the relevant Railway Infrastructure applicable, or forecast to be applicable, over the term of the Proposal comprises the return of capital component of the Capital Costs within the Total Costs to be provided to the Access Seeker."

Section 4.5 - Overhead Costs

321. Section 4.5 of the proposed costing principles outlines the determination of overhead costs applicable to a proposal. Section 4.5 states that Arc will:

- Allocate overhead costs directly to the route section to which those overhead costs are attributable; or
- Where overhead costs cannot be directly attributable to a route section, the railway owner will assign overhead costs to route sections in accordance with Appendix 3.

322. Section 4.5 of the proposed costing principles states that:

> In responding to a Proposal, the Overhead Costs referred to in section 9(1)(b)(ii) of the Code will comprise the sum of the annual Overheads applicable, or forecast to be applicable, in respect of each year of the term of the Proposal.

Submissions

CBH

323. CBH submitted that section 4.5 provides insufficient guidance on how current and forecast overhead costs will be determined and evidenced as efficient.[137] CBH submitted that "other corporate expenditure" is not adequately explained, and may enable Arc to "hide" inefficient costs, such as distributions to its parent company for instance, management fees.

324. CBH submitted that section 4.5 should include:[138]

- A description of how each category of current and forecast overhead costs will be determined and evidenced as efficient.
- A description of what is included in "other corporate costs".

[137] CBH submission paragraph 88.

[138] CBH submission paragraph 89.

- Additional detail relating to the treatment and the avoidance of double counting (for example, as both a depreciation expense and an operating cost) of office buildings, housing, freight centres, terminal yards and depots.

Arc

325. In its first supporting document, Arc submitted that overhead costs will be determined in consideration of the cost of providing access to specific access holders (or group of access holders), and that each access holder would have different overhead costs, dependent on its individual circumstances.[139]

Marsden Jacob report

326. Marsden Jacob reported that more detail should be provided to define what comprises overhead costs. In particular, Marsden Jacob reported that the distinction between access-related functions and other functions should be made clear.

ERA considerations

327. The ERA notes that the definition of overhead costs in section 1.4 of the proposed costing principles adequately defines what comprises overhead costs.

328. The ERA considers that the definition of overhead costs in section 1.4 of the proposed costing principles identifies the nature of costs that may be considered overhead costs. These are clearly identified as costs attributable to access-related functions.

329. The ERA notes CBH's submission that the proposed costing principles do not provide assurances of efficient overhead costs. The ERA considers that Arc should provide an assurance, in section 4.5 of its costing principles, that it will ensure current and forecast overhead costs are efficient, and that it will provide the ERA with evidence to that effect, sufficient to enable the ERA to meet its obligations under section 47T of the Code in the determining the efficiency of the railway owner's operating expenditure.

330. The ERA notes that the last paragraph of section 4.5 of the proposed costing principles refers to "the overhead costs referred to in section 9(1)(b)(ii)." The ERA notes that section 9(1)(b)(ii) does not refer to overhead costs, but only to "costs" (of which overhead costs are a part). The ERA considers that last paragraph of section 4.5 of the proposed costing principles should be amended to make that clear.

Required Amendment 17

The following words must be added to section 4.5, after the first paragraph:

> "The Railway Owner will ensure current and forecast Overhead Costs are efficient, and that it will provide the ERA with evidence to that effect, sufficient to enable the ERA to meet its obligations under section 47T of the Code in the determining the efficiency of the Railway Owner's operating expenditure."

[139] Arc Explanatory Supporting Document 1, page 9.

The last paragraph of Section 4.5 must read:

> "In responding to a Proposal, the Overhead Cost component of the costs referred to in section 9(1)(b)(ii) of the Code will comprise the sum of the annual Overhead Costs applicable, or forecast to be applicable, in respect of each year of the term of the Proposal."

Section 4.6 - Incremental Costs

331. Section 4.6 of the proposed costing principles outlines the determination of incremental costs. Section 4.6 provides a definition of incremental costs that is an abbreviation of the definition provided in section 1.4 and includes a reference to access holders and access seekers.

332. Section 4.6 provides a list of matters that Arc will take into consideration when determining incremental costs associated with a proposal.

Submissions

CBH

333. CBH submitted that section 4.6 should provide further guidance on how Arc will allocate shared costs between access seekers, such as how it will determine the proportion of maintenance and repair costs that are associated with greater wear and tear on a shared line.[140]

334. CBH submitted that section 4.6 should provide further information on how Arc will address circumstances where not providing access would have resulted in Arc building smaller assets or different assets.[141]

Arc

335. In its first supporting document, Arc submitted that the incremental costs represent the actual costs which can be avoided if not for a specific proposal for operations on a route section(s) or use of railway infrastructure. Arc submitted that incremental costs will be based on Arc's forecast costs for each year for which access is sought. For each determination of incremental costs Arc will submit to the ERA supporting information as to the factors relevant to the individual circumstances of the access being sought for consideration in the ERA's approval function.[142]

336. Arc outlined that, when determining the incremental costs relating to an access seeker or access holder, Arc may consider factors in addition to those included in section 4.6 of the costing principles, including the:

- Number of contracted train paths as a proportion of the total number of contracted train paths on the route section.

[140] CBH submission paragraph 92.

[141] CBH submission paragraph 93.

[142] Arc Explanatory Supporting Document 1, page 9.

- Number of GTKs as a proportion of the total GTKs operated on the route section.
- Number of train services as a proportion of the total number of train services operated on the route section.
- Type of rollingstock and product transported.
- Network standard required.
- Future network requirements.
- Costs that the railway owner would otherwise incur if the railway owner were not to provide access to the access holder or access seeker.[143]

Marsden Jacob report

337. Marsden Jacob reported that section 4.6 of the costing principles should include a definition of incremental costs that reflects the definition in clause 1 of Schedule 4 to the Code; specifically, that incremental costs will comprise (a) the operating costs and (b), where applicable, the capital costs; and the overhead costs attributable to the performance of the railway owner's access-related functions whether by the railway owner or an associate.

338. Marsden Jacob reported that the list of matters that Arc will take into consideration when determining incremental costs associated with a proposal appear reasonable.

ERA considerations

339. The ERA notes CBH's submission that section 4.6 of the proposed costing principles does not distinguish the different maintenance requirements attributable to each access holder for the purposes of determining incremental costs. The ERA agrees that the costing principles should refer to the determinants of maintenance requirements which will apply to each proposal for the purposes of determining incremental costs.[144] The ERA considers that provision of this guidance in the costing principles would allow access seekers to better understand how costs will be determined.

340. The ERA considers that the list of factors listed in the proposed costing principles, being the list of factors that Arc will consider in determining incremental costs, is adequate. The ERA considers that the list provided in the proposed costing principles encompasses the factors listed by Arc in its first supporting document (refer to paragraph 336 above).

341. The ERA considers the words "manage and control" are not appropriate in the last dot point of the list of factors in section 4.6 of the proposed costing principles. This point more properly would refer to instances where the route might be closed for economic reasons if access was not provided to the access holder. In such circumstances, the route would remain under Arc's management and control unless the route was removed from Schedule 1 to the Code "Routes to which this Code applies".

---

143 Ibid.

144 For example, the type of rolling stock and the product transported, and other factors referred to in Required Amendment 14.

342. A definition of incremental costs, reflecting the definition in clause 1 of Schedule 4 to the Code, is included in section 1.4 of the proposed costing principles. The ERA does not agree with the Marsden Jacob report that the definition should be duplicated in section 4.6 of the costing principles.

343. The ERA considers that CBH's submission that section 4.6 of the costing principles should provide further information on how Arc will address circumstances where not providing access would have resulted in Arc building smaller assets or different assets is speculative. It is not evident how one could reasonably conclude that "not providing access would have resulted in Arc building smaller assets or different assets."

344. The ERA considers that references to access seekers in section 4.6 of Arc's proposed Costing Principles are not appropriate, as the Code refers only to an access holder or a group of access holders in clause 1 of Schedule 4 to the Code. That reference is consistent with the reference to operator or group of operators in the previous form of the Code.

Required Amendment 18

In section 4.6, the words ", including maintenance requirements." must be added to the end of the third dot point shown in the section.

In the last dot point shown in section 4.6, the words "continue to manage and control the use of the Route" must be replaced with "close the Route for economic reasons".

In Section 4.6, all references to Access Seekers or group of Access Seekers must be removed. Instances of this occur in paragraphs one and two of section 4.6, and in the third and sixth dot point of the list of matters for consideration shown in section 4.6. The footnote on page 16 must be removed.

5. Section 5 - Costs Recordkeeping

345. Section 5 of the proposed costing principles states:

> The Railway Owner's accounts and financial records as they relate to the costs discussed in these Costing Principles will be maintained at a level of detail required to support the practices discussed in these Costing Principles. The Railway Owner will maintain records relating to costs and provide the same to the Regulator to enable the Regulator to monitor the compliance of the Railway Owner with the provisions of the Code.

Submissions

CBH

346. CBH submitted that section 5 of the proposed costing principles does not provide rules or practices relating to keeping and presentation of accounts.[145] CBH submitted that section 5 should include provisions to keep and present the following information:

- Records of actual capital expenditure spent on each route section in each relevant time period.
- Operating expenditure spent on each route section in each relevant time period.
- Records of overhead cost in each relevant time period.
- Records of actual the roll forward of the asset base, including indexation applied and depreciation deducted by asset class (or group of assets).

Aurizon

347. Aurizon submitted that there is limited detail in relation to required cost record keeping arrangements in the proposed Costing Principles.[146] Aurizon submitted that there may be benefit in further detail being included in the costing principles on this issue.

Arc

348. In its first supporting document, Arc submitted that it will maintain its records in a manner which allows provision of all supporting documentation as required by the ERA at the relevant approval stages, and that this documentation is expected to include:

- Operating and overhead records, including the value of expenditure and its allocation to route sections.
- Capital expenditure records, including the value of expenditure, capital contributions from third parties, asset inventory and details of works conducted.
- Any assessments to update asset remaining life.
- Details of disposed assets.[147]

[145] CBH submission paragraphs 95-96.

[146] Aurizon submission page 24.

[147] Arc Explanatory Supporting Document 1, page 10.

Marsden Jacob report

349. Marsden Jacob reported that the costing principles should include more information stating that Arc will keep documentation on the RAB calculations, incremental and total costs for each segment, including showing how the RAB has changed over time. This documentation should include a spreadsheet or other models which illustrate these calculations.

ERA considerations

350. The ERA notes comments in submissions and the Marsden Jacob report relating to the nomination of specific cost categories to be maintained for the keeping and presentation of accounts.

351. Section 5 of the proposed costing principles says:

> The Railway Owner's accounts and financial records as they relate to the costs discussed in these Costing Principles will be maintained at a level of detail required to support the practices discussed in these Costing Principles.

352. The ERA is satisfied that this statement adequately covers all relevant cost components and that the costing principles would not benefit from additional specificity.

Section 5.1 - Double Counting

353. Section 5.1 of the proposed costing principles states:

> The Railway Owner will keep records of depreciation incurred in a manner which allows it to prevent Double Counting from occurring.

Submissions

Arc

354. In its first supporting document, Arc submitted that it will maintain a depreciation register to track the depreciation and cumulative amount of depreciation, that the depreciation amounts will be determined annually to update the register with reference to the relevant depreciation schedule and the circumstances of the relevant year. Arc submitted that the depreciation register will form a part of the supporting information to inform submissions to the ERA, including the submission of the depreciation schedule.[148]

Marsden Jacob report

355. Marsden Jacob reported that section 5.1 of the proposed costing principles should make clearer statements about double counting. For example, the costing principles should make it clear that the asset will only be added once to DORC and that the sum of depreciation used over the life of an asset for depreciation purposes will not exceed its initial DORC value.

[148] Arc Explanatory Supporting Document, page 10.

ERA considerations

356. The ERA considers Marsden Jacob's recommendation that section 5.1 of the costing principles should refer specifically to potential areas of double counting, such as the adding of assets only once to DORC, is unnecessary as this is adequately covered in section 3.5 of the proposed costing principles.

Section 5.2 - Financial Administration

357. Section 5.2 of the proposed costing principles states:

> The Railway Owner's financial statements will be prepared in accordance with Australian Accounting Standards and Interpretations issued by the Australian Accounting Standards Board (AASB) and the Corporations Act 2001.

Submissions

358. There were no submissions which addressed section 5.2 directly.

Marsden Jacob report

359. Marsden Jacob did not address section 5.2.

ERA considerations

360. The ERA does not require any amendment to section 5.2 of the proposed costing principles.

6. Appendix 1 - Route Sections

361. Appendix 1 to the proposed costing principles lists 120 route sections of Arc Infrastructure's railway.

Submissions

CBH

362. CBH submitted that Arc has not explained the basis on which it has defined its proposed route sections in Appendix 1, and the implications of the proposed approach are not clear.[149] CBH submitted that it is not clear whether separate/discreet RABs and cost bases will be calculated for route sections that are names of towns.

363. CBH submitted that Appendix 1 does not make it clear whether assets have been grouped in a way that will prevent access holders paying for assets they do not use.[150]

364. CBH provided notes against a number of proposed route sections indicating inactive CBH rail sites, routes used only for loco or wagon swaps, and inactive routes.[151] The table is reproduced below:

[149] CBH submission paragraph 98.

[150] CBH submission paragraph 99.

[151] CBH submission paragraph 100, Table 1.

Table 1: Recommended Standard Effective Lives

Code Number & Name	Route Sections	CBH Commentary
8. All tracks servicing facilities of CBH on the SG network except private sidings excluded by para 8 of definition of railway infrastructure in section 3	Carrabin Grass Valley Hines Hill	Inactive CBH rail sites
23. The track between Avon and Albany	York to Narrogin	CBH tonnes are moved between Brookton and York. Brookton to Narrogin section is generally used for loco and wagon swaps between Albany and Kwinana port zones. Potential to further segment this section
	Narrogin to Wagin	Generally used for loco and wagon swaps between Albany and Kwinana port zones.
24. The track between York and Quairading	York to Quairading	Track is inactive
25. The track between Narrogin and West Merredin	Narrogin to West Merredin	Track is inactive
26. The track between Yilliminning and Kulin	Yilliminning to Kulin	Track is inactive
38. The track between Millendon Junction and Geraldton	Watheroo to Marchagee	Generally used for loco and wagon swaps between Geraldton and Kwinana port zones.
40. The track between Narngulu and Maya	Perenjori to Maya	Track is inactive
42. All tracks servicing facilities of CBH on the NG network except private sidings excluded by para 8 of definition of railway infrastructure in section 3	Ballaying, Bindi Bindi, Bowgada, Buniche, Bujil, Coomberdale, Dowerin (town site), Ejanding, Gabbin, Katanning, Kirwin, Kondut, Kuender, Kulja, Manmanning, Moulyinning, Tambelup, Tarin Rock, Three Springs, Welbungin, Wongan Hills, Woodanilling, Yerecoin, Yornaning	Inactive CBH rail sites
	Beverly, Jannacubbine, Kalgarin, Kukerin	Inactive CBH rail site. May be used for loco or wagon storage
	Bolgart	Trains split and park here t head north on the Miling line

Source: CBH submission paragraph 100, Table 1.

365. CBH submitted that Appendix 1 should provide further information about how granular line items documented in the table will be grouped in practice for the purposes of undertaking a DORC evaluation for each route section.[152]

Aurizon

366. Aurizon submitted that the definition of route sections is unclear, and in many instances the route section is defined by a single location, with the start and end point not defined.[153] Aurizon questioned the practicality of maintaining such a large number of route sections for the purposes of the Code, and submitted that this would result in information on cost and performance being provided at such a disaggregated level that it will create unnecessary complexity, and potentially make it difficult to assess this information in a meaningful way.

367. Aurizon submitted that it would be preferable to treat the nominated Code routes as the route sections for the purpose of the Code, but providing for cost data to be identified down to the route components where it is necessary to assess the costs associated with part of a route.[154]

Arc

368. In its first supporting document, Arc stated:

> There are an increased number of Route Sections in the Costing Principles. The inclusion of more granular Route Sections enables more accurate allocation of costs to Route Sections, assisting in prevention of Double Counting and ensuring Access Holders only pay for assets they seek to utilise. More granular Route Sections are possible due to the increased granularity of asset data Arc now has available through its Digital Twin.
>
> One example to illustrate the intended application of the different types of Route Sections is as follows:
>
> - Avon Yard to West Merredin Route Section (Route 1) describes the mainline and passing loops between Avon Yard and West Merredin, including the mainline and passing loop located within the station limits of West Merredin;
> - West Merredin Route Section (Route 1) describes the common user Railway Infrastructure within West Merredin station limits which branch off the passing loop and would usually only be used by an Access Holder who is entering the Network, exiting the Network or performing other activities at West Merredin; and
> - SG CBH Merredin Route Section (Route 8) describes the Railway Infrastructure within West Merredin station limits which is used only by CBH. [155]

Marsden Jacob report

369. Marsden Jacob noted that some of the route sections listed in Appendix 1 require more explanation, as it is not clear how they work in practice. Marsden

[152] CBH submission paragraph 101.

[153] Aurizon submission page 24.

[154] ibid.

[155] Arc Explanatory Supporting Document 1, page 10.

Jacob referred to the Merredin route section, which is not self-explanatory as it does not have a start and finish point.

370. Marsden Jacob noted that there are a significant number of route sections defined in Appendix 1, and that determining a RAB for each of these route sections would result in a significant administrative burden on Arc. Marsden Jacob reported that it is unclear whether this level of disaggregation delivers benefits which outweigh the costs.

ERA considerations

371. The ERA considers that Arc is aware of the administrative task of compiling asset base function material for the complete set of route sections listed in Appendix 1 of its proposed costing principles, and that it is Arc's prerogative to nominate route sections in a format that best suits its cost management and reporting system.

372. Considering CBH's submission that some route sections are inactive, the ERA considers that any route remaining as listed in Schedule 1 to the Code is subject to the Code and must be listed as a route or a route section in Appendix 1 of Arc's costing principles, regardless of its usage level.

373. Considering CBH's submission that some CBH sites are inactive, the ERA considers that any Arc tracks serving CBH sites on a route listed in Schedule 1 to the Code may be listed as a route section in Appendix 1 of Arc's costing principles, as long as the CBH site, and any Arc tracks serving it, remains *in-situ* on the network.

374. CBH has submitted that the York-Narrogin section on route 23 should be separated into York-Brookton and Brookton-Narrogin sections, as Brookton-Narrogin is used (generally) for wagon and loco swaps between the Kwinana and Albany port zones, in common with Narrogin-Wagin and other sections to the south. Arc has advised that it considered service offerings when determining route sections for Appendix 1.

375. The ERA considers that the technical (or freight task) characteristics of these routes is as important as commercial characteristics, and that the York-Narrogin section on route 23 could usefully be further split into York-Brookton and Brookton-Narrogin sections to more easily allocate costs between route sections used generally in the same way.

376. In relation to Arc's supporting document, the ERA considers that route sections defined by a location name should be referenced to the additional explanatory material provided by Arc, defining the common use infrastructure within the station limits at each location.

377. The ERA notes CBH's submission that it is not clear whether separate/discreet RABs and cost bases will be calculated for route sections that are names of towns. The ERA considers that those route sections, defined in accordance with paragraph 376, will be treated the same as all other route sections.

Required Amendment 19

In Appendix 1, Route 23, the Route Section “York-Narrogin” must be split into two Route Sections “York-Brookton” and “Brookton-Narrogin”.

A footnote must be attached to Appendix 1, reading as follows:

> “A Route Section described by a location name, except for those on Route 8 and Route 42, describes the common user Railway Infrastructure within the station limits at that location which branch off the passing loop and would usually only be used by an operator who is entering the Network, exiting the Network or performing other activities at that location.”

7. Appendix 2 - Standard Effective Life

378. Appendix 2 to the proposed costing principles is titled standard effective life and shows the technical design lives of asset classes and asset groups.

Submissions

CBH

379. CBH submitted that there is insufficient explanation of the granularity of asset groupings, and suggested as an example that culverts could be further divided into concrete pipe culverts, metal pipe culverts and concrete box culverts.[156] CBH submitted that the level of detail in the proposed costing principles is less than in Arc's 2020 Costing Principles.

380. CBH submitted that the "perpetual" life for earthworks assets is inconsistent with standard regulatory practice and the 100-year life specified in Arc's 2020 costing principles.[157]

381. CBH submitted that Arc has not provided supporting evidence for lives that are shorter than the industry standard design life.[158]

382. CBH submitted that note 3 in Appendix 2 indicates that Arc proposes to vary standard effective lives by condition, and that this is not reasonable.[159] CBH submitted that it is normal to vary lives by location and track loading, but not by condition. CBH provided a table indicating suggested economic lives for asset groupings where CBH disagrees with Arc materially.[160] The table also shows asset groups for which it should be possible to adopt more granular asset group definitions. The table is reproduced below:

[156] CBH submission paragraph 103(a).
[157] CBH submission paragraph 103(b).
[158] CBH submission paragraph 103(c).
[159] CBH submission paragraph 103(d).
[160] CBH submission paragraph 104, Table 2.

Table 2: Recommended Standard Effective Lives (Standard Design Lives)

Asset class	Asset Group	Arc Proposal	Recommendation and commentary
Earthworks	Formation	Perpetual	100 | Refer to Standards of other operators such as TfNSW, Metro Trains Melbourne, Queensland Rail.
	Cuttings	Perpetual	100 | Refer to Standards of other operators such as TfNSW, Metro Trains Melbourne, Queensland Rail.
	Embankments	Perpetual	100 | Refer to Standards of other operators such as TfNSW, Metro Trains Melbourne, Queensland Rail.
	Retaining walls	Not specified	100 | Refer to Standards of other operators such as Metro Trains Melbourne, Queensland Rail and Main Roads WA.
Under Track Structures	Culverts	50	50 – 100 | Culverts should be divided into sub-categories with different lives (e.g. Major Culverts should be 100 years to match RISSB standard Railway Structures AS 7636:2022). Culverts could also be broken down by material (concrete pipe or box, or metal).
Station and Platforms	Platforms	50	60+ | Refer to Standards of other operators such as TfNSW.
Signalling Systems	All	20	25 – 35 | Refer to Standards of other operators such as TfNSW, Queensland Rail; Interlockings should be split between relay and processor based.
Communications Systems	All	15	15+ | Further information required to justify this design life proposed by Arc Infrastructure. This is an asset class that could also be broken down more granularly (e.g. poles, fibre, conduits, IT).
Train Control Systems	All	15	15+ | Further information required to justify this design life proposed by Arc Infrastructure. This is an asset class that could also be broken down more granularly (e.g. hardware, software, field equipment).
Associated Track Structures	Access Roads	10	20 | Refer to Standards of other operators such as TfNSW, Queensland Rail.
	Roads and shunt pathways	10	20 | Refer to Standards of other operators such as TfNSW, Queensland Rail.

Source: CBH submission paragraph 104, Table 2.

383. CBH included references to economic lives used in other railway jurisdictions and submitted that reference should be made to industry standards, such as

those from RISSB,[161] and include explanations of any deviations from industry standards.[162,]

384. CBH submitted that asset groups should be differentiated between standard and narrow gauge where appropriate.[163] CBH did not provide a rationale for this.

Aurizon

385. Aurizon submitted that in regulatory DORC valuations of railway assets, earthworks are typically assigned a finite life, with accumulated depreciation recognised in the valuation.[164] Aurizon cited a range of regulatory DORC valuations that have adopted a standard life of 100 years for earthworks. Aurizon submitted that formation assets physically deteriorate over time and with continued use.

386. Aurizon submitted that it does not consider that the Code provides the flexibility to classify an asset as a perpetual asset, as it would not satisfy the requirements for establishing the initial RAB under section 47J, which requires the ERA to have also approved the depreciation schedule under 47K(3).[165]

387. Aurizon submitted that, as Arc previously depreciated earthworks assets over 100 years, to now exclude accumulated depreciation on earthworks would be akin to allowing Arc to earn a return on previously depreciated assets and would be inconsistent with the principle that assets be depreciated only once.[166]

Arc

388. In its first supporting document, Arc stated:

> The Standard Effective Lives listed are based on a combination of generally accepted industry effective lives, engineering assessments on individual assets and Arc's own expertise. Since the previously approved Costing Principles Arc has developed more sophisticated asset data through its Digital Twin, using more advanced track analytics, so is now better informed as to the expected effective life of the assets in the Network. As outlined in both this document and the Costing Principles (sections 2.7, 3.5 and Appendix 2), Arc will begin from a base assumption that the life of an asset is as described in Appendix 2 of the Costing Principles. However, in accordance with sections 2.7 or 3.5 of the Costing Principles, an alternate life may be deemed more accurate. In this circumstance Arc will submit relevant supporting information to the Regulator at the appropriate approval stage. In particular, the Standard Effective Life of the following assets has been updated in the Costing Principles:
>
> - Earthworks – perpetual life recognises that earthworks practically do not degrade over time. Additionally, in a DORC and RAB context, perpetual recovery on capital value of earthworks, but no recovery of capital, is appropriate.

[161] CBH submission paragraph 105.

[162] Rail Industry Safety and Standards Board.

[163] CBH Recommendation 16(d) page 24.

[164] Aurizon submission page 15.

[165] Aurizon submission page 16.

[166] ibid.

In the DORC valuation of the ARTC Network in both 2001 and 2007 it was noted that "earthworks are assumed to be a perpetual asset in that given appropriate maintenance they do not "wear out" due to the passage of trains or time." This was supported in the 2021 DORC Report of the ARTC Network prepared for the ACCC and confirmed by the ACCC who accepted the classification of Earthworks as perpetual provided the assets are disposed of and depreciated accordingly. For the avoidance of doubt, Arc's intent is that in the event earthworks are replaced, the replaced asset will be disposed of to avoid Double Counting.

- Steel sleepers – previous Costing Principles considered the overall average effective life of sleepers in a 1:2 or 1:4 timber/steel sleeper pattern rather than the life of the individual type of sleeper. Arc now has more granular asset data so is capable of identifying the effective life of individual steel sleepers within a sleeper pattern.
- Timber sleepers – reduction in effective life recognises that modern timber sleepers are no longer treated with life prolonging toxic chemicals.
- Ballast – increase in effective life recognises that with standard maintenance (monitoring, regular top- up, tamping etc), wholesale ballast replacement is infrequent and occurs primarily in the event of sleeper replacement or an upgrade to track structure. This understanding is available due to the evolution in sophistication of Arc's data and associated experience of extended Network maintenance.
- Rail and turnouts – tonnage brackets have not been included in recognition that effective life is very dependent on the specific circumstances based on actual operational usage and is not as simple as tallying gross tonnes. It is more appropriate to include the Standard Effective Lives as specified and, where necessary, Arc can apply to the Regulator to alter the effective life of a specific asset. [167]

Marsden Jacob report

389. Marsden Jacob reported that the 50-year ballast life proposed by Arc is high, relative to some other rail systems (Aurizon, Queensland Rail), but low relative to the ARTC.

390. Marsden Jacob reported that comparisons across different rail infrastructure track are challenging, as ballast life depends on a range of factors, including: the nature of the commodity being transported; the type and quality of the material used; climatic conditions; and the amount of traffic on the rail. Marsden Jacob reported that ballast life will vary across a rail infrastructure manager's network, depending on these factors. Marsden Jacob suggested that Aurizon's relatively low ballast life might be explained by factors specific to that network; for example, the network has high traffic flows high axle loads and issues with ballast fouling due to coal infiltration.

391. Marsden Jacob reported that the proposed ballast life of 50 years is within the bounds of what would be reasonable.

392. Marsden Jacob reported that useful lives for timber sleepers are typically between 10 years and 20 years, and on this basis that the 15-year life proposed by Arc is reasonable.

[167] Arc Explanatory Supporting Document 1, pp. 11,12.

393. Marsden Jacob reported that the proposed costing principles do not specifically describe if and how assets will be grouped for the purposes of section 47H(1)(a) to (c) as required under section 47H(2)(c) of the Code.

394. Marsden Jacob reported that although asset groupings are shown in Appendix 2 of the proposed costing principles, this is not sufficient as the costing principles do not describe if and how assets are grouped for the purposes of calculating the different components of the DORC.

395. Marsden Jacob reported that the standard life for earthworks should be 100 years, given that most DORC valuations of railway infrastructure use this life, and the 2020 costing principles had an earthworks life of 100 years.

ERA considerations

396. The ERA has noted the advice of Marsden Jacob that, with the exception of earthworks, standard design lives for all asset groups are reasonable.

397. In relation to the standard design life of earthworks, the ERA has noted Arc's submission that cites precedents for perpetual earthworks lives, and notes Aurizon's submission that, as earthworks were assigned a 100 year life in the 2020 costing principles, to now assign a perpetual life would be inconsistent and potentially constitute double counting.

398. The ERA considers that the Code does not provide the flexibility to classify an asset as a perpetual asset as it would not satisfy the requirements for establishing an applicable depreciation schedule, pursuant to section 47K(5)(b) which requires that all assets or groups of assets must be depreciated over their economic life.

399. The ERA therefore considers that earthworks should be assigned a standard design life of 100 years.

400. The ERA agrees with the CBH submission that, although it is reasonable to vary standard design life by location or by service application, it is not reasonable to vary design asset lives by condition. The ERA has noted the advice of Marsden Jacob that the condition of an asset is not related to its technical design characteristics when it is new.

401. The ERA has considered CBH's submission that asset lives should be differentiated between standard and narrow gauge assets. CBH has not provided examples of different gauge asset lives from publicly available sources. The ERA notes that note 3 in Appendix 2 of the costing principles states that application of the standard design lives will take into account various factors including use and asset attributes. The ERA considers that footnote 3 should explicitly refer to the track gauge as an attribute which will be considered.

Required Amendment 20

Appendix 2 must be titled Standard Design Life.

Appendix 2 must be amended by providing for a Standard Design Life of 100 years for all Earthworks asset groups.

The second footnote to Appendix 2 must be removed.

The third footnote must be amended by removing the word “condition” and by the addition of the words “(including track gauge)” following the words “asset attributes”.

8. Appendix 3 - Cost Allocators

402. Appendix 3 to the proposed costing principles comprises a table showing the allocation method for attributing a range of operating and overhead costs to each route section.

SUBMISSIONS

403. There were no submissions that addressed this section.

Marsden Jacob report

404. Marsden Jacob reported that the cost allocators in the 2020 costing principles and in the proposed 2024 costing principles are very similar. The major difference is that the 2024 principles are now based on a fixed approach for train control and overhead costs, which does not require either an operational study (train control) or agreed approach with ERA (overhead). Lease or licence costs have been added to the 2024 costing principles, which is an appropriate addition.

405. Marsden Jacob reported that these changes are not inconsistent with the 2020 costing principles, which were approved by ERA. Marsden Jacob considers the cost allocators in the 2020 costing principles as a reasonable guide, as the changes to the Code are not of themselves considered to have changed the way that costs should be allocated.

406. Marsden Jacob reported that there are various means of allocating costs for non-maintenance items. Gross tonne kilometres is a reasonable allocator for maintenance as it is likely to reflect the impact of axle weights and traffic on a route section. For the same reason, train numbers could be seen as a reasonable approach to allocate train control costs as train control systems may be more intensive on route sections with a high degree of traffic.

407. With respect to costs unrelated to train movements (such as overhead costs) or “common costs”, Marsden Jacob reported that these costs are typically allocated using simple proportionate approaches as they are simple and easy to apply. Given the lack of a common transparent approach across rail infrastructure within Australia to allocating common costs, Marsden Jacob was not able to provide a definitive assessment of whether the proposed approach diverges from a common or fair approach to allocating costs for non-maintenance operating costs.

ERA considerations

408. Sections 4.2 and 4.5 contain similar statements in relation to the allocation of operating costs:

> Where Operating Costs cannot be attributed to a Route Section, the Railway Owner will assign Operating Costs to Route Sections in accordance with Appendix 3,

and overhead costs:

> Where Overhead Costs cannot be attributed to a Route Section, the Railway Owner will assign Overhead Costs to Route Sections in accordance with Appendix 3.

409. The allocation of operating costs in the 2020 costing principles, as described in section 3.4 “Allocation of Operating Costs” is to the route level in the first instance and that subsequent allocation to the route section level will be determined by the ERA as part of cost determinations.

410. Likewise, the allocation of overhead costs in the 2020 costing principles, as described in section 4.2 “Allocation of Overhead Costs” is to the route level in the first instance and that subsequent allocation to the route section level will be determined by the ERA as part of cost determinations.

411. The ERA has noted Table 7.2 in Arc’s 2020 costing principles and the accompanying narrative contained in section 3.4 of that document. Section 3.4 of the 2020 costing principles contains the statement:

> In general terms, train movements have been linked to Network Management functions and the management of maintenance related functions have been linked to Gross Tonne Kilometres.

412. The ERA considers that the operating costs section of Appendix 3 of the proposed costing principles and in Table 7.2 of the 2020 costing principles are equivalent, and that the additional category of “(iii) Lease or licence costs” is a reasonable excision from the former “Infrastructure management Costs” category (now “Infrastructure maintenance costs”). The ERA has noted that “(iii) Lease or licence costs” are proposed to be allocated on a gross tonne kilometres (GTK) basis, as previously.

413. Table 7.2 of the 2020 costing principles includes a note:

> Two proxies are used to allocated overheads. GTKs are used to allocate costs which vary more in quantum due to volumes moved, and train movements are used to allocate costs which vary more in quantum due to the number of train movements.

414. Appendix 3 of the proposed costing principles does not contain a similar explanation and the allocator for overhead costs in Appendix 3 is GTKs only, with no reference to train movements. In the absence of comments in submissions relating to this change in cost allocator, the ERA accepts the change proposed by Arc.