



DORC valuation of ARTC's Interstate network

ACCC consultation paper

15 June 2021

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1. Foreword

On 6 March 2018, the Australian Rail Track Corporation (ARTC) submitted its 2018 Interstate Access Undertaking (IAU) application intended to replace the 2008 IAU.¹ Following assessment, the ACCC released a draft decision to not accept the replacement undertaking under Part IIIA of the *Competition and Consumer Act 2010* (Cth) (CCA), setting out a number of concerns with ARTC's proposal.

One of the ACCC's key concerns was ARTC's proposed regulated asset base (RAB) roll forward. The RAB is a key input to the calculation of ceiling limits as required under the current undertaking. The ACCC was unable to determine the prudence of ARTC's capital expenditure and whether the resultant RAB was appropriate.

ARTC proposed to address the ACCC's concerns by revaluing the Interstate network, using the Depreciated Optimised Replacement Cost (DORC) methodology.² On 8 November 2019 the ACCC published its Statement of Approach,³ stating the ACCC would appoint a consultant to undertake a DORC valuation of the Interstate network in order to determine the RAB value.

On 23 April 2020, the ACCC engaged GHD Advisory (GHD) to conduct the DORC valuation. In our preliminary view, the valuation GHD has prepared satisfies the terms of reference that the ACCC set.

Our preliminary analysis of the valuation indicates the ceiling limits established using GHD's draft valuation, and existing prices, are high in comparison to the revenue ARTC is likely to earn. We note the high ceiling limits are driven, in part by the likely inclusion of historical non-commercial assets (assets that an efficient commercial operator would not have invested in) in the asset base (despite GHD excluding assets funded by government grants between 2008 and 2018).

High ceiling limits give ARTC the ability to significantly increase prices and increase the potential for ARTC to earn a return on the included non-commercial assets. This creates uncertainty for users of the network.

In the near term we consider the risk of significant price increases is low given the continuation of annual CPI price limits for a further 2 years as a result of ARTC extending its undertaking to 30 June 2023, as well as due to ARTC's government ownership and competition from road and coastal shipping.

Beyond this term, we are concerned the introduction of Inland Rail may exacerbate the issue of high ceiling limits due to the inclusion of further non-commercial assets in the RAB.⁴ We are concerned that ARTC in the future may have the incentive to significantly increase prices towards the ceiling. Particularly if developments in market dynamics, government policy or other factors change the competitiveness of rail relative to other transport modes.

We are now inviting submissions on the draft DORC valuation report, which we and GHD will consider prior to publishing the final DORC report.

¹ Available here: <https://www.accc.gov.au/regulated-infrastructure/rail/artc-interstate-access-undertaking/interstate-rail-access-undertaking-2018>

² ARTC, *ARTC proposal to ACCC re Methodology for Revaluation of the Interstate Network*, August 2019.

³ Available here: <https://www.accc.gov.au/regulated-infrastructure/rail/artc-interstate-access-undertaking/proposed-valuation-for-the-interstate-network/statement-of-approach>

Given the concerns we have in relation to the DORC methodology and the current regulatory framework for the Interstate network, this year we will consult on a future regulatory framework for the network. We will soon publish an Issues Paper that will seek to understand stakeholders' views on a number of matters including:

- concerns with the current regulatory framework that applies to the Interstate network
- the competitive environment the Interstate network faces, including the extent of constraint from heavy vehicles and coastal shipping and whether certain customers may be 'captive' to rail (that is, difficult to switch to alternative forms of transport)
- alternative approaches to the regulation of the Interstate network, such as negotiate-arbitrate, price controls, applying different regulation depending on the level of competition in different geographic areas, or other frameworks stakeholders wish to put forward.

1.1. Consultation on the DORC Valuation

The ACCC engaged GHD to conduct a DORC valuation of the Interstate network. GHD's draft report is available on the ACCC's website.⁵

The ACCC is now seeking stakeholder submissions on GHD's draft report and the inputs the ACCC provided to GHD, as set out below.

The ACCC wrote the terms of reference for the DORC valuation, which set the direction and requirements for GHD's conduct of the DORC valuation (included at Appendix A). In drafting the terms of reference, the ACCC sought to ensure that in providing its advice, GHD had regard to regulatory precedent and economic principles.

The ACCC supplied the following inputs to GHD:

- the discount rate for GHD to use as an input in the calculation of the present value of operational expenditure (opex) savings
- the interest during construction (IDC) rate to use as an input into the calculation of the financing costs incurred during the construction of the Interstate network.

Chapter 3 describes how the ACCC derived the discount rate and IDC rate.

Additionally, the ACCC provided GHD a list of Interstate network assets funded by government grants between 2008 and 2019, for GHD to remove from the RAB following the DORC valuation. Chapter 4 provides further detail on the approach taken to identify grant funded assets for removal from the RAB.

Under the terms of reference, we directed GHD to calculate and exclude the present value of opex savings from the DORC. Chapter 5 sets out further detail about this process and how this relates to opex in the replacement IAU.

In the ACCC's terms of reference, we directed GHD to undertake the DORC valuation as at 1 July 2019, as 2018–19 was the most recent financial year preceding the appointment of GHD. As a result, there will be a gap between the DORC valuation date and when the replacement IAU would commence. Chapter 7 sets out guidance for how ARTC should update the RAB value to the date it submits a replacement IAU.

⁵ GHD's draft report, available at: <https://www.accc.gov.au/regulated-infrastructure/rail/dorc-valuation-of-the-interstate-network>

1.2. Request for submissions

The ACCC is seeking submissions from stakeholders on GHD's draft report, the inputs that the ACCC provided to GHD (chapters 3-4), operating expenditure adjustments made to the DORC (chapter 5) and Earthworks remaining life assumptions (chapter 6). Table 3 provides questions to help guide stakeholder submissions.

Our purpose of seeking submissions on the DORC is to enable the ACCC and GHD to finalise the DORC valuation. However, in line with our observations in section 1.1, we note it is unclear, at this stage, what role this DORC valuation would have in a future regulatory framework. We encourage stakeholders to provide their views on a future regulatory framework in response to the separate Issues Paper that we will publish soon.

If stakeholders have any queries about responding to these consultations, please contact the Director of Regulated Access and Pricing (see contact details in section 1.3).

1.3. Questions for stakeholders

GHD draft report
Do stakeholders have any comments on GHD's approach to determining the
1) MEA (see chapter 5 of GHD's draft report)
2) replacement cost (see chapter 5)
3) optimisation (see chapter 6)
4) opex savings (see chapter 10)
5) depreciation, including the perpetual assumption for Earthworks (see chapter 8)
6) pre-construction costs and IDC (see chapter 7)
Do stakeholders have any other comments on GHD's draft report?
ACCC consultation paper
Do stakeholders have any comments on the ACCC's
1) calculation of the WACC used as the opex savings discount rate and IDC rate and provided to GHD for the DORC valuation (see chapter 3 of the ACCC's consultation paper)?
2) approach to identify government grant funding for exclusion from the RAB following the DORC (see chapter 4)
3) explanation of opex savings and how it interacts with opex in the replacement IAU (see chapter 5)
4) expectations on the approach for ARTC to update the RAB value between 1 July 2019 and the date the replacement IAU is submitted (see chapter 7)
Do stakeholders have any other comments on the ACCC's consultation paper?

Invitation to make a submission

Stakeholders should address their submissions to:

Matthew Schroder
General Manager
Infrastructure & Transport – Access & Pricing Branch
Australian Competition and Consumer Commission
GPO Box 520
Melbourne Vic 3001

Email: transport@acc.gov.au

When submitting in PDF format, please ensure the text of the submission is searchable.

Due date for submissions

Submissions on this consultation paper are due by **5.00pm (AEST) on 28 July 2021**.

Confidentiality

The ACCC strongly encourages stakeholders to make public submissions. The ACCC will publish submissions on its website, unless a submission, or part of a submission, is marked confidential, and may make it available to any person or organisation upon request. If stakeholders wish to provide a confidential submission, the ACCC asks stakeholders to provide (a) a confidential version with the confidential sections clearly identified, and (b) a public version with the confidential information omitted for publication on the ACCC website.

The ACCC will consider each claim of confidentiality on a case by case basis. If the ACCC refuses a request for confidentiality, the ACCC will give the submitting party the opportunity to withdraw the submission in whole or in part.

For further information about the collection, use and disclosure of information provided to the ACCC, please refer to the ACCC publication *'Australian Competition and Consumer Commission / Australian Energy Regulatory Information Policy – the collection, use and disclosure of information'*.⁶

⁶ Available at: <https://www.accc.gov.au/publications/accc-aer-information-policy-collection-and-disclosure-of-information>

Further information

- ARTC's letter setting out its proposal to undertake a DORC valuation, and related material⁷
- The current 2008 IAU, and related material⁸

For queries about any matters raised in this consultation paper, please contact:

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For further information, please see Disclaimer & Copyright.⁹

⁵ Available at: <https://www.acc.gov.au/regulated-infrastructure/rail/artc-interstate-rail-access-undertaking/proposed-valuation-for-the-interstate-network>

⁸ Available at: <https://www.acc.gov.au/system/files/ARTC%20Interstate%20Network%20Access%20Undertaking%20-%2030062021%20expiry.pdf>

⁹ Available at: <https://www.acc.gov.au/about-us/using-our-website/disclaimer-copyright#copyright>

2. Background

2.1. 2018 IAU

On 6 March 2018, ARTC submitted the 2018 IAU for assessment under Part IIIA of the CCA. ARTC intended the 2018 IAU to replace the 2008 IAU, accepted by the ACCC on 30 July 2008 with an initial 10-year term. On 20 December 2018, the ACCC released a draft decision to not accept the 2018 IAU, setting out a number of concerns with ARTC's proposal. On 25 January 2019, ARTC withdrew the 2018 IAU application.

One of the ACCC's key concerns with ARTC's 2018 IAU application was ARTC's proposed RAB roll forward. The RAB, and its relevance in the IAU, is explained in Box 1 at the end of this section. The 2018 IAU draft decision set out the ACCC's concerns with the following aspects of the proposed RAB:¹⁰

- **New Segments** – ARTC sought to include three new Segments in the RAB at a value of \$1.25 billion; ARTC did not provide DORC assessments for two of these Segments as required¹¹, and the ACCC had a number of concerns with ARTC's DORC assessment for the third Segment.
- **Prudence of capital expenditure (capex)** – ARTC sought to include 104 capex projects, at a cost of \$2.8 billion in the RAB, without providing sufficient supporting documentation for the ACCC to undertake a prudence assessment on the majority of these projects.
- **Government grants** – ARTC sought to include \$581 million of capex funded through grants in the RAB, without evidence that ARTC was required to generate a commercial return to government for this grant funding.
- **Replacement expenditure** – ARTC sought to include approximately \$1.5 billion of expenditure on track assets plus \$340.5 million of corridor capital into the RAB. The ACCC considered that ARTC should have expensed not capitalised both expenditure types under the perpetual RAB model in the 2008 IAU.¹²
- **Other issues** – incorrect allocation of capex to track assets; ARTC's lack of disposals in the RAB; inclusion of negative capex and capex on non-IAU Segments in ARTC's financial models; and incorrect application of indexation.

As a result, and as set out in the draft decision, the ACCC could not determine whether ARTC's proposed RAB roll forward was appropriate.

¹⁰ ACCC, *Draft decision: Australian Rail Track Corporation's 2018 Interstate Access Undertaking*, 20 December 2019, pp. 39-98. <https://www.accc.gov.au/system/files/ARTC%20-%20IAU%20-%202018%20Draft%20Decision.pdf>

¹¹ Section 4.4.(d)(i) of the 2008 IAU.

¹² Under the 2008 IAU perpetual RAB model, ARTC expends maintenance to maintain the life of particular assets in a steady state rather than depreciating those assets.

2.2. Proposed revaluation

On 23 August 2019, ARTC proposed to address the ACCC's concerns with the proposed 2018 IAU RAB by revaluing the Interstate network, using the DORC methodology.¹³

On 13 September 2019, the ACCC published an Issues Paper seeking stakeholder views on the most appropriate approach to valuing the RAB.¹⁴

In the Issues Paper, we noted ordinarily a RAB roll forward is the best approach to setting the opening RAB in a new regulatory period, because it promotes regulatory certainty and consistency. Due to significant information gaps, in this case a RAB roll forward would require the ACCC to make assumptions and complex adjustments to ARTC's financial model in order to value the RAB. We sought stakeholders' views on the best approach between:

- rolling forward the RAB from the 2008 IAU RAB value, or
- undertaking a full DORC revaluation with the ACCC engaging a consultant.

The ACCC received 10 stakeholder submissions with all but one supporting a full DORC revaluation.

Following consideration of stakeholder views, on 8 November 2019 the ACCC published its Statement of Approach stating the ACCC would appoint a consultant to undertake a DORC valuation of the Interstate network in order to determine the RAB value.

On 23 April 2020 the ACCC formally engaged GHD to undertake the valuation of ARTC's Interstate network.

Box 1: The Regulatory Asset Base (RAB)

What is the RAB?

The RAB is an accumulation of the value of prudent capital investments that an infrastructure provider has made in its network.¹⁵ On the Interstate network, this includes the value of all prudent assets required for ARTC to provide below rail services, including the rail, sleepers, ballast, signalling and communication assets.

Initial calculation of the RAB

When assets first become regulated, an initial calculation must be undertaken to determine their regulatory value. Different valuation methodologies are used across different regulated industries, such as discounted cashflow or DORC. In the first IAU (the 2002 IAU), ARTC initially valued the Interstate network using the DORC methodology. The IAU also requires ARTC to value new Segments using the DORC valuation methodology.¹⁶

Value of the RAB over time

Over time, the RAB value needs to be updated from the initial value to reflect increases from prudent capital investments made to expand the Interstate network, and decreases as a result of disposals and depreciation. Typically, this is done by rolling forward the RAB to reflect new prudent capex, disposals and depreciation. Rolling forward the RAB at the start

¹³ ARTC, *ARTC proposal to ACCC re Methodology for Revaluation of the Interstate Network*, August 2019.

¹⁴ ACCC, *Issues Paper: Valuation approach for the Interstate network*, 12 September 2019.

¹⁵ AER, *Why do we index the regulatory asset base?*, October 2017, p. 1.

¹⁶ Section 4.4.(d)(i) of the 2008 IAU.

of each regulatory period is normal regulatory practice. This is the approach taken in the IAU¹⁷ as well as in several other regulated industries, including gas, electricity and telecommunications.

How is the RAB used in the IAU?

The regulatory model in the IAU dictates the revenue ARTC makes from Access Charges will not be lower than the Floor Limit¹⁸ and will not be higher than the Ceiling Limit.¹⁹ As such, the Floor and Ceiling Limits determine the bounds within which Access Charges must ultimately be set.

The Ceiling Limit

Under the 2008 IAU, the Ceiling Limit is set by calculating how much revenue is required for ARTC to recover its Economic Cost, which includes the following:

- Depreciation of assets in the RAB, which allows ARTC to recover the RAB over the life of the assets on the Interstate network.
- A return on ARTC's investments, where the return is calculated by multiplying the RAB by the weighted average cost of capital (WACC).
- All operating and maintenance costs incurred by ARTC to provide services on the Interstate network, acting efficiently and prudently.

The Floor Limit

Under the 2008 IAU, the Floor Limit is set by calculating how much revenue is required for ARTC to recover efficient costs deemed to be 'incremental', meaning costs that could be avoided if a Segment was removed from the Interstate network. In the 2008 IAU, incremental costs are a subset of operating and maintenance costs.²⁰

Unlike for the Ceiling Limit, the RAB does not impact the Floor Limit.

3. Opex discount and IDC rate

The ACCC provided the following to GHD for use in the DORC valuation:

- the opex discount rate
- the IDC rate.

GHD used the discount rate to calculate adjustments for the present value of opex savings arising from an (a) optimally configured network and (b) replacing existing assets with their modern equivalent. Chapter 6 of the ACCC's consultation paper, and chapter 10 of GHD's draft report further discusses this adjustment.

GHD used the IDC rate to calculate the accumulated value of the funding costs incurred in planning and constructing the assets on the Interstate network up to the point in time revenue is able to be earned from those assets. Chapter 7 of GHD's draft report further discusses GHD's calculation of IDC.

¹⁷ Section 4.4.(d)(ii) of the 2008 IAU.

¹⁸ Unless ARTC agrees to earn revenue less than the Floor Limit, see section 4.4.(a)(i).

¹⁹ Section 4.4(a) of the 2008 IAU.

²⁰ Section 4.4.(b) of the 2008 IAU.

The ACCC provided GHD a pre-tax real rate of 4.37% for use as both the IDC rate and opex discount rate. We based this upon the WACC calculated in the ACCC's draft decision on ARTC's 2018 IAU application, with certain parameters updated to the valuation date of 1 July 2019.²¹ The ACCC provided GHD a pre-tax WACC, consistent with the pre-tax model used in the IAU and we expect the same in the next IAU.²²

The ACCC has updated the risk free rate, debt risk premium and inflation expectations. In taking the approach to update only these WACC parameters, the ACCC has had regard to the resourcing and time required of all stakeholders if a full update of all WACC parameters and consultation on the result was undertaken.

Table 1 shows a comparison of the WACC used in ARTC's 2008 IAU (as approved by the ACCC), the ACCC's 2018 IAU Draft Decision and the WACC used in the DORC valuation.

Table 1 - WACC parameters and variable values

	2008 IAU 30 July 2008	2018 IAU Draft Decision 20 December 2018	DORC valuation 1 July 2019
Risk-free rate (Rf)	6.39%	2.78%	1.39%
Debt risk premium (DRP)	2.85%	1.73%	2.20%
Debt Issuance cost (DIC)	0.125%	0.095%	0.095%
Market risk premium	6.00%	6.00%	6.00%
Asset beta (β_a)	0.65	0.60	0.60
Tax Rate (T)	30%	30%	30%
Gamma (γ)	0.50	0.50	0.50
Inflation (π)	2.50%	2.45%	2.41%
Equity beta (β_e)	1.29	1.20	1.20
Return on equity	14.14%	9.96%	8.57%
Return on debt	9.37%	4.61%	3.68%
Equity (E)	50%	50%	50%
Debt (D)	50%	50%	50%
Post-tax nominal (vanilla) WACC²³	11.76%	7.28%	6.13%
Pre-tax nominal WACC	13.00%	8.16%	6.88%
Post-tax real WACC	9.03%	4.72%	3.63%
Pre-tax real WACC	10.24%	5.57%	4.37%

We made the following changes to parameters to determine the WACC as at 1 July 2019:

²¹ The ACCC calculated the WACC in the 2018 IAU draft decision using the WACC methodology set out in the ACCC's 2017 Hunter Valley Access Undertaking Draft Decision, see ACCC, Draft Decision - Australian Rail Track Corporation's 2017 Hunter Valley Access Undertaking, 20 April 2017, pp. 137-142.

²² In the IAU the discount rate will be applied to real cash flows and can be converted to nominal cash flows when setting nominal RAB/Maximum Allowable Revenue

²³ The Vanilla WACC is a weighted average of pre-tax cost of debt and post-tax cost of equity.

- **Risk free rate** – changed to 1.39% based upon a simple daily average of the 10 year Australian Commonwealth Government bond yield over the 20 trading days immediately prior to the valuation date (31 May 2019 to 28 June 2019).
- **Debt Risk Premium** – changed to 2.20% reflecting the difference between the average of BBB bond yield estimates calculated from RBA and Bloomberg data and the risk-free rate over the 20 trading days immediately prior to the valuation date.
- **Inflation expectations** – since a real (rather than nominal) rate is required, the expected inflation rate has been updated and is based on two years of the RBA forecasts (as per May 2019 RBA Statement of Monetary Policy) and then assuming the value of 2.5% (the mid-point of the RBA inflation target range) for the subsequent eight years.
- **All other parameters** – these remain unchanged (as compared to the 2018 IAU draft decision).

The process we have undertaken to develop the WACC to inform the IDC and opex discount rates is solely for the purposes of the DORC valuation. The ACCC's assessment of the appropriate WACC for the next regulatory term will be undertaken following receipt of ARTC's replacement IAU, and will include stakeholder consultation.

4. Government grants

In the 2018 IAU, ARTC sought to include \$581 million of capex funded by government grants between 2007–08 and 2017–18 in the RAB. ARTC did not provide any documentary evidence demonstrating it was required to generate a commercial return to government on this grant funding. In addition, cost-benefit analysis undertaken by ARTC for capex projects, including those funded by grants, showed ARTC applied non-financial benefits (for example, environmental impacts) to justify the expenditure. In the ACCC's 2018 IAU draft decision, we did not consider it was appropriate for ARTC to include grant funded assets in the RAB.²⁴

Following consultation on the appropriate approach to valuing the RAB, the ACCC reiterated this position in the Statement of Approach noting:²⁵

The ACCC considers that as a general principle, assets funded by government grants should be excluded from the RAB, unless ARTC can provide supporting documentation demonstrating that ARTC was required to earn a commercial return on that funding. The ACCC considers it inappropriate to include capex into the RAB that was intended by government to achieve non-commercial objectives, such as funding intended to address externalities.

Process to identify and exclude government grants

To establish what government grant funding ARTC received from the commencement of the 2008 IAU to the valuation date of 1 July 2019, the ACCC reviewed ARTC's public financial statements for the financial years 2008–09 through to 2018–19. Based on this, ARTC received a total of \$976.9 million in government grant funds over this period, of which it spent \$496 million on the Interstate network. In September 2020, ARTC confirmed it had capitalised \$448 million of this total on the completion of the projects outlined in

²⁴ ACCC, *Draft Decision - Australian Rail Track Corporation's 2017 Hunter Valley Access Undertaking*, 20 April, pp. 85-6.

²⁵ ACCC, *Statement of Approach: Valuation of the Interstate network*, 8 November 2019, p. 11.

Table 2, and deferred a further \$48 million pending the completion of the Port Botany Stage 3 project.

Table 2 - Interstate grant funded capex 2008–09 to 2018–19 (\$, '000s)

Grant description	Capitalised project cost	Grant funding allocated	Project cost less grant funding
Altona Loop	20,121	20,121	0
Geelong Upgrade	49,913	49,913	-
Hexham Loop	15,355	15,345	11
Level Xing EW	15,354	15,130	223
Level Xing NS	20,501	20,227	273
Missing Link	33,619	33,438	181
Port Botany - Stage 1	27,160	27,160	0
Port Botany - Stage 2	98,671	98,623	48
Port Botany - Stage 3	7,721	7,721	-
Regional Rail	1,607	1,607	-
Tottenham to West Footscray Rail Link	45,135	45,000	135
Urban Superway	314	314	-
Wodonga Bypass – NS	103,007	102,539	468
Crossing Extensions - Broken Hill to Parkes	5,567	5,567	-
Crossing Loops - Port Augusta to Broken Hill	1,525	1,525	0
Crossing Loop - Port Augusta to Parkeston	3,770	3,772	(2)
	449,340	448,002	1,338

The ACCC queried the difference between the \$496 million of grant funding (including deferrals) reported by ARTC in 2020 and the \$581 million included its submission during the 2018 application to replace the IAU. ARTC explained the difference is predominately due to the reporting of \$71.5 million of grant funding expected on a Crossing Loop Extension at project inception, of which only \$0.6 million of capital was actually grant funded.

ARTC provided the ACCC with an itemised list of capitalised costs, reconciled to the grant funding received for each project and in turn ARTC's public financial statements. In turn, the ACCC provided the list to GHD to exclude the value of the assets funded by government grant from the RAB following the DORC calculation.

GHD excluded the value of assets funded by government grants from the RAB, following the DORC valuation (See chapter 11 of GHD's draft report for further discussion on the process).

The ACCC considers the process undertaken to identify individual assets funded by grant funding would result in the ACCC excluding grant funding from the RAB in as accurate a way

as practically possible. The ACCC did not instruct GHD to remove assets funded by grants received prior to the IAU's commencement in 2008. We consider the documentation required to identify grant funded assets prior to 2008 is unlikely to be available given the elapsed time since ownership of the network was transferred to ARTC.

5. Operating Expenditure Savings

In the ACCC's terms of reference, we directed GHD to estimate opex savings over the remaining life of the Interstate network assets, calculate the present value of these opex savings, and reduce the DORC value by this amount.

Opex savings are the difference between the opex:

- ARTC is allowed to recover under the IAU, to maintain the actual Interstate network, and
- incurred by the hypothetical efficient new entrant to maintain the optimised Interstate network (under the DORC assumption).

By removing the present value of opex savings from the DORC value, the regulatory value of assets on the Interstate network will reflect both the optimised capital configuration and the consequent efficient opex required.

Opex savings can arise from the following:

- replacing existing assets with a modern equivalent asset (MEA). For example, if an existing timber sleeper that is not considered to be the MEA has a higher opex profile compared with a concrete sleeper (that is considered to be the MEA), the difference in opex between these asset-types should be deducted from the DORC value
- removing assets through the optimisation step of the DORC valuation. For example, if passing loops or sidings are optimised out of the DORC value, the opex associated with those passing loops or sidings should also be excluded from the DORC value.

GHD used ARTC's past actual opex information, and opex forecast information, to estimate opex savings.

See chapter 10 of GHD's draft report for further discussion on GHD's process to estimate opex savings and exclude the present value of opex savings from the DORC value.

2018 IAU margin on opex

In the ACCC's assessment of the 2018 IAU, ARTC stated it had applied a 10% margin on opex, which the ACCC considered was not appropriate.²⁶ Specifically, ARTC applied a 10% margin to all:

- historical actual routine corrective and reactive maintenance activities from 2012
- forecast variable maintenance activities from 2018–19 to 2022–23.

To ensure this margin was not included in GHD's calculation of opex savings, the ACCC reviewed the opex data provided by ARTC to GHD for the DORC valuation. The ACCC confirms ARTC removed the 10% margin from its historical actual and forecast opex data.

²⁶ ACCC, *Draft decision: Australian Rail Track Corporation's 2018 Interstate Access Undertaking*, 20 December 2018, pp. 151-3; p. 170.

The present value of opex savings that GHD deducted from the DORC value is based on an estimate of the opex that ARTC is allowed to recover in the future to compensate it for maintaining the existing assets. GHD's estimation of opex savings is based on past actual and forecast opex until financial year 2024–25 for the Interstate network using information provided by ARTC. If ARTC continue to use a RAB derived from GHD's in the regulatory model, the ACCC would seek explanation from ARTC if there are any material differences in the proposed opex allowance compared to the actual and forecast opex information provided.

6. Classification of Earthworks as a perpetual asset

GHD has not depreciated the value of all Interstate network assets included in the valuation. GHD has defined Earthworks as a perpetual asset because in their view Earthworks service potential does not deteriorate with the passage of time or trains.

The ACCC notes ARTC has not depreciated Earthworks in the IAU given they have not included any depreciation with respect to track, formation, and structure related assets. In the 2018 draft decision the ACCC expressed the view that the continued classification of these assets as perpetual is not appropriate given how ARTC treated the assets in its RAB roll forward. In forming this view, we noted ARTC's substantial retirement and replacement of track assets yet ARTC added the asset replacement expenditures to the RAB without recording disposal of the old assets, resulting in double counting of the value of track assets and the return on track assets.

We consider the classification of Earthworks as perpetual, if used in ARTC's RAB, would require refinement of the regulatory model to ensure future works are appropriately categorised as operating (maintenance) or capital expenditures, and any major replacements are accompanied by equivalent disposals.

7. Calculation and maintenance of the RAB

Given the DORC valuation is being undertaken in advance of ARTC's replacement IAU, there will be a gap between the valuation date of 1 July 2019 and the date the replacement IAU comes into effect. The ACCC considers if ARTC continue to use a RAB in the regulatory model it will need to be updated to set the opening RAB in the replacement IAU. Specifically, the ACCC considers ARTC should roll forward the RAB value between 1 July 2019 and the date it submits the replacement IAU application to incorporate the following:

- inclusion of prudent and efficient capex (will increase the RAB)
- disposal of assets (will decrease the RAB)
- indexation (will increase the RAB)
- recalculation of the present value of opex savings (will increase the RAB)
- depreciation (will decrease the RAB).

ARTC has committed to ensuring the accuracy of the RAB valuation is maintained, consistent with regulatory precedent during the RAB roll forward.²⁷ ARTC intends to support the roll forward process by providing the ACCC with necessary documentation and analysis

²⁷ ARTC, *RE: 2008 INTERSTATE ACCESS UNDERTAKING (IAU) EXTENSION APPLICATION TO THE ACCC*, 23 April 2021, p. 2.

required to conduct a prudency assessment of capital expenditure incurred from the valuation date till the commencement of the replacement undertaking.²⁸ ARTC would also need to set out in the IAU clear and transparent capitalisation rules in respect of the treatment of equity, grant, user-contributed and any other relevant funding types (e.g. debt).²⁹

²⁸ ARTC, *RE: 2008 INTERSTATE ACCESS UNDERTAKING (IAU) EXTENSION APPLICATION TO THE ACCC*, 23 April 2021, p. 2.

²⁹ The ACCC understands there is currently no user contributed assets on the Interstate network. To the extent this may change in the future, the IAU should set out clear capitalisation rules about such funding.

Appendix A

ACCC terms of reference for the DORC valuation

Detailed description of the requirement

The Customer requires the provision of independent written advice, in the form of a report, on the value of Australian Rail Track Corporation's (ARTC) Regulatory Asset Base (RAB) for its Interstate network as described in the request for quotation, using the DORC methodology. Broadly speaking, in this report the Customer requires the Supplier to:

- describe the methodology used
- detail all assumptions made
- detail the approach to optimisation
- determine the modern equivalent assets (MEA) for each asset type
- describe the optimised network and infrastructure
- set out replacement costs for each asset class
- provide an assessment of the condition of ARTC's assets
- determine the values of the Optimised Replacement Cost (ORC) and DORC for each Segment and the total network.

Methodology

The Supplier will apply a DORC methodology in valuing the RAB for the Interstate network. In conducting the DORC valuation, the Customer requires the Supplier to:

- base the valuation and optimisation on scrutinised contracted demand figures (for the avoidance of doubt, valuation and optimisation should be based on both existing and expected future demand figures)
- base the valuation on an optimised asset configuration as at 1 July 2019
- determine the 'optimised' Interstate network, within the brownfields constraints of the existing dimensions of the Interstate network:
 - determine the optimal configuration, size and scope of the Interstate network to meet best estimates of forecast capacity demand for each segment
 - determine the optimal design of the system components and optimal modern technologies used to construct the system components. The system components are MEA
 - components not owned or leased by ARTC for the purposes of the IAU should not be included in the optimal network configuration
- calculate the ORC of the Interstate network, where the form of optimisation applied is undertaken and identified both at the network/segment level and for each asset type:
 - at the network/segment level, the optimisation of configuration includes optimisation for over-design, over-capacity, redundancy and stranded assets
 - at the level of the asset type, the MEA should reflect the minimum future cost of supplying the capital service. The MEA replacement should embody any

- improvements in materials and build technology, improvements in design and any improvements in the techniques and productivity of installing the MEA
- at the level of the asset type, the Supplier must exclude assets funded by government gifted expenditure that are discrete and separable assets from the RAB following the DORC calculation, except where there is evidence that assets funded by government expenditure required a commercial return
 - any optimisation at the level of the network, segment and/or asset type identified by the Supplier
- adjust the DORC for dynamic cost savings, since the optimal configuration of the MEA should minimise the Net Present Value (NPV) of future costs for a given best estimate of future capacity demand. These adjustments include:
 - any optimisation adjustments for the present value of operating expenditure savings arising from an optimally configured network and as a result of replacing existing assets with the MEA (for example, if passing loops or sidings are removed as part of the optimisation of configuration, maintenance and inspection costs may be saved and, calculated as a present value, must be deducted from the ORC value)
 - any further depreciation adjustment to DORC (or an adjustment to ORC if more economically appropriate) if the life or capacity of the MEA is different to the life or capacity of existing assets when new
 - any other future cost savings as a result of installing the optimally configured MEA identified by the consultant
 - where indirect/overhead costs are included in the calculation of the ORC, the Supplier should ensure that:
 - the indirect/overhead costs correspond to the minimum costs necessary to support the commissioning of the MEA
 - the indirect/overhead cost pools are clearly identified and itemised, including the activities contained within these pools, and the mark-up/cost estimates substantiated by industry benchmarks and/or relevant project costing evidence.
 - only those indirect/overhead costs that are directly attributable (avoidable cost) to the commissioning of the MEA are included. Where indirect/overhead costs are added to direct replacement costs, directly attributable cause-and-effect cost relationships need to be established
 - form a view on the optimal and cost minimising construction campaign and the construction period, and estimate the interest cost incurred during the construction period. The Customer will advise the Supplier on the appropriate interest-during-construction (IDC) rate to be applied for this analysis
 - obtain the DORC from the ORC through an objective and verifiable best estimate of the remaining life for each asset type
 - In addition, apply any other ORC/DORC valuation approach that the Supplier considers relevant and important.