Public Version

AUSTRALIAN RAIL TRACK CORPORATION LTD

APPLICATION TO VARY THE HUNTER VALLEY COAL NETWORK ACCESS UNDERTAKING (VARIED ON 17 OCTOBER 2012) TO PROVIDE FOR THE INCORPORATION OF GAP TO TURRAWAN SEGMENTS IN THE NETWORK

CONFIDENTIAL RESPONSE TO ACCC INFORMATION REQUEST

17 SEPTEMBER 2013

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1. Introduction

On 28 June 2013, ARTC submitted an application to vary the Hunter Valley Coal Network Access Undertaking (varied on 17 October 2012) (HVAU) in order to incorporate additional segments between Gap and Turrawan, in the upper Hunter Valley.

Following receipt of stakeholder submissions in response to a Consultation paper released on 23 July 2013, the ACCC has provided a notice to ARTC on 3 September 2013 under section 44ZZBCA of the Competition and Consumer Act 2010 requesting further information in relation to the application.

ARTC has included as part of this response on a confidential basis an Information Pack containing electronic copies of all information sought by the ACCC (unless otherwise advised in the response).

2. Further Consultation

2.1 Stakeholder Consultation

ARTC notes that a number of items included in the information request relate to the DORC valuation for Gap to Turrawan assets provided in support of ARTC's application.

At the request of current Access Holders in the Gunnedah Basin, Whitehaven and Idemitsu, ARTC has recently engaged in further consultation in relation to the Gap to Turrawan DORC valuation with these stakeholders. This consultation has also included a further stakeholder, Shenhua, being a prospective Access Holder in the extended Pricing Zone 3.

ARTC has further advised stakeholders in relation to the detail of the approach and development of the Gap to Turrawan DORC valuation and has received a series of matters for consideration from these stakeholders which are currently being reviewed.

ARTC has engaged with stakeholders with a view to establishing a potential basis for support of the proposed DORC valuation or an adjustment to that proposal. ARTC considers that there are advantages in exploring a potential negotiated outcome with key stakeholders to reach a conclusion. In particular, if a negotiated outcome can be achieved, this may reduce the need for the ACCC to undertake its own detailed assessment of the DORC valuation and the delay to the consultation process this may cause.

ARTC has noted the ACCC's support of negotiated outcomes in past assessments, including the HVAU itself.

ARTC also expects that finalisation of the DORC valuation will enhance the existing level of stakeholder support for Indicative Access Charges proposed in the variation application noted in submissions made to the ACCC.

2.2 ACCC assessment of the Gap to Turrawan DORC valuation

ARTC has submitted DORC valuations to the ACCC in support of a number of previous undertaking applications relating to the:

- ARTC interstate network outside of NSW (ARTC 2002 Interstate Access Undertaking);
- ARTC interstate network including the NSW interstate network (ARTC 2008 Interstate Access Undertaking);

- ARTC Hunter Valley coal network Gap to Dartbrook (HVAU); and
- ARTC Hunter Valley Coal Network Leased PWCS Coal Loop Assets (HVAU).

On most occasions, the ACCC has elected to engage external consultants to undertake an independent assessment of DORC valuations proposed by ARTC, and on each occasion ARTC has willingly participated in such assessments.

On these occasions, ARTC's participation has normally involved the provision of significant data inputs and bases of assumptions made to the ACCC as requested by the ACCC (and its consultants) followed up by engagement between ARTC and the ACCC (and respective consultants) in order to provide further understanding of the approach, assumptions and treatments of data to assist the ACCC with its assessment.

It has been ARTC's experience that past DORC valuations have been hampered by a lack of reliable information in relation to asset and cost assumptions that is in the public domain and readily available to inform the DORC valuation by way of useful benchmarks. Nevertheless, the assessment of valuations is, by necessity, often reliant on comparisons with benchmarks.

To this end, it is often necessary to engage consultants that are significantly experienced in the development of tenders and advice in relation to relevant infrastructure developments, to enable the DORC valuation to have the benefit of this advice and experience in order to enhance its credibility and robustness. This advice and experience is gained through the consultant's engagement with other clients and only provided in support of the DORC valuation in such a way that the consultant is comfortable with maintaining confidentiality commitments to its clients.

One of the key reasons for ARTC facilitating follow up face-to-face engagement between itself and the ACCC (and respective consultants) in the past is to address the ACCC's need for relevant information but to do so in such a manner that respects its consultant's legal commitments and integrity. ARTC considers that this represents a reasonable balance between the need for reliable information to inform valuations, and the interests of consultants required to provide the information to the ACCC (and its consultants often operating in the same markets), and in view of the confidentiality requirements of the ACCC.

This Gap to Turrawan DORC valuation has also relied on such advice and experience from Evans and Peck and some of the items in the ACCC's request seek information that Evans and Peck is unable to provide in direct written response to the request as described above. In order to address these items, ARTC seeks the ACCC's consideration that this type of

information be made available on a verbal or sight basis only, rather than on a written basis, through follow up engagement with the ACCC if considered necessary.

ARTC's responses to the relevant items will identify this type of information, and propose a basis for provision of that information.

3. DORC Valuation

The information sought by the ACCC relates to a DORC valuation proposed by ARTC as part of the variation application, and detailed in the report prepared by Evans & Peck, ARTC – Depreciated Optimised Replacement Cost Calculation for Additional Segments of the ARTC Network, Gap to Turrawan Valuation Report, 28 June 2013 (**the Report**)

ITEM 1

Please provide full copies of the following documentation relating to the DORC valuation conducted for the Gap to Turrawan segments:

a. the asset register for the Gap to Turrawan segments, including (but not limited to):

ARTC took up the lease for the section of track Gap to North Star, including Gap to Turrawan on 1 July 2011. This part of the network had previously been operated and maintained by ARTC on behalf of CRIA, under a management agreement.

On transmission of the lease, high level fixed asset data was provided to ARTC by CRIA to establish a fixed asset register.

ARTC's Ellipse system that is used to manage maintenance activities has carried data to facilitate routine inspections and maintenance requirements.

As well as the Ellipse records, locally held asset maintenance databases have been used to establish the existing assets and their condition. ARTC has sought to validate the asset data held in these systems through cross checks with major project and corridor works undertaken by ARTC through the management agreement period and subsequently.

When collating the information required for the valuation process, ARTC took steps to validate the information held in locally maintained databases and the Ellipse asset maintenance system.

Through the process of reviewing the data extracts, and in conjunction with Evans & Peck, ARTC sought to confirm the age, condition and useful life of the assets via

further discussions with local area experts including the Team Manager Gunnedah, Delivery Manager Inland Network and National Bridges and Structures Engineer. These discussions along with the AK Car video and condition reports were used to confirm the condition and the current alignment of the network.

To establish the remaining life of the assets consideration was given to the engineering life of the asset, historical and current utilisation, and asset condition. Discussions were also held with Heavy Haul Development Manager, Manager Infrastructure and Planning, Hunter Valley and Performance Engineer Hunter Valley. ARTC's rail life simulation model was also reviewed and considered in the process of establishing useful life.

In addition, confirmation of the type, condition and useful life of the existing assets was sought from the primary consultant Col Neal, Roscol Consulting Pty Ltd, engaged by ARTC to provide advice on the condition of the existing assets.

Throughout the revaluation, Evans & Peck and ARTC collaborated to ensure that the work undertaken was as accurate as possible. Consultation involved senior management with respect to high level and strategic matters, and involved local ARTC maintenance and asset management staff with respect to specific asset description, age and condition.

As a result, data initially provided to Evans & Peck by ARTC (and referred to below) which may have been in some instances out-dated, incomplete or inaccurate may not align exactly to the asset information finally incorporated and held in the asset database underpinning the DORC valuation, where a process of data cleansing and quality improvement was undertaken.

All copies of documentation in the following sections will be provided to ACCC as an Information Pack in electronic format (USB/CD).

i. installation dates for level crossings;

The installation dates for level crossings were provided to Evans & Peck by ARTC on 5/3/2013 in a table in electronic Microsoft Excel format. The information includes location, asset description and commentary on installation dates. Refer Information Pack.

ii. structure reports for each bridge by equipment number;

Structure reports for each bridge within the Gap to Turrawan segment (75 in total) were provided to Evans & Peck by ARTC on 1/2/2013 in electronic PDF format. Refer Information Pack.

iii. communications assets register;

A communications assets register for the Gap to Turrawan segment was provided to Evans & Peck by ARTC on 8/2/2013 in electronic Microsoft Excel format. The information contained within the register includes: asset, brand/model, age, condition, life expectancy and installation date. Refer Information Pack.

iv. track configuration data (e.g. rail weights, sleeper types, etc.);

Track configuration data for the Gap to Turrawan segment, including chainages, rail weights, sleeper types, and installation dates, were provided as part of the spread sheet of all other assets existing within the segment described at Item 1(a)(xiii). Refer Information Pack.

v. track condition charts – Werris Creek to Narrabri;

The track condition charts were provided to Evans & Peck by ARTC on 8/2/2013 in electronic PDF format. Refer Information Pack.

vi. level crossing items from the Ellipse register;

The level crossing items for the Gap to Turrawan segment were provided to Evans & Peck by ARTC on 8/2/2013 in electronic Microsoft Excel format. The information contained within the register includes: equipment number, description and location of asset. Refer Information Pack.

vii. signalling items from the Ellipse register;

The signalling items from the Ellipse register for the Gap to Turrawan segment were provided to Evans & Peck by ARTC on 8/2/2013 in electronic Microsoft Excel format. The information contained within the register includes: equipment number, equipment ID, asset description and location. Refer Information Pack.

viii. line diagrams for the Gap to Turrawan segments;

The line diagrams for the Gap to Turrawan segment were provided to Evans & Peck by ARTC on 31/1/2013 in electronic PDF format. Refer Information Pack.

ix. inspection reports for each culvert by equipment number;

The inspection reports for each culvert were provided to Evans & Peck by ARTC on 1/2/2013 in electronic PDF format (37 for large culverts and 83 for small culverts). Refer Information Pack.

x. inspection reports for miscellaneous structures (buffer stops, cattle stops and loading structures);

The inspection reports for miscellaneous structures (24 in total) were provided to Evans & Peck by ARTC on 1/2/2013 in electronic PDF format. Refer Information Pack.

xi. structures list for bridges, large culverts and small culverts;

A structures list for bridges, large culverts and small culverts, as well as miscellaneous structures, was provided to Evans & Peck on 31/1/2013 in electronic Microsoft Excel format. It contains information including: asset number, structure configuration and material. Refer Information Pack.

xii. map of Gap to Turrawan rail segment to be re-valued;

The map of the Gap to Turrawan rail segment was provided to Evans & Peck by ARTC on 1/2/2013 in electronic Microsoft Excel format. Refer Information Pack.

xiii. spread sheet of all other assets existing within the segment;

The spread sheet of all other assets existing within the Gap to Turrawan segment was provided to Evans & Peck by ARTC on 31/1/2013 in electronic Microsoft Excel format. It contains chainage, installation date and asset description data for rail, turnout, sleeper, track geometry, lubricator, track grade, glued insulated joint and station assets. Refer Information Pack.

xiv. AK Car video of relevant track segments and TQI reports; and

The AK car video as well as TQI reports of the Gap to Turrawan segment were provided to Evans & Peck by ARTC on 14/2/2013 in Video Object (VOB) format and electronic PDF format respectively. Refer Information Pack.

xv. condition assessment – results of 30 tonne axle load study currently in progress;

This item relates to information provided to Evans & Peck via verbal discussion with the consultant engaged by ARTC to conduct a condition assessment of existing Gap to Turrawan assets in support of the 30 tonne axle load study to be undertaken. The outcome of these discussions has been captured in section 7 of the Report and particularly section 7.10.1 for Rail.

b. the ARTC Term Agreements made available to Evans & Peck which stipulate prices for infrastructure and have been used by Evans & Peck in its report;

ARTC provided rates used for internal costing of signalling and level crossing works. These were referenced as a reasonableness check against Evans and Peck assumptions in building up direct costs. ARTC considers this to be commercially sensitive and would be willing to make the information available to the ACCC in a controlled environment.

c. any other information provided by ARTC to Evans and Peck to inform the DORC valuation of the Gap to Turrawan segments;

Other information provided by ARTC to Evans & Peck for the revaluation includes:

1. The following Hunter 200+ documents were also provided by ARTC to Evans & Peck, to ensure alignment of the revaluation with Hunter 200+ Guidelines:
    - Operational Reliability Improvement Plan
    - Infrastructure Plan
    - Infrastructure Guidelines – Track, Civil & Structures
    - Infrastructure Guidelines – Signals, Communications & Electrical

These documents are provided in the Information Pack.

2. Records of ARTC facilitated significant discussions between Evan's & Peck and ARTC local maintenance management in order to supplement data originally provided on the age and condition of assets;

3. **Network configuration information including:**

- **Segments** – In order to inform Evans & Peck as to the appropriate split of the asset information collected into the Segments proposed to form part of Gap to Turrawan, ARTC provided distance information in relation to the start and end point of Segments.

  Segments were aligned to existing and planned coal entry points on the Network, consistent with that in other Pricing Zones, and in order to facilitate the proper application of the Ceiling Test under the HVAU.

  Refer Information Pack.

- **Network Map (Appendix 6)** – In order to inform Evans & Peck as to the appropriate assets and configuration to include in the valuation, ARTC provided the map included at Appendix 6 of the valuation report. This map identifies in red assets that are considered by ARTC to be required in order to support the existing coal capacity and performance characteristics of the Network between Gap and Turrawan on a stand-alone basis. Assets in red are considered to form the optimal configuration for the purpose of the asset valuation. This assessment was further informed by advice from ARTC local operations and coal chain logistics management as well as assessments described at Section 6 of the Report.

4. **Network utilisation information including:**

- **Existing Utilisation** - In order to inform Evans & Peck as to the existing level of utilisation of the Gap to Turrawan assets to assist in establishing optimal network configuration, ARTC provided gross tonnage and train number information as shown at Table 7 of the report. Refer Information Pack.

- **Historical Utilisation** – In order to inform Evans & Peck as to the level of historical utilisation of the Gap to Turrawan assets for the purpose of

establishing remaining life of relevant assets, ARTC provided gross volume information for the period 1998-99 to December 2012. This enabled Evans & Peck to estimate historical consumption estimates over this period are indicated at Section 6.1 of the report. The volume information provided to Evans & Peck is included in the Information Pack.

ARTC further advised Evans & Peck that whilst it had no direct knowledge and experience in this regard, to the best of its knowledge, Gunnedah basin coal mines were initially developed circa 1983 and only small amounts of coal were hauled before 1998-99. Notwithstanding annual fluctuations in haulage of grain, utilisation of the Gap of Turrawan assets by non-coal traffics was likely to be reasonably constant and at the levels around 1998-99, in the earlier years. This enabled Evans & Peck to extrapolate consumption of the Gap to Turrawan assets over their longer term history, as described at Section 6.1 of the Report.

- **Existing Coal Utilisation** – In order to inform Evans & Peck as to the level of existing coal utilisation of the Gap to Turrawan assets (compared to other traffics) for the purpose of establishing relative average and peak coal consumption to determine the extent of assets that may be required to meet existing capacity and performance for coal on a stand-alone basis, ARTC provided a frequency distribution graph showing relative proportion of daily coal train utilisation as shown at Figure 5 of the report.

5. Network Control Centre valuation & allocation

Information provided by ARTC in relation to the valuation and allocation of Network Control Centre cost and allocation is shown at Section 7.15 of the report. Further detail in relation to the determination of the allocation is provided at ARTC's response to Item 10.

The specific calculation of the allocation incorporated at section 7.15.2 of the report (and referred to in section 7.15.1) involved applying a unit rate of $[redacted][1] per train km to coal train kilometres in Gap to Turrawan ([redacted]).

[1] For the purpose of determining an amount for Network Control Centre for the Leased PWCS Coal Loop Assets for part of ARTC's 1 Jul 2011 to 31 Dec 2011 annual compliance submission to the ACCC, a unit cost of $[redacted] per train kilometre as at 1 July 2010 was determined based application of the broader Hunter Valley coal network Network Control Centre cost to train kilometres at the time. This unit cost has been inflated (based on ABS CPI) to 1 Jan 2013.

d. all data, estimates and previous valuations used to inform the estimation of benchmark replacement costs for each asset class, including the 'recently accepted (2010) benchmarks for other rail construction costs in NSW by IPART[2] ; and

Evans & Peck has previously undertaken DORC valuations of railway infrastructure for other clients, including the revaluation of the RailCorp infrastructure assets in 2011, which was used as part of RailCorp's submission to IPART. The data, estimates and DORC calculations for these valuations are considered to be confidential by both Evans & Peck and its clients for each of the valuations.

In preparing the DORC Valuation for Gap to Turrawan, Evans & Peck has used detailed price build-ups prepared for the RailCorp 2011 revaluation as the base for the price build-ups for the Gap to Turrawan segment valuation due to the similarities in the types of infrastructure found in both areas. However in preparing these price build-ups, Evans & Peck has reviewed and revised these prices specifically to suit the Gap to Turrawan segment.

The price build-ups prepared for Gap to Turrawan are also considered commercially confidential information by Evans & Peck which is critical to their business operation.

However Evans & Peck has agreed to provide access to the rate build-ups for each asset group prepared for Gap to Turrawan in a controlled setting, such that the information remains in the control of Evans & Peck and cannot be copied, should the ACCC require it.

e. outputs provided by Evans & Peck to ARTC, including:

i. a consolidated asset database in Excel format, containing DORC data for each line item (1770 in total); and

An electronic version of the consolidated asset item database is provided on the CD/USB in Excel format. The spread sheet displays a line item for each asset, including all data provided to Evans & Peck by ARTC, the optimised 2013 MEERA price calculated by Evans & Peck, and the 2013 DORC price (i.e.

[2] Evans & Peck (2013), ARTC – Depreciated Optimised Replacement Cost Calculation for Additional Segments of the ARTC Network, Gap to Turrawan Valuation Report, 28 June 2013, p.17

current written down value of the asset) calculated by Evans & Peck. Refer Information Pack.

ii. Excel worksheets detailing the rates build-up from direct costs and assumptions for each Evans & Peck identified asset group.

As stated in the response to Item 1(d), Evans & Peck considers the worksheets detailing the build-up of the rates for each asset group to be commercially confidential information. However Evans & Peck is prepared to provide access to the worksheets in a controlled setting, such that the information remains in the control of Evans & Peck and cannot be copied, should the ACCC require it.

ITEM 2

Evans & Peck has developed a price build-up model for a MEERA standard turnout, based on ARTC Hunter 200+ Infrastructure Guidelines. Please provide a full copy of this price build-up model, and any other price build-up models used by Evans & Peck in their current valuation.

As stated in the response to Item 1(d), Evans & Peck considers the worksheets detailing the build-up of the rates for each asset group to be commercial sensitive information. However Evans & Peck is prepared to provide access to the worksheets in a controlled setting, such that the information remains in the control of Evans & Peck and cannot be copied, should the ACCC require it.

ITEM 3

Evans & Peck stated they have used benchmarks of expected life of rail from previous valuations to inform the current valuation of rail.[3] On what basis were these previous valuations comparable to the current valuation?

The benchmarks of the life of rail from previous valuations were used by Evans & Peck to provide an estimate of the expected life of rail under the gross tonnage utilisation expected on the Gap to Turrawan segment. The benchmarks selected were considered reasonably comparable to the Gap to Turrawan segment for the following reasons:

[3] Evans & Peck (2013), ARTC – Depreciated Optimised Replacement Cost Calculation for Additional Segments of the ARTC Network, Gap to Turrawan Valuation Report, 28 June 2013, p.40

1. The type of rail being used (60kg standard carbon steel) was similar to the MEERA standard developed for the Gap to Turrawan segment; and

2. The type of traffic as coal freight was similar to the traffic on the Gap to Turrawan segment.

As noted in the report the range of benchmarks on life of rail is considerable, but it is not the critical factor in determining the expected life of the rail.

ITEM 4

Evans & Peck have assumed that brownfields and greenfields construction costs are similar for rail infrastructure.[4]

a. On what basis have Evans & Peck made this assumption?

For the Gap to Turrawan segment, Evans & Peck has adopted a country brownfields construction methodology to inform the MEERA pricing model applied to the revaluation. The NSW Treasury Standard TPP-07, which underpins the revaluation, requires the replacement cost to be valued in the "normal course of business". This, by definition, is a brownfields environment, as opposed to construction in an entirely new scenario which would imply a greenfields environment.

However, due to the nature of the Gap to Turrawan segment and its location in a rural area, it is assumed that certain allowances normally required for brownfields construction in an urban environment would not be required to complete any works. This includes, for example, night works or allowances for loss of track access, such as the provision of alternative transport routes.

As no provision was required for the above, the brownfields construction rates applied to the Gap to Turrawan segment is similar to the rates expected for greenfields construction. This does not take into account the cost of land acquisition, access road construction, etc. that would be present in greenfields construction.

[4] Evans & Peck (2013), ARTC – Depreciated Optimised Replacement Cost Calculation for Additional Segments of the ARTC Network, Gap to Turrawan Valuation Report, 28 June 2013, p.20

b. To what extent has the brownfields assumption determined the magnitude and extent of the earthworks costs included in the proposed DORC valuation?

As detailed in Section 7.5 of the Report, the earthworks costs included in the Gap to Turrawan revaluation were calculated by classifying appropriate proportions of the segment length into three tolerances identified as reflecting the topography in the segment:

- Earthworks tolerance +/- 1m
- Earthworks tolerance +/- 2m
- Earthworks tolerance +/- 4m

The rate developed for each of the earth work tolerances is built up for the complete re-construction of the earthworks from an existing ground surface. The build-up of the rate has recognised that the railway would not be operating in the location where this activity is being undertaken, and therefore is similar to a greenfields rate.

The mark-up allowed for the earth work tolerances represents the brownfields country pricing on the basis that the earthworks activities would be undertaken within a larger package of works in the context of the "normal course of business", ie an operating railway. This mark-up is 100% of the direct cost and consists of the same breakdown as the mark-up for the rail, sleepers and ballast assets described in Appendix 2 of the Report.

4. Partitioning of asset costs and application of mark-ups

ITEM 5

Evans & Peck have utilised an approach to DORC valuation of assets where the ORC is split into a number of cost categories and mark-ups applied for particular categories.[5] Please provide full copies of all cost evidence used by Evans & Peck to inform their advice on partitioning of an asset's costs, including:

a. asset procurement data that was made available to Evans & Peck;

ARTC provided rates used for internal costing of track and signalling works. These were referenced as a reasonableness check against Evans and Peck assumptions in building up direct costs. ARTC considers this to be commercially sensitive and would be willing to make the information available to the ACCC in a controlled environment.

b. evidence used to inform the determination of the extent of the mark-up on each asset class; and

Evans & Peck's consultants use guidance from the Best Practice Guideline for Publically Funded Road and Rail Cost Estimation standard and experience on a large number of assignments for various clients to inform the determination of the mark-up on each asset class.

A copy of the Best Practice Guideline for Publically Funded Road and Rail Cost Estimation[6] is included with the Information Pack.

The evidence obtained through experience on other assignments is provided on a confidential basis by clients, and therefore Evans & Peck cannot release this information to the ACCC. However Evans & Peck can provide a briefing to the ACCC on its relevant experience and the benchmarks that were used to inform the values of the mark-ups in the Report. The briefing on the benchmarks would be on the basis that clients or specific projects could not be specifically identified.

[5] The itemisation of an asset's cost is drawn from Evans & Peck's paper Best Practice Cost Estimation for Publicly Funded Road and Rail Construction, Department of Infrastructure, Transport, Regional Development and Local Government, 15 June 2008

[6] http://www.nationbuildingprogram.gov.au/publications/administration/pdf/Best_Practice_Cost_Estimation.pdf

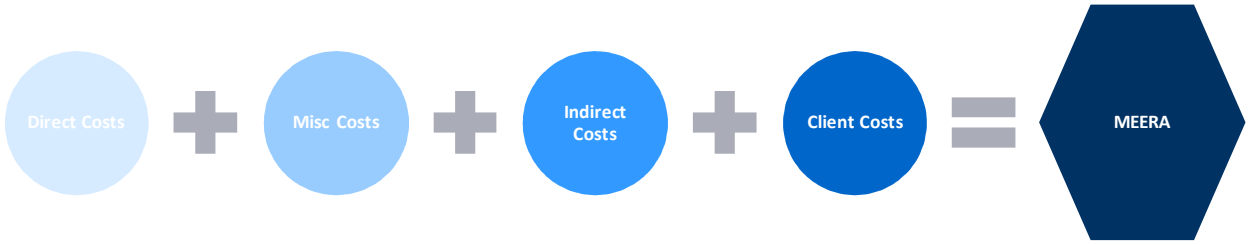
c. ***the calculations and assumptions underpinning the mark-up for each asset class, including the proportion of each mark-up attributable to the types of costs included (e.g. indirect costs, miscellaneous costs, and client costs).***

Evans & Peck has included all calculations and assumptions underpinning the mark-up for each asset class in the MEERA Pricing Model included in Appendix 2 to the Report. The MEERA pricing model included in Appendix 2 identifies the mark-up attributable to the type of costs for each asset class.

ITEM 6

How has Evans & Peck ensured that costs are not 'double counted' in applying the mark-ups to reflect indirect costs and client costs? For example, how has Evans & Peck ensured that installation costs are not included in both the direct and indirect costs? What cost allocation methodology was used to inform the magnitude of indirect cost and miscellaneous cost mark-ups attributable to particular assets where a contractor would undertake multiple projects for ARTC and others?

As detailed in Section 4.3 of the Report, Evans & Peck has developed and applied a MEERA pricing model consisting of four components (Contractor's Direct Costs, Miscellaneous Costs, Contractor's Indirect Costs and Client Costs) as displayed below.



Each component has elements grouped and allowed for within it, as follows:

- **Contractor's Direct Costs** – labour, plant, equipment, materials and subcontract works.
- **Miscellaneous Costs –** costs not covered within the Direct Costs, typically environmental controls, safety, existing services survey, pre-condition survey, temporary works, etc.
- **Contractor's Indirect Costs –** preliminaries and design, as well as overhead and margin.
- **Client Costs –** delivery agency costs, insurance.

This clearly defined pricing structure ensures that there is no double counting in applying the mark-ups to the assets.

The build-ups for each asset group are adequately detailed to ensure that none of the costs that are allowed in miscellaneous costs or Contractor's indirect costs are included.

Mark-ups have been calculated depending upon the nature of the asset, as well as the size and complexity of the works involved in replacing the asset. In developing the mark-ups, Evans & Peck have assumed that the works would be delivered in a range of medium sized packages in a country brownfields environment by a Tier 1 or equivalent contracting organisation in a competitive market. As such, mark-ups used would have regard to the ability of such organisations to efficiently recover indirect and overhead costs from a range of projects.

ITEM 7

Evans & Peck's valuation report includes a summary of the percentage mark-ups on direct costs.[7] Telecommunications is listed as having a 101% mark-up; however, later in the valuation report[8] it is stated to have received a 115% mark-up. Can Evans & Peck explain this difference in percentage mark-up values?

In Table 4 of the Report (page 19), the telecommunications asset class is listed as having a 101% mark-up. This is a typographical error. The mark-up of 115% in Table 24 of the Report (page 45) is the correct mark-up that was applied to the telecommunications assets in the valuation. This mark-up of 115% is the same as the mark-up applied to the signalling equipment assets, because of the similar nature of the assets, as well as the similar size and complexity of the works required.

ITEM 8

How have economies of scale been taken into account in the estimation of indirect costs, miscellaneous costs and client costs in the proposed DORC valuation? For example, where overhead costs may be relatively unresponsive to project size due to economies of scale.

[7] Evans & Peck (2013), ARTC – Depreciated Optimised Replacement Cost Calculation for Additional Segments of the ARTC Network, Gap to Turrawan Valuation Report, 28 June 2013, p.19
[8] Evans & Peck (2013), ARTC – Depreciated Optimised Replacement Cost Calculation for Additional Segments of the ARTC Network, Gap to Turrawan Valuation Report, 28 June 2013, p.45

In developing the values for indirect, miscellaneous and client costs, Evans & Peck have assumed that the works would be delivered in a range of medium sized packages in a country brownfields environment by a Tier 1 or equivalent contracting organisation in a competitive market. The economies of scale in the works have been assumed to be adequate, such that it would have limited influence on the indirect, miscellaneous and client costs.

The types of contracting arrangements that would reflect this assumption for Gap to Turrawan segment would include:

1. A Tier 1 contractor delivering a package of capital works exceeding $50M under a design and construct contract;

2. A managing contractor delivering a number of packages of work of overall value exceeding $50M; and

3. An alliance formed between ARTC and a Tier 1 contractor to deliver a number of packages of work exceeding $50M.

The different contracting arrangements may result in a different balance between indirect and client costs, subject to how risk is allocated between the client and contractor. However it is anticipated that the overall value of indirect and client costs would be similar in each contracting arrangement.

This assumption has allowed the indirect, miscellaneous and client costs to be kept at a minimum for the purpose of the DORC valuation.

ITEM 9

How have economies of scope been taken into account in the estimation of indirect costs, miscellaneous costs and client costs in the proposed DORC valuation? For example, where a single contractor may install multiple assets and thereby may share many of the indirect, miscellaneous and client costs between projects.

The economies of scope have been taken into account within the DORC valuation by assuming that the works would be delivered in a range of medium sized packages in a country brownfields environment by a Tier 1 or equivalent contracting organisation in a competitive market.

By assuming medium sized packages that include multiple assets and disciplines within the one package, the overall indirect and client costs can be minimised for the purposes of the DORC valuation.

Additionally Evans & Peck has assumed adequate sized quantities in the build-up of the prices for each asset group, such that the methods used to undertake these activities reflect a reasonable economy of scale.

ITEM 10

Please provide responses to the following questions relating to the allocation of network control centre costs:

a. How are network control centre costs for the Hunter Valley currently recovered?

As indicated in the Report, in 2006-07, ARTC undertook a substantial train control consolidation (TCC) project in NSW costing in the order of $80m. Of this spend, the budget for the NSW northern region, associated with delivering substantially more efficient and safer network control facilities to relevant parts of the network being the Hunter Valley coal network, the north coast interstate mainline network and some other adjacent line segments including, at the time, the network north of Gap, was approximately [redacted]

In its annual Hunter Valley compliance submission in 2006-07, ARTC submitted an allocation of this NSW northern region budget of $13.175m to the Hunter Valley coal network, and an allocation of $11.065m to the Hunter Valley constrained coal network. At the time, the Hunter Valley constrained network was essentially Pricing Zone 1. At the time, this amount was approved by IPART as prudent for inclusion in the constrained network RAB, with depreciation and return recovered through the application of the ceiling test under the NSW Rail Access Undertaking (NSWRAU) and from 1 July 2011, under the HVAU, each year. Assets existing at the time of commencement of the HVAU assumed the approved value under the NSWRAU at that time. A copy of IPART's determination[9] is included in the Information Pack.

At the time, and because of the imminent extension of the constrained network to include the Ulan Line, ARTC determined an allocation of the above amount (remaining

[9] http://www.ipart.nsw.gov.au/Home/Industries/Transport/Reviews/Rail_Access/Review_of_ARTC_compliance_with_the_NSW_Rail_Access_Undertaking_200607

after allocation to the constrained network being $2.11m) to the Ulan Line (Pricing Zone 2) of $1.15m. This was also incorporated in the RAB for the Ulan Line in 2006-07 with depreciation and return recovered through application of the ceiling test in subsequent years when that part of the network became constrained under the NSWRAU and HVAU as applicable.

The HVAU as approved by the ACCC in June 2011 also included that part of the Hunter Valley coal network between Dartbrook and Gap for the first time (existing PZ3). As part of the DORC valuation (as at 1 July 2008) for that part of the network submitted for ACCC approval as part of that application, ARTC submitted a further allocation of $340,000 to be included for network control centre capital. As this part of the Hunter Valley coal network is unconstrained, ARTC is yet to recover the cost of network control centre capital.

Having said this, an amount would be included in the RAB under the HVAU under the loss capitalisation mechanism for potential recovery in the future should Pricing Zone 3 volumes increase sufficiently.

As such, of the $13.175m initially approved by IPART as an allocation of network control centre cost for the Hunter Valley coal network, recovery currently occurs on the constrained network in relation to an amount of $12.215m originally incorporated in the RAB for Pricing Zones 1 and 2 ($11.065m plus $1.15m) . The potential for future recovery of a further $340,000 is provided for Pricing Zone 3 as approved by the ACCC for RAB inclusion in 2011.

This results in around $600,000 of the original Hunter Valley coal network allocation of $13.175m remaining to be incorporated in the remaining part of the Hunter Valley coal network, north of Gap.

It should be noted however that the determination of allocations to parts of the Hunter Valley coal network may vary over time due to the effects of inflation and depreciation, and changing utilisation of the Hunter Valley coal network by coal users.

b. Have network control centre costs been included in other regulatory asset base valuations of ARTC infrastructure, and if so on what basis have these costs been allocated to particular segments?

As described above network control centre capital cost has been determined for the Hunter Valley coal network and allocated to parts of the network in 2006-07 (Pricing Zones 1 and 2) and in 2011 (Pricing Zone 3).

Leading up to the implementation of TCC in NSW, it was necessary for ARTC to determine an appropriate amount for the Hunter Valley coal network generally from broader NSW wide TCC expenditure as well as northern region specific expenditure to incorporate in documentation for Rail Infrastructure Group (RIG) [the RCG predecessor] endorsement in accordance with the capital consultation provisions under the NSWRAU at the time. ARTC considered it appropriate at the time to undertake a more detailed assessment of TCC project expenditure and, consistent with cost allocation principles under the interstate access undertaking at the time, ARTC sought to identify as much of the expenditure as directly as possible with specific parts of the network, and allocate expenditure that could not be specifically identified on some basis. Where expenditure was allocated, ARTC had regard to the nature of the expenditure and whilst a significant component was allocated on a train kilometre basis, in accordance with the interstate undertaking, ARTC allocated some expenditure on other basis, such as staffing levels or GTK where ARTC reasonably believed this to be a better basis.

The network control centre amounts for the Hunter Valley coal network ($13.175), and then to Pricing Zones 1 and 2 in 2006-07 ($11.065m and $1.15m respectively), were determined on this basis.

With respect to the amount determined for Pricing Zone 3 in the 2008 DORC valuation ($340,000), ARTC is unable to locate the detailed calculations underpinning this determination. Given the smaller amounts involved, and the fact that specific allocations to Pricing Zone 3 and that part of the coal network north of Gap are not critical given that substantially the same coal traffic utilises both parts of this network, ARTC is not likely to have extended to its detailed assessment of TCC expenditure conducted earlier to these parts of the network. ARTC is likely to have undertaken a more simple and pragmatic allocation based on train kilometres in accordance with the HVAU proposal at the time.

c. How has ARTC/Evans & Peck ensured that these network control centre costs are not being 'double-counted' (that is, are these network control centre costs already included in ARTC's regulatory asset base for the Hunter Valley or Interstate rail networks)?

The detailed assessment of TCC expenditure conducted for RIG endorsement as described above sought to ensure a proper determination of network control centre capital for the Hunter Valley coal network and for those parts of the NSW rail network outside of the Hunter Valley coal network. This determination was approved by IPART in 2006-07.

With respect to those parts of ARTC's interstate network outside of NSW, any determination of network control centre costs to be included in earlier interstate network DORC valuations, would have only contemplated facilities providing network services used for that part of the interstate network outside of NSW located in Adelaide and Melbourne. Such facilities existed prior to NSW lease take up and would be identified specifically with only those parts of the interstate network outside of NSW.

Regulatory approval of the allocation of network control centre cost in NSW to the Hunter Valley coal network as described above should confirm that no allocation applicable to those parts of the ARTC interstate network within NSW, and other parts of the NSW network managed by ARTC, but outside of the Hunter Valley coal network, have been double counted in the Hunter Valley coal network allocation.

In relation to allocation of network control centre capital to parts of the Hunter Valley coal network, the following allocations have been made in previous relevant DORC valuations, or are proposed for Gap to Turrawan.

Segment	**Allocated amount**	**Mechanism for inclusion**
Pricing Zone 1	$11.065m	2006-07 RAB Roll Forward (NSWRAU)
Pricing Zone 2	$1.15m	2006-07 RAB Roll Forward (NSWRAU)
Pricing Zone 3	$0.34m	Dartbrook – Gap DORC Valuation (2008)
Gap to Turrawan	$0.69m	Gap – Turrawan DORC Valuation (2013)
Hunter Valley coal network	**$13.245m**	

Given the complications that arise through determining allocations at different points in time between 2006-07 and 2013, ARTC considers that the total amount now determined for these parts of the network reconciles to the amount originally approved for the Hunter Valley coal network in 2006-07 ($13.175m), within a reasonable margin of error, suggesting that double counting in different parts of the Hunter Valley coal network has not occurred.

In relation to the allocations determined at particular points in time over several years, and based on Hunter Valley coal network utilisation at those times, it is likely that the allocations may have been different had they been made in 2013 with the benefit of

hindsight. Given the volume growth in PZ2 and PZ3 over the last 6-7 years, it is likely that allocations determined in 2013 for these Pricing Zones, and based on 2013 volumes may have been higher with a corresponding reduction in the Pricing Zone 1 allocation. However, the Gap to Turrawan allocation is based on current volumes and should be appropriate.

5. Cost savings associated with modern equivalent assets

ITEM 11

ARTC have proposed to introduce a hypothetical level of operating and maintenance expenditure each year to reflect the modern engineering equivalent.[10]

In its supporting document, ARTC indicated that it intended to make an annual adjustment to maintenance expenditure for Gap to Turrawan assets as part of annual compliance assessment in order to address the ACCC concerns expressed in its determination with respect to ARTC's annual compliance with the HVAU for the period 1 July 2011 to 31 December 2011, that in valuing assets on a DORC basis, optimisation should consider reflecting modern engineering equivalent of assets, including recognition of cost savings and productivity gains due to technological advancement.

ARTC recognises that differentials in operating and maintenance expenditure between existing asset and modern equivalent assets could be reflected in the asset valuation itself, involving long term (life cycle) assessment of differentials and incorporation in the initial asset valuation on some sort of NPV basis.

Instead, ARTC has proposed to apply an equivalent annual adjustment. ARTC considers this to be a more efficient approach in the circumstances of the Gap to Turrawan assets, where a substantial program of investments has occurred over recent years, involving upgrading of track (some rail and sleepers, level crossings) and signalling assets to the modern engineering equivalent. This program is continuing with further asset upgrades occurring during 2013, ahead of coverage of the Gap to Turrawan assets under the HVAU, expected from 2014. ARTC expects that when the program is completed in the next few years the Gap to Turrawan segment will substantively consist of modern equivalent assets. In this situation, the need to consider maintenance impacts reflecting modern equivalent assets will be relatively short term.

Despite application of this approach not technically being required until compliance is assessed in relation to the 2014 calendar year, ARTC recognises that this approach is proposed as an alternative to adjustment to the initial asset valuation and that it is appropriate for the ACCC to have regard to the basis upon which future annual adjustments will be made in its assessment of the initial asset valuation.

[10] ARTC, Application to vary the Hunter Valley Access Undertaking to Provide for the Incorporation of Gap to Turrawan Segments of the Network, Supporting Documentation, 28 June 2013, p.17

However, as application is not required in the immediate term, ARTC is still at the relatively early stage of considering operating and maintenance cost impacts at any level of detail. ARTC's responses below therefore reflect the results of its consideration to date.

a. How does ARTC propose to determine what the hypothetical operating and maintenance expenditure of a modern engineering equivalent would be?

ARTC's Hunter Valley Manager Delivery & Maintenance and Manager Infrastructure & Planning have undertaken an initial review of the impact on maintenance activities where MEERA assets have been determined to be different to the existing asset in the Gap to Turrawan section of the network.

It is proposed that in developing a cost adjustment mechanism ARTC will undertake a comparative assessment of maintenance required where modern engineering asset at an equivalent age/condition and at an activity level for each segment, each year.

ARTC is well placed to conduct this assessment as much of ARTC's asset base has been upgraded and is at modern engineering equivalent.

Consideration will be given to the key inputs that determine the operating and maintenance costs for the network are;

- The existing asset, where not at MEERA standard.
- ARTC standards for the asset in place and approved by the rail safety regulator as part of ARTC's accreditation, and the modern engineering asset.
- Forecast/contracted volume of traffic.

Where a differential in costs arises, this will be reflected in an adjustment to actual maintenance expenditure.

ARTC proposed to consider key assets only at this time, where a modern engineering equivalent is identified and a material differential could be expected, as discussed in Item 11 b., below.

It is anticipated that this approach will be adopted until such times as the network has been brought up to a modern engineering standard and will effectively manage the variations in maintenance requirements each year resulting from the progressive upgrade of the asset.

b. Please provide estimates (including any supporting qualitative or quantitative evidence) on the comparable operating and maintenance expenditure of the following asset types:

i. Sleepers – timber, steel and heavy duty concrete.

The mainline of the Gap to Turrawan section of the ARTC network is considered to be fully optimised, following the completion of the current re-sleepering programme, where the entire mainline will consist of concrete sleepers by the end of 2013. As such, it is not envisaged that there will be a requirement for an adjustment to maintenance costs with respect to mainline sleepers in the 2014 Annual Compliance Submission.

Sleepers used in loops and bearers in turnouts that are yet to be optimised are deemed to have a minimal impact on the maintenance regime due to the nature of the use (much slower speeds) and therefore are deemed to have no material impact of the maintenance plan and costs.

The ARTC standard requires that timber sleepers are examined in detail every 3 months, where-as full concrete can be done annually, saving a significant inspection cost. There are a very limited numbers of timber sleepers that are subject to the increased number of inspections due to fastenings being able to come loose and also back canting (sleeper plates cutting into the timber). With resilient fastenings on both concrete and steel sleepers there is no issue with fastening coming loose and there is no sleeper plate as the rail is laid directly on the sleeper.

During the summer period on days where the ambient temperature is forecast to exceed 38^{o}C a special inspection is required to be undertaken on steel and timber sleepered track. This is to identify possible heat buckle locations. This inspection is not required on concrete as the additional mass of the sleeper assists in preventing buckles. In an area such as the Gap – Turrawan section this special inspection may be required 100 times during a year on the timber track, depending on the summer conditions.

ii. Bridges - concrete and steel.

ARTC does not intend to adjust maintenance costs for bridges through the compliance submission each year.

There is little variance in the cost of inspecting and maintaining the differing bridges types. Concrete bridges with a ballast top are the preferred option as there are no transoms that require replacement every 20 years or so. Also, the ballast top provides a continuous track structure (i.e. ballast, sleepers and rail) which allows tampers to resurface through the bridge resulting in improved track geometry.

Both steel and concrete bridges require an engineering inspection every 12 years and a visual inspection every 2 years. The key difference between steel and concrete structures is that a steel structure may require painting for rust protection, replacement of timber transoms every 20 or so years, and the engineering examination is more costly than concrete due to some of the testing requirements for the steel components (e.g. mag particle testing).

The proportion of ARTC's annual maintenance budget for bridges is relatively minor ([redacted]%). In addition, ARTC notes that the extent of bridge assets that are not MEERA is also relatively minor (e.g. only one of seventy six bridge decks is timber).

As a result of the above, ARTC considers that any maintenance adjustment for bridges adjustments is likely to be insignificant.

iii. Signalling – comparison between the modern equivalent standard and the older assets identified in the asset register.

ARTC does not intend to adjust maintenance costs for signalling through the compliance submission each year.

There exists a number of mechanical points between Gap and Turrawan. There is no intention to motorise these points. The costs for maintaining mechanical points rather than motorised is similar (specialist inspector required), with no significant cost deviation.

iv. Rail – comparison between the existing 100lb and 107lb and the modern equivalent 53kg and 60kg type of rail.

ARTCs initial view it that it expects that an adjustment to maintenance cost of rail in the order of a [redacted]% reduction to reflect MEERA assets would be applied in the 2014 compliance submission. The currently proposed adjustment to be applied has been calculated giving consideration to the existing rail 107lb rail (mainline) and 100lb rail (loops and sidings) which is fatigued and as such develops internal rail flaws which can lead to broken rails. These flaws are identified by an ultrasonic examination and are then removed by the local maintenance team. In comparison the optimised rail (60kg SC on straight and 60kg HH on curves) has better manufacture quality assurance and as such has less rail flaws.

New head hardened rail has a grinding cycle which is twice as long as standard carbon rail, halving the grinding cost.

Manufacture of new rail is of a much higher quality (of both steel and quality assurance processes) which results in far fewer defects and maintenance intervention than existing rail manufactured some 30 years ago. Installation of new rail also uses flash butt welding technology which gives a high quality product, with far fewer rail defects being present in the installation process when compared to the traditional aluminothermic welding process.

With these considerations in mind, ARTC's current views with respect to maintenance adjustments to reflect optimised consideration is provided in the table below.

Maintenance Activity	% of rail maintenance budget	Possible adjustment (%)
Rail grinding	[redacted]	[redacted]
Re-surfacing	[redacted]	[redacted]
Defect Removal	[redacted]	[redacted]
Geometry Correction	[redacted]	[redacted]

The overall impact on the rail maintenance budget arising from these adjustments would be around a [redacted]% reduction.

Given plans to replace all Gap to Turrawan section rail with MEERA over the next few years as a result of increasing line capacity to 30Tal, maintenance adjustments elating to rail may well only apply for a relatively short period.

It should be noted that ARTC's position with respect to maintenance adjustments will be further refined through more detailed engineering assessment ahead of preparation of the 2014 compliance submission.

6. Depreciation

ITEM 12

Please provide the calculations (including any relevant excel spread sheets) behind the determination of total life and remaining life for the different types assets in each asset class. For example, in relation to rails, the 100lb sidings, the 107lb, 53kg, and 60kg rail types. Please also provide any evidence to support the assumptions underpinning these calculations.

The response to this question has been divided into the determination of total life of assets and remaining life of assets as follows:

Total Life of Assets

The total life of the different asset groups has been based on the assumed standard economic lifetimes included in Appendix 4 to the Report. The assumed standard economic lifetimes have been determined based on the industry typical specified design life with the following exceptions (and the basis of the assumed total asset life):

Asset Class	Asset Grouping	Item	Standard Economic Lifetime	Basis of assumed Standard Economic Lifetime
BR	BRID03	UNDERBRIDGE – TIMBER	40	Typical expected life for the asset in service based on anecdotal evidence from ARTC.
CU	CULV04	CULVERT – TIMBER	30	Typical expected life for the asset in service based on anecdotal evidence from ARTC.
GR	TRCK03	TRACK GRADE (BALLAST ONLY)	40[11]	Based on a low level utilised heavy haul railway in service and allowing for typical maintenance.
MS	BUFF02	TIMBER BUFFER STOP	30	Typical expected life for the asset in service based on anecdotal evidence from ARTC.
RL	RAIL01	53KG RAIL	34	Calculated specifically based on a rail head loss model based on the expected utilisation of the railway as included in Appendix 7 to the Report.
RL	RAIL02	60KG RAIL	40	Calculated specifically based on a rail head loss model based on the expected utilisation of the railway as included in Appendix 7 to the

[11] The assumed useful life for ballast is 40 years as identified in section 7.1.4 of the Report. The value included in Appendix 4 is in error.

				Report.
SL	SLPR01	CONCRETE SLEEPER	50	Typical expected life for the asset in service in a similar type of heavy haul railway.
SL	SLPR02	STEEL SLEEPER	50	Typical expected life for the asset in service in a similar type of heavy haul railway.
SL	SLPR03	TIMBER SLEEPERS	20	Typical expected life for the asset in service in a similar type of heavy haul railway.
SL	SLPR04	TIMBER (1 IN 4 STEEL) SLEEPERS	30	Typical expected life for the asset in service in a similar type of heavy haul railway.
SL	SLPR05	TIMBER TRANSOM OR GIRDER SLEEPERS	20	Typical expected life for the asset in service in a similar type of heavy haul railway.
TG	EAR01	EARTHWORKS - TOLERANCE +/- 1M	100	Industry typical specified design life for the asset, subject to regular maintenance.
TG	EAR02	EARTHWORKS - TOLERANCE +/- 2M	100	Industry typical specified design life for the asset, subject to regular maintenance.
TG	EAR03	EARTHWORKS - TOLERANCE +/- 4M	100	Industry typical specified design life for the asset, subject to regular maintenance.
TO	TURN01	TURNOUT- 60KG CONCRETE	30	Typical expected life for the asset in service in a similar type of heavy haul railway.
TO	TURN02	TURNOUT - 60KG TIMBER	30	Typical expected life for the asset in service in a similar type of heavy haul railway.
TO	TURN03	TURNOUT - 53KG TIMBER	20	Typical expected life for the asset in service in a similar type of heavy haul railway.
TO	TURN04	TURNOUT - 53KG CONCRETE	20	Typical expected life for the asset in service in a similar type of heavy haul railway.
TO	TURN05	TURNOUT - 47KG CONCRETE	15	Typical expected life for the asset in service in a similar type of heavy haul railway.
TO	TURN06	TURNOUT - 47KG TIMBER	15	Typical expected life for the asset in service in a similar type of heavy haul railway.

The only relevant calculations undertaken for the total asset life of assets are in relation to the total asset life of rail. The total asset life of rail was calculated using a rail head loss model for 60kg profile rail, which is included in Appendix 7 to the Report. Based on this rail head loss model the total asset life of 60kg SC rail has been calculated as 40 years. An electronic copy of the excel spread sheet used for the rail head loss model has been included in the Information Pack.

The total asset life of other types of rail was determined through optimising the profile against the 60kg type of rail as detailed in section 7.10 – Table 19 of the Report. For example 107lb

rail has a rail head depth (and wear limit) of 40mm (23mm) vs. 44mm (26mm) for 60kg rail. On that basis there is 15% less wear range for 107lb range resulting in an 85% optimisation value. On this basis the total asset life of 107lb rail has been calculated as 34 years.

Remaining Life of Assets

The remaining life of assets has been determined by Evans & Peck based on available information and the best method that can be used with the information that is available.

The methods that have been used in the Gap to Turrawan DORC valuation include (in order of preference):

a. Asset condition surveys to determine remaining life;
b. Gross utilisation of the asset compared with capacity of the asset; and
c. Age of the asset compared with total asset life.

For most asset groups the remaining life has been calculated based on the age of the asset compared with the total asset life. The exceptions to this rule, and the method used to determine the remaining life is as follows:

1) **Track Grade** – This has been assumed to be 50% life consumed based on information provided by ARTC maintenance managers on the condition of the asset, and the expected remaining life of the asset in service. It is also consistent with earthworks consumption considerations in earlier DORC valuations.

2) **Rail** – The total asset life and the associated remaining life has been calculated based on a rail head loss model, which determines the capacity of the asset.

3) **Life Expired Assets in Service** - Where an asset has been assessed to be **life expired** based on its age in comparison with the expected life of the asset, and the asset can continue to be safely used in its current configuration, it is assumed to have a remaining life at approximately 10% total asset life in some cases. This remaining life represents the inherent value contained in the asset that remains operational in the railway.

ITEM 13

The ACCC understands there is a planned investment program to cater for increased axle loading on the Gap to Turrawan Segments, which will involve replacing a number of existing assets.[12] How has the proposed DORC valuation taken this investment program into account in the estimation of remaining asset life for assets proposed to be replaced (for example, the 107lb rail)?

The DORC valuation has been undertaken based on the current capacity and performance for the Gap to Turrawan segment as at 1 January 2013. The valuation of each asset group (including the remaining life) has been determined using the DORC method as at this date. MEERA assets have been determined having regard to existing capacity and performance.

On this basis the DORC valuation has not made any adjustment for the remaining life of assets to be replaced as a result of a future investment program intended to provide a higher level of capacity and performance. ARTC would expect to reconcile the removal and replacement of any assets as part of ongoing RAB Floor Limit roll forward under the HVAU and as approved by the ACCC through annual compliance at the time.

The DORC valuation and remaining life for key assets that are being considered for replacement or upgrading are as follows:

Asset class	DORC ($m)	Average % consumed (remaining)	Average Remaining life (years)
Rail	14.4	82% (18%)	7
Turnouts	1.0	93% (7%)	2
Ballast	15.1	79% (21%)	8

It should be noted however that, in many cases, the assets are not necessarily being replaced because of expiry, but in order to increase capacity and reduce maintenance expenditure. Such assets may have a useful life in-situ beyond the time of replacement to increase axle loading.

[12] Evans & Peck (2013), ARTC – Depreciated Optimised Replacement Cost Calculation for Additional Segments of the ARTC Network, Gap to Turrawan Valuation Report, 28 June 2013, p.39

7. Previous ARTC DORC Valuations

ITEM 14

To what extent does the proposed DORC valuation for Gap to Turrawan consider previous ARTC DORC valuations as a benchmark for asset values?

ARTC has undertaken a number of earlier DORC valuations to support regulatory applications made to the ACCC in relation to both the interstate network and Hunter Valley network. These include:

- ARTC 2002 Interstate Access Undertaking – DORC valuation in relation to the ARTC interstate network in SA/Vic and WA. Prepared for ARTC by Booz Allen Hamilton (BAH) with valuation date 1 July 2001[13] (2001 Interstate Valuation). Copy included in the Information Pack.
- ARTC 2008 Interstate Access Undertaking – DORC valuation in relation to the ARTC interstate network in SA/Vic/WA and the leased NSW interstate network. Prepared for ARTC by BAH with valuation date 1 July 2006[14] (2006 Interstate Valuation). Copy included in the Information Pack.
- ARTC 2011 Hunter Valley Coal Network Access Undertaking – DORC valuation in relation to Dartbrook to Gap segments. Prepared for ARTC by Booz & Co. (a BAH successor) with valuation date 1 July 2008[15] (2008 HV Valuation). Copy included in the Information Pack.
- ARTC 2011 Hunter Valley Coal Network Access Undertaking – DORC valuation in relation to PWCS Leased Coal Loop assets. Prepared by ARTC internally valuation date 1 July 2010[16] (2010 HV Valuation). Copy included in the Information Pack.

All of these DORC valuations were preceded by a valuation undertaken by BAH for the Independent Pricing & Regulatory Tribunal (IPART) in relation to Hunter Valley coal assets

[13] http://transition.accc.gov.au/content/item.phtml?itemId=770259&nodeId=9f02a8bad2a86db07402fae13612dfb1&fn=DORC%20valuation%20consultancy.pdf

[14] http://transition.accc.gov.au/content/item.phtml?itemId=837572&nodeId=8e211c2f4684b54721919e1aef048a11&fn=Booz%20Allen%20Hamilton%20DORC%20valuation%20report.pdf

[15] http://transition.accc.gov.au/content/item.phtml?itemId=917841&nodeId=c515ca66b3a1535680bc80a741bfa52c&fn=ARTC%20Hunter%20Valley%20Access%20Undertaking%20-%20Booz%20Assessment%20of%20Dartbrook%20Mine%20to%20The%20Gap%20DORC%20(revised)%2016%20June%202009.pdf.pdf

[16] http://transition.accc.gov.au/content/index.phtml/itemId/1057511

managed by Rail Access Corporation with valuation date 1 July 1999[17] (1999 HV valuation). Copy included in the Information Pack. These assets essentially relate to the Hunter Valley network bounded by Ulan, Dartbrook, Stratford, Newcastle ports and Newstan. Relevant parts include the current Pricing Zones 1 and 2.

In preparing the 1999 HV Valuation, ARTC understands that BAH conducted an extensive benchmarking exercise in relation to valuation of relevant assets, including contemporary benchmarks for rail infrastructure construction nationally, as well as utilising cost build up from first principles. ARTC understands that the use of such approaches was common at the time, and have been utilised on many occasions for DORC valuations with respect to regulated rail assets throughout Australia since.

In preparing subsequent valuations for ARTC, BAH (and later Booz & Co.) did not undertake an extensive review of national construction benchmarks but largely referred back to benchmarks and asset values resulting from the 1999 HV valuation, with the application of CPI to bring benchmarks up to the date of asset valuation. This was supported wherever possible by some review of more recent studies and construction projects that may have existed including the Darwin - Alice Springs line (circa 2002), various Inland Route studies conducted over the years, as well as any advice that could be provided by ARTC in relation to significant but limited construction projects it had undertaken (such as passing lane construction in Victoria and NSW (ARTC Southern Alliance 2006) and some signalling costs in on the Ulan line and in northern NSW (around 2006)).

Whilst such information proved to be helpful as a guide to updating assets costs, the limited nature and specific circumstances of the works involved needed to be treated cautiously. In any event, in both the 2006 Interstate Valuation and 2008 HV Valuation, BAH (and later Booz & Co.) expressed concerns that the simple application of CPI to substantially historical costs is likely to result in underestimation in contemporary terms[1819]. It was therefore necessary to undertake some level of benchmarking of inflated historical values against contemporary evidence. Whilst some limited benchmarking occurred in both of these valuations, as described above, ARTC generally accepted that there would be some risk of undervaluation in both of these studies. This risk was, at the time, considered tolerable by ARTC for the following reasons:

[17] http://www.artc.com.au/library/Booz%20Allen%20final%20report%20May%202001.pdf
[18] Booz Allen Hamilton, ARTC Standard Gauge Network DORC (January 2007) – p9, 'However, in unit rate terms, the comparison between the 2001 DORC (plus CPI inflation) and ARTC's Southern Alliance estimates is stark. This supports considerable anecdotal (and some objectively reported) evidence that infrastructure construction costs have recently increased beyond CPI.'
[19] Booz & Co., ARTC Standard Gauge Rail Network DORC (June 2008) – p8, 'While the rates used in the 2001 DORC were reasonable at the time (and subsequently matched reasonably other DORC work such as Tarcoola – Alice Springs, allowing for inflation, in 2003), there has been a very large increase in costs recently.'

- Both of the networks valued in the 2006 Interstate Valuation and the 2008 HV Valuation were unconstrained at the time, where in most cases, access revenue was at a level that was well below full economic cost at even lower DORC levels;
- At the time of valuation these networks had not experienced any substantial investment in recent time, where the risk of undervaluing more recent network investment was lower; and
- Significant investment was planned for both network in the near future and the contemporary cost of such investments would be captured through regulatory asset base roll forward in future years.

ARTC also accepted this risk in the 2010 HV valuation. Despite this valuation involving constrained assets (but without any substantial recent investment), the extent of the assets valued was only minor in the context of the broader Hunter Valley network.

This differs significantly to the circumstances in play with respect the Gap to Turrawan assets. In this instance, whilst the network is unconstrained, it is likely to become constrained in the relatively near future, and in any event, ARTC has proposed that the 'loss capitalisation' approach under the HVAU applies to this part of the network.

Even more importantly, and in contrast to the assets valued in the 2008 HV Valuation, there has been substantial recent investment in the Gap to Turrawan assets in recent times. Specifically, investment in the Gap to Turrawan assets totalling around $90m occurred between 2007 and 2011. Based on inflated historical cost estimates, ARTC expects that this investment would be higher than that for all Gap to Turrawan assets existing prior to the investment. ARTC is concerned that applying similar inflated historical cost estimates in the Gap to Turrawan valuation would have resulted in substantial under-valuation of these recent investments, and restricted ARTC's ability to recover the cost of these recent investments, even through the application of the loss capitalisation approach when the market was able to afford such costs.

As an example, ARTC undertook a significant program of concrete re-sleepering on parts of the Gap to Turrawan network in 2008-09, costing around $[redacted]m. The scope of works was around 65km, resulting in a per kilometre rate of around $[redacted] in current dollars. A similar application using concrete re-sleepering procurement and installation rates derived from the 2008 HV Valuation (subjected to the limited benchmarking described above) estimates a cost of around $[redacted] per kilometre. Even after consideration of the scope differences that might arise in relation to a 65km concrete re-sleepering program a

replacement of the Gap to Turrawan assets (around 140km) the extent of estimation appears considerable.

As such, ARTC considered it both prudent and reasonable to undertake the Gap to Turrawan valuation on the basis of an extensive consideration of contemporary benchmarks and through the development of bottom up cost estimates from first principles utilising current asset procurement and installation evidence, rather than continue to rely on cost estimates developed historically and subject to procurement, construction and regulatory (safety, environmental) assumptions that may have existed at that time.

Having said this, ARTC has sought to adopt a similar approach and methodology to that used in the previous DORC valuations, except where circumstances warranted some deviation. For example, ARTC, in its view, adopted a more extensive consideration with respect to network and infrastructure optimisation than may have been used previously.

ITEM 15

A comparison of the proposed DORC valuation for Gap to Turrawan segments and the proposed regulatory asset value of the Dartbrook to Gap segments as at 1 January 2013 shows that the proposed value of the Gap to Turrawan segments is higher on a per kilometre basis by approximately 16 per cent.[20] Please provide any reasons to support this apparent per kilometre differential.

ARTC accepts that the ACCC has identified two similar and like use assets for comparison, and the reasoning behind the question posed. In ARTC's view, one needs to exhibit some caution in comparing two figures, however, that have been derived in two different ways. This primarily arises from the fact that these two assets have been valued 5 years apart and that one of them has been 'rolled forward' in accordance with a prescribed regulatory framework, whilst the other has been based on, in ARTC's view, market outcomes over this period. Therefore, to the extent the prescribed roll-forward does not mirror reasonable market changes over a period (for example where construction and materials cost increases exceed CPI) there will be an inherent gap between the two approaches and therefore uncertainty in any direct comparison.

Nevertheless, ARTC puts forward the following as possible, although not necessarily exhaustive, reasons as to why a 2013 valuation may result in a higher per kilometre rate than

[20] ARTC, 1 January to 31 December 2012 Submission to the ACCC in respect of Hunter Valley Access Undertaking Roll Forward Asset Base Ceiling Test Unders and Overs Account, 24 May 2013, p.35

a 2008 valuation that has been rolled forward in the interim. ARTC also contends that there are certain aspects about the development of these parts of the network that may also contribute to a variance.

It is difficult to estimate the relative impact of the various factors described below on the variation.

Asset replacement cost

As indicated in the response to Item 14, there is a substantial difference between the ORC per kilometre rates between these two parts of the network resulting largely resulting from:

- The presence of a substantial amount of recent investment in Gap to Turrawan compared to Dartbrook to Gap at the time of the valuation;

- The use of contemporary benchmarked unit procurement and installation rates in the recent Gap to Turrawan 2013 valuation compared to inflated historical rates (with only limited benchmarking) used in the Dartbrook to Gap 2008 ORC.

RAB Floor Limit Roll Forward under the HVAU

The roll forward of the regulatory asset base for Dartbrook to Gap under the HVAU between 2008 to and 2013 is underpinned by assumptions around inflation and depreciation.

- **Inflation** - The RAB Floor Limit is increased each year over this period by CPI only. As indicated earlier, ARTC contends that increases in asset materials and construction costs, have exceeded CPI over this period.

  The table below compares CPI used in the RAB Floor Limit Roll Forward with an alternative inflator being the ABS Producer Price Index related to the Road & Bridge Construction in NSW, often used in infrastructure cost estimation and contractual arrangements. It demonstrates that the real cost of infrastructure development, likely to have been reflected in contemporary asset procurement and installation rates, has exceed the regulatory inflator by 6% over the relevant period.

Year	CPI (Sydney All Groups)	ABS Producer Price Index: Road & Bridge Construction NSW[21]
Jun 2008	91.7	88.0
Jun 2009	92.9	89.5
Jun 2010	95.6	92.8
Jun 2011	99.2	97.3
Jun 2012	100.5	101.7
Dec 2012	102.3	103..4
Cumulative Variation	**11.6.%**	**17.5%**

- **Depreciation** – Under the HVAU, the RAB Floor Limit is depreciated with respect to an approved estimate of remaining mine life (RML). As at 1 July 2011, this was 21.5 years. Under the NSWRAU the approved RML was 31 years as at 1 July 2008. Depreciation of the RAB Floor Limit (RAB) is based on these estimates which reduce each year.

  On the other hand, the depreciated state of the asset as at DORC valuation date ('line in the sand') has regard to a number of factors including age against useful life, condition and utilisation. As most major rail assets involved generally have a life of 40 years or more and in the case of the Gap to Turrawan assets (and for that matter the Dartbrook to Gap assets) have been historically relatively lightly utilised, it could be expected that assets valued initially in 2013 would be depreciated less than those valued in 2008 and depreciated through the roll forward principles under the HVAU and NSWRAU, and have a higher DORC value accordingly.

  As an example, an asset valued in 2013 with an assumed 40 year useful life would be considered to have depreciated around 12.5% over since 2008. An asset valued in 2008 and rolled forward under the NSWRAU and HVAU would have depreciated 19% (with a 7% differential arising).

The combined impact of the inflationary and depreciation impacts under the roll forward over the last 5 years may have result in a 10-15% variation alone.

Capital Expenditure

The nature and extent of Capital Expenditure that may have been incurred over the last 5 years that has either been rolled forward into the RAB Floor Limit for Dartbrook to Gap, or

[21] ABS 6427.0 Table 17

contemplated in the valuation and consumption of assets in the Gap to Turrawan DORC value may be a driver of variation.

However, ARTC estimates that since 1 July 2008, the extent of Capital Expenditure incurred between Dartbrook to Gap and Gap to Turrawan is not substantially different (in the order of $100m on each part of the network). Further, the nature of the expenditure has also been similar being largely related to concrete re-sleepering, loop extensions and re-signalling.

As such, ARTC does not expect this to be a major driver of the differential.

8. Indicative access charges

ITEM 16

Please provide the calculations (including any relevant excel spread sheets) underpinning the determination of the proposed Initial Indicative Access Charges for the extended Pricing Zone 3.

ARTC submitted a suite of models as part of the variation application, as with previous applications, supporting the proposed Initial Indicative Access charges for the extended Pricing Zone 3, as follows.

The ACCC has confirmed receipt of the modelling and indicated that while this information does address some aspects of the information request, that they are seeking further clarification on the interpretation of specific points, which ARTC will address below.

As noted in ARTC's submission, Gap to Turrawan Application Attachment B – supporting documentation 4.1.3, the proposed pricing is a forecast provided to inform stakeholders and assist in ACCC consultation process, and that ARTC intends to finalise access charges for the extended Pricing Zone 3, through the process defined in Section 4.20, taking into account contracted volumes for 2014 and forecast costs for the Network. Following finalisation, ARTC intends to adjust the 2014 Initial Indicative Access Charges for the extended Pricing Zone 3 forming part of the variation for ACCC approval.

Through discussions with current and prospective Access Holders, ARTC has indicated that the proposed pricing will be subject to any changes that are made to contracted volumes, resulting adjustments to Network costs based on volume and traffic changes and forecast capital works.

ITEM 17

Please explain how the following factors have been taken into account in the determination of the proposed Initial Indicative Access Charges, including the weighting given to the various factors:

In determining the proposed 2014 Initial Indicative Access Charges ARTC has taken into account contracted 2014 volumes as at 1 January 2013 for current Access Holders. Forecast Network costs advised to Access Holders through the 2013 pricing process were reviewed as part of ARTC's regular budget process in early 2013. The updated information has been used in developing the forecast 2014 Initial Indicative Access Charges to ensure that the advice provided in the submission incorporates the current view of proposed operating and maintenance costs.

As stated in the supporting document, all the factors identified below play a role in the setting of forecast 2014 Initial Indicative Access Charges, along with market considerations.

Effectively the 2014 Initial Indicative Access Charges finally proposed will be an outcome of the Section 4.20 process which incorporates the revised volumes, updated operating and maintenance costs and provides for customer engagement in price setting.

a. Volume forecasts for 2014;

Contracted volumes used in the modelling, along with the Access Holder nominated train types, provide the inputs to GTK and Train Kilometre calculations generated by the Ceiling Test model. This information is key in determining the variable maintenance cost and maintenance overhead attributable to the coal network and specific train types operating in each of the pricing zones.

GTK forecasts directly inform the Non-TOP component of the forecast 2014 Initial Indicative Access Charge.

b. Operating expenditure forecasts for 2014;

Operating expenditure forecasts for 2014 have been drawn from ARTC's budget process concluded in March 2013, where forecast expenditure used in the 2013 pricing process has been reviewed and updated as necessary to reflect changes to the maintenance programme and revised capital works delivery forecast, if any. The

forecast variable maintenance component of the operating expenditure directly informs the Non-TOP component of the forecast 2014 Initial Indicative Access Charge.

ARTC seeks to maximise recovery of fixed operating cost, but within the context of the circumstances of operating in an unconstrained part of the network, where loss capitalisation permits long term recovery of economic losses.

c. The RAB and RAB Floor Limit roll-forward of assets in the extended Pricing Zone 3 as at 1 January 2013;

While the Gap to Turrawan assets have been given a DORC valuation as at 1 January 2013, the extended Pricing Zone 3 has not been considered to exist for regulatory purposes under the HVAU until 1 January 2014, in alignment with the variation application. For the purpose of determining RAB and RAB Floor Limit values that have been considered in the development of the forecast 2014 Initial Indicative Access Charges, the assets have been maintained separately through the roll-forward calculation, applying the appropriate rules under the relevant access undertakings to determine an opening value as at 1 January, 2014. The RAB for the Gap to Turrawan assets have been rolled forward in 2013 in accordance with the RAB roll forward principles under the NSWRAU (which is largely aligned to the RAB Floor Limit roll forward methodology under the HVAU). The closing RAB for 2013 for Gap to Turrawan assets has been incorporated in the opening RAB and RAB Floor Limit for the extended Pricing Zone 3 for the purpose of roll forwards in 2014 used to forecast revenue ceiling limits and loss capitalisation for that year.

ARTC seeks to maximise recovery of fixed operating cost, but within the context of the circumstances of operating in an unconstrained part of the network, where loss capitalisation permits long term recovery of economic losses.

d. The existing 2013 Initial Indicative Access Charge for the current Pricing Zone 3;

In the context of setting access pricing in an unconstrained part of the network, where market considerations and the current economic climate are a factor, the level of existing 2013 Initial Indicative Access Charges for the current Pricing Zone 3, in combination with Charges negotiated for 2013 with respect to Gap to Turrawan Segments, and the relativity of this combination with forecast 2014 Initial Indicative Access Charges for the extended Pricing Zone 3 is an important consideration.

e. Charges negotiated for 2013 with respect to Gap to Turrawan Segments.

Refer above response

In particular, given that the proposed 2014 Initial Indicative Access Charges for the extended Pricing Zone 3 are not expected to recover full economic cost, please explain how ARTC has determined what proportion of full economic cost the charges should recover, and how forecasts volumes impact this consideration.

Section 4.13(b)(ii) of the HVAU provides for ARTC to have regard to maximising recovery of the fixed and capital costs associated with existing and new assets in determining Charges.

In an unconstrained part of the network (extended Pricing Zone 3), the current volumes and level of market affordability do not permit ARTC to fully recover the economic cost of this Pricing Zone. In setting Initial Indicative Access Charges in this situation, ARTC must have regard to a range of factors and ultimately aim to achieve a balance between its own reasonable business interests and those of relevant Access Holders. Ultimately the Initial Indicative Access Charges are negotiated with Access Holders either directly through the HVAU Section 4.20 process, or through dispute resolution, where a reasonable balance of interests would be an objective in any event.

The range of factors that ARTC would normally have regard to in setting Initial Indicative Access Charges (and determining the level of recovery of full economic cost) include:

- Section 4.14(b)(ii) of the HVAU above;
- Internal corporate financial objectives and meeting shareholder expectations of corporate profitability;
- Existing coal market and general economic cost conditions, including any specific Access Holder insights;
- Access pricing in other parts of the Hunter Valley coal network; and
- Flexibility in balancing current and future needs that is provided for under the Loss Capitalisation approach.

The balance sought between these factors depends on the circumstances. For example, if Loss Capitalisation proposed to apply in extended Pricing Zone 3 was not accepted then

ARTC's ability to balance existing and long term cost recovery objectives would be diminished and immediate cost recovery objectives would become more prominent.

As such, the level of recovery of full economic cost in Pricing Zone 3 is not the output of a formula driven approach, as might be the case in a constrained environment, but more-so the result of ARTC seeking a reasonable balance between the above factors, and ultimately subject to negotiation with Access Holders or dispute resolution as described above.

The TOP component will reflect the market factors and ARTCs governing principles of preserving forecast revenue, whilst mitigating any increases in access charges based on current market conditions and economic environment.

The [redacted]% seen in the [redacted], is the differential between 2013 TOP access charge and the proposed 2014 TOP access charge. This input pricing mechanism is used to refine the proposed pricing providing a view on the overall impact on revenue and testing the recovery against ceiling.

ARTC notes, from stakeholder submission that relevant Access Holders have not raised an issue with the level of the Initial Indicative Access Charges. Access Holders would be aware that the level of the Initial Indicative Access Charges proposed in the variation would result in a certain level of revenue to be recovered in 2014 and a certain level of economic loss that would be capitalised and may be recovered by ARTC at some point in the future.

ARTC has also advised Access Holders that the proposed Initial Indicative Access Charges are subject to any changes in contracted volumes for 2014 that may arise from the Section 4.20 process.

ITEM 18

In comparison to the current Initial Indicative Access Charges for the existing Pricing Zone 3, the proposed Initial Indicative Charges have a higher non-TOP component and a lower TOP component. Why is this?

The proposed Initial Indicative Charges have a higher non-TOP component as a result of the increase in variable maintenance charges. In 2013 variable maintenance costs forecast for pricing purposes in Pricing Zone 3 and 4 total $[redacted]M, in comparison to the $8.8M forecast for the extended Pricing Zone 3, forecast in 2014. In comparison, forecast GTKs increase by [redacted]%, as opposed to a [redacted]% increase in cost.

ARTC will review maintenance forecasts for 2014 as part of its annual pricing review as contemplated under Section 4.20 of the HVAU.

ITEM 19

Is the proposed Initial Indicative Access Charge for the extended Pricing Zone 3 higher or lower than the current charges for the Gap to Turrawan segments negotiated with access holders? What are the reasons for the direction and magnitude of the change?

The Initial Indicative Access Charge proposed for the extended Pricing Zone 3 is [redacted] than the current charges arising from 2013 pricing in the existing Pricing Zone 3 and that have been negotiated with access holders for the Gap to Turrawan segments. Through regular customer engagement ARTC is acutely aware of the current issues facing the coal producers and the need to maintain pricing at a level which gives consideration to current industry conditions.

This underlines the importance that ARTC has placed on current market conditions and the general economic climate in coming to an overall balance between its own interest and those of the relevant Access Holders.

It should be noted however that as the overall access cost to those Access Holders using the extended Pricing Zone 3 is also a function of access pricing in Pricing Zone 1, any likely movement in Pricing Zone 1 Initial Indicative Access Charges.in 2014 is also a consideration.

As indicated earlier, in considering the level of Initial Indicative Access Charges in the extended Pricing Zone 3, relevant Access Holders would be aware that this would result in a certain level of revenue to be recovered in 2014 and a certain level of economic loss that would be capitalised and may be recovered by ARTC at some point in the future.

ITEM 20

On page 29 of the Supporting Documentation to the Proposed Variation (Attachment 1), ARTC states that 'the proportion of the 2014 IIAC and 2014 IAC represented by the non-TOP component is X% and Y% respectively'. Please explain what 'X' and 'Y' refer to.

ARTC advises that this was a typographical error and that the following should be inserted:
X% - 15.3%, *Y%* - 14.6%