Western Australia

Economic Regulation Authority

CEILING COSTS TO APPLY TO SEVEN TERMINAL END SECTIONS OF THE SOUTH WEST MAIN LINE

DETERMINATION OF THE ECONOMIC REGULATION AUTHORITY

5 JULY 2004

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1. Introduction

On 24 September 2003, the Rail Access Regulator ("the Regulator") released his determination on the floor and ceiling costs for four main lines of the freight network under Clause 9, Schedule 4 of the *Railways (Access) Code 2000* ("the Code"). One of the main lines was the South West Main (SWM). However, it was agreed between the Regulator and WestNet Rail (WNR) that the extent of the review of the SWM would only include the nine "common user" route sections of that line.

As a result, the following short route sections were not included in the main lines Determination as they were deemed to be "user specific". These are the sections that are the subject of the Alcoa application.

- Kwinana No 3 Facing Points to Alcoa Bauxite Junction - 1.85 km
- Alcoa Bauxite Junction to Alcoa Bauxite Siding (Kwinana) - 1.30 km
- Alcoa Bauxite Junction to Alcoa Caustic Siding (Kwinana) – 1.89 km
- Alcoa Caustic Siding to Alcoa Alumina Siding (Kwinana) – 0.94 km
- Bunbury Inner Harbour No. 485 Points to Alcoa (inbound) - 0.52 km
- Bunbury Inner Harbour No. 486 Points to Alcoa (outbound) - 0.38 km
- Bunbury Inner Harbour No. 485 Points to No. 486 Points - 0.08 km

In its application, Alcoa sought the Authority's review and determination of the seven route sections, and presented the following arguments to the Authority for its consideration.

- There is no basis for an additional allocation of overheads and operating costs to these short sections as the full allocation of overheads and operating costs is being recovered on the nine sections in the Clause 9 Determination;
- These sections of line are not required to meet the full main line specification and are permanently speed restricted as trains approach Alcoa's site boundaries. Rail, sleepers and turnouts are not subject to the same wear and tear due to the low traverse speeds on these sections and so extended life and lower maintenance costs should be reflected in the ceiling cost;
- Alcoa has already contributed to the full cost of installation of several turnouts on these sections of line and continues to be responsible for the on-going maintenance of these turnouts;
- The Port of Bunbury provided funding for the new rail bridge over the Preston River when the Bunbury Inner Harbour to Alcoa access was upgraded from the single track to triple track. As such, this asset should either be excluded from the calculations or be identified as a contributed asset if renewal is the responsibility of the Port;
- Any allocation of costs to these short sections of line based on train movements

would further disadvantage Alcoa in the same way that train movements allocations on the main line sections attach disproportionately high charges to short section lengths; and

- Alcoa is the only user of these sections of line (apart from the Bunbury section which is shared with Worsley Alumina) and as such are likely to be charged the maximum permissible rate on these sections.

On 24 May 2004, WNR was requested to provide the Authority with the proposed ceiling costs for the route sections, a copy of the Access Pricing Model (APM) in which these route sections are modelled, information on train movements and gross tonne kilometres (GTKs) over these sections of line.

Bovis Lend Lease (BLL) was contracted to provide independent advice to the Authority on whether changes are required to improve and/or correct the MEA standard, asset lives of the assumed modern equivalent assets of railway infrastructure, and WNR's proposed maintenance costs for each of the seven route sections.

BLL carried out a site inspection of the seven route sections on 8 June 2004.

2. Authority under which the Determination is made

Alcoa has requested a determination of the ceiling costs under Clause 10, Schedule 4 of the Code.

Clause 10 provides for access seekers with proposals for access already made under the regime to request the Authority to determine the floor and ceiling costs for those routes where costs have not previously been determined. However, the Authority understands that the negotiations to date between WNR and Alcoa were conducted outside the regime.

As a result, the Authority's Determination of the ceiling costs of these seven route sections was undertaken under the general powers of the Authority provided by the *Railways (Access) Act 1998* and the Code, rather than under Clause 10, Schedule 4 of the Code.

3. Discussion of Issues

The Alcoa application raised a number of issues which are addressed below.

3.1 Allocation of operating and overhead costs

The total WNR operating and overhead costs were approved by the Regulator in his Determination of the floor and ceiling costs for the main lines. The approved operating costs were distributed by the respective percent of total train movements across the various lines, and to a category called “other remaining lines”. Similarly, the approved overhead costs were distributed by a 50:50 allocation between the respective percent of train movements and GTKs across the various lines, and to a category called “other remaining lines”.

The “other remaining lines” represent those lines (and line sections) not covered by the Regulator’s Determination of the floor and ceiling costs for the main lines, where train movements and GTKs have been recorded. The seven route sections in question fall into this category of “other remaining lines” and WNR is entitled to allocate a portion of the operating and overhead costs from this category to the ceiling costs of these route sections using the Regulator’s approved methodology for distributing operating and overhead costs.

No allocation methods are exact in distributing costs. The Authority understood that the Regulator, in his Determination of the floor and ceiling costs for the main lines, had examined variations to the adopted methodology, but concluded that none of the alternate methodologies provide an overall better result for all parties involved, taking the SWM as a whole.

3.2 MEA specifications

The Authority understands that these route sections support a similar level of traffic as the SWM. Although the trains are operating at slower speeds, because they are nearing the terminals, the track structure requirements are the same.

The broad usage parameters that drive the selection of an efficient MEA for a particular route section are total axle load (tal), gross tonnage and maximum speed. In the case of the seven route sections, the gross tonnage on these lines represents a similar range to that of the SWM, and they are also required to carry vehicles with the same axle loadings as the main line. While significantly reduced speed is noted on these route sections, BLL has advised that the relationship between speed and GRV, which is the value of the MEA specification, is not strong, when compared to the relationships between axle load and GRV, and gross tonnage and GRV.

On balance, the Authority is of the view that the MEA standard for the SWM should be applied to these sections of line.

3.3 Contributed assets

The Code requires that the gross replacement value of the railway infrastructure is calculated as the lowest current cost to replace all existing assets, and third party contributions are not considered in the floor and ceiling calculations, but in the Overpayment Rules.

In the Costing Principles Determination for WNR dated 27 September 2002, the Regulator has reiterated this requirement and indicated that all contributed assets will be included in the calculation of the ceiling costs. An amount of the contribution determined as the equivalent annual cost or an annuity will be credited to the route section(s) concerned in the calculation of the overpayment in the ceiling price test.

It should be noted that contributed assets that were made as a condition of State Agreements negotiated prior to the sale of the Westrail freight business, in which the proponent would have benefited from the agreed arrangement, will not be credited to the route section(s) in the Overpayment Rules calculation.

The Authority was advised by WNR that it has not included any turnouts that were funded or maintained by Alcoa. The bridge referred to at Bunbury was built in 1971 and transferred in ownership from the Public Works Department to the Bunbury Port Authority to Westrail and leased to WNR. This infrastructure is now part of the lease and the maintenance and future replacement is now the responsibility of WNR. The Authority also understands that WNR is responsible for future replacement and ongoing repair of these assets. The remaining two bridges were constructed by the Western Australian Government Railways in the mid 1990s.

3.4 Asset lives

The life of a particular asset will depend not only on its usage during its life but also the original standard of construction and the maintenance regime. The Authority agrees that, with the application of the SWM MEA standards on these route sections, the asset life will likely be extended due to reduced speed limits, thereby reducing the impact of vehicles on track geometry and track integrity, as well as the abrasive impact of the ballast on the sleepers.

BLL has advised that, with an appropriate maintenance regime and the MEA construction standard of a main line, asset lives for concrete sleepers and track construction on these route sections could be expected to extend to 100 years, and ballast to 50 years.

The issue of asset life was addressed by the Regulator in the Costing Principles Determination dated 27 September 2002. In this Determination, the Regulator has noted that asset lives proposed by WNR were broadly consistent with those used by the Independent Pricing and Regulatory Tribunal for the Rail Infrastructure Corporation and by the Queensland Competition Authority for

Queensland Rail (QR), and that the Regulator considered WNR's asset life assumptions to be reasonable with some further analysis and discussion required for only a few asset classes. Subsequent to the Determination, agreement was reached as to lives of the remaining asset classes in question between WNR and the Regulator.

In considering whether to revise the asset lives on these seven route sections, the Authority has decided not to do so in this Determination because of the following reasons:

- The Authority understands that the asset lives previously approved by the Regulator reflect the appropriate life for each major asset type based on good maintenance practice and expected traffic density on the entire WNR network. As these are averages for the network, there will be under-estimations as well as over-estimations on parts of the network. Many of the asset lives were also agreed compromises between WNR, the Regulator's independent consultants and the Regulator. Furthermore, there was no intention to vary asset lives on a route or route section basis in the calculation of floor and ceiling costs.

- The Code requires the use of an annuity for calculating the capital cost component of the ceiling. A feature of the annuity formula is that the annuity payments are more sensitive to assets with lives of 1 to 30 years than those with lives greater than 30 years. Table 1 provides a sensitivity analysis undertaken by the Authority of the annualised cost of the ceiling by route section with existing and amended asset lives as recommended by BLL.

Table 1: A Comparison of the Annualised Ceiling Cost with existing and amended asset lives

Route Section	Changes in the Annualised Ceiling Cost		Resulting Change	
	Existing Lives	Amended Lives[1]	Dollars	Percent
1	$540,377	$538,507	($1,870)	(0.3)
2	$400,380	$399,071	($1,309)	(0.3)
3	$165,634	$163,723	($1,911)	(1.2)
4	$86,026	$85,077	($949)	(1.1)
5	$269,575	$269,048	($527)	(0.2)
6	$177,227	$176,836	($391)	(0.2)
7	$313,227	$313,143	($84)	(0.0)
Total	$1,952,446	$1,945,405	($7,041)	(0.4)

[1] Increasing asset lives of concrete sleepers and track construction to 100 years, and ballast to 50 years

Route Section 1 = Kwinana No 3 Facing Points to Alcoa Bauxite Junction
Route Section 2 = Alcoa Bauxite Junction to Alcoa Bauxite Siding (Kwinana)
Route Section 3 = Alcoa Bauxite Junction to Alcoa Caustic Siding (Kwinana)
Route Section 4 = Alcoa Caustic Siding to Alcoa Alumina Siding (Kwinana)
Route Section 5 = Bunbury Inner Harbour No. 485 Points to Alcoa (inbound)
Route Section 6 = Bunbury Inner Harbour No. 486 Points to Alcoa (outbound)
Route Section 7 = Bunbury Inner Harbour No. 485 Points to No. 486 Points

Numbers in brackets represent reductions

- If the Authority is to vary the asset lives on these route sections, it will need to consider changes to asset lives on other lines and may have to re-assess the floor and ceiling costs of those route sections previously determined by the Regulator.

- Varying asset lives may also require the Authority to review the assumed maintenance program as the regularity and effectiveness of maintaining an asset will also have a strong influence on asset life.

3.5 Maintenance costs

BLL has advised that the different usage profile for the seven route sections compared with the SWM will impact on maintenance activities in several ways, including:

- Lower speed limits on the small sections mean that there is greater room for variability in track integrity and geometry without impacting vehicle stability. This will result in:
  - ◊ Ability to postpone maintenance or repairs, without impacting on safety, that in a main line high speed environment would require urgent attention,
  - ◊ Opportunities to reduce the frequency of maintenance and attention to repairs,
  - ◊ Economies of scale as a result of the increased ability to amalgamate group activities compared with a main line environment; and
- The less frequent use of the short sections compared with main line routes provides flexibility to schedule longer maintenance window. This should lead to efficiencies in a number of areas, particularly in terms of:
  - ◊ Ability to undertake a number of maintenance activities together, and
  - ◊ Reducing crew numbers and associated travel costs for specific activities.

To allow for reduced wear as a result of the reduced speeds on these route sections, and to reflect the relationship between tonnage and maintenance cost, BLL has recommended to the Authority the following adjustment to the annual maintenance costs per kilometre for each of the seven route sections:

- Kwinana No 3 Facing Points to Alcoa Bauxite Junction $ 12,050
- Alcoa Bauxite Junction to Alcoa Bauxite Siding (Kwinana) $ 10,800
- Alcoa Bauxite Junction to Alcoa Caustic Siding (Kwinana) $ 4,250
- Alcoa Caustic Siding to Alcoa Alumina Siding (Kwinana) $ 3,450
- Bunbury Inner Harbour No. 485 Points to Alcoa (inbound) $ 9,750
- Bunbury Inner Harbour No. 486 Points to Alcoa (outbound) $ 5,250
- Bunbury Inner Harbour No. 485 Points to No. 486 Points $ 7,300

BLL has based its estimation of maintenance costs using the Regulator's recommended approved costs for WNR main lines, BLL's recommended costs for selected WNR grain lines, and QR's maintenance costs as outlined in Queensland Competition Authority Working Paper 2, Usage related infrastructure maintenance costs in railways, December 2000, and Queensland Competition Authority Working Paper 5, Valuation of Queensland Rail's Below Rail Assets for the Coal Network, November 2000.

Table 2 below summarises the benchmarked maintenance costs identified by BLL.

Table 2: Summary of Benchmarked Maintenance Costs against tonnage

Railway line	MGT	tal	Max loaded speed	Maintenance Cost per km pa
WNR Grain – Avon to Goomalling[1]	1.98	19	80	5,900
WNR Grain – Katanning to Tambellup[1]	0.96	19	80	4,050
WNR Grain – Yilliminning to Kulin[1]	0.26	16	60	2,800
WNR Grain – Mullewa to Narngulu[1]	0.33	16	60	5,900
WNR Main line - EGR[2]	11.33	21	115	16,000
WNR Main line – Kalgoorlie to Leonora[2]	2.41	21	50	8,000
WNR Main line – Kalgoorlie to Esperance[2]	8.24	23	70	10,000
WNR Main line – SWM[2]	13.18	21	115	15,000
Queensland Rail – non coal[3]	0.0	NA	NA	3,821
Queensland Rail – non coal[3]	1.0	NA	NA	5,321
Queensland Rail – non coal[3]	2.0	NA	NA	7,021
Queensland Coal – Moura[4]	8	26	80	13,000
Queensland Coal – Newlands[4]	10	26	80	NA
Queensland Coal – Blackwater[4]	28	26	80	20,000
Queensland Coal – Goonyella[4]	50	26	80	26,000

[1] Review of WNR's Proposed Floor and Ceiling Maintenance Costs for Grainlines, BLL, June 2000 (Confidential)

[2] Determination of the WA Independent Regulator on Floor and Ceiling Costs to Apply to WNR, Sept 2003

[3] QCA Working Paper 2, Usage related infrastructure maintenance costs in railways, December 2000

[4] QCA Working Paper 5, Valuation of QR's Below Rail Assets for the Coal Network, GHD, November 2000

With the lower speed over these route sections, the Authority is of the view that some adjustment to the proposed maintenance cost is justified.

Although the Authority agrees that maintenance costs is affected by tonnage, it has noted that the Regulator has not in previous Determinations applied different maintenance costs at the route section level. Furthermore, the Regulator has not attempted to vary maintenance costs directly by tonnage in his Determinations of the main lines and Worsley line.

While the analysis provided by BLL does demonstrate a relationship between maintenance cost and tonnage, the Authority is of the view that the data set used in the BLL analysis was too small and the resulting variance too high to be able to confidently derive any specific recommendation on maintenance cost for each of the seven route sections.

Accordingly, as the weighted average of BLL's recommended maintenance costs is $7,945 per kilometre, the Authority considers that a general maintenance cost of $8,000 per kilometre for these seven route sections is appropriate. This is a reduction of 47 percent or $7,000 per kilometre from the $15,000 approved for the SWM.

3.6 Ceiling Costs

Table 3 is a summary of the ceiling cost for the seven route sections as a result of the reduction in maintenance costs as determined by the Authority.

Table 3: Proposed and Approved Ceiling Costs for the Seven Route Sections

Route Section	Changes in the Annualised Ceiling Cost		Resulting Change	
	Proposed	Approved	Dollars	Percent
1	$540,377	$517,552	($22,825)	(4.2)
2	$400,380	$386,992	($13,388)	(3.3)
3	$165,634	$161,505	($4,129)	(2.5)
4	$86,026	$84,205	($1,821)	(2.1)
5	$269,575	$261,144	($8,431)	(3.1)
6	$177,227	$175,207	($2,020)	(1.1)
7	$313,227	$312,737	($490)	(0.2)
Total	$1,952,446	$1,899,342	($53,104)	(2.7)

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Route Section 7 = Bunbury Inner Harbour No. 485 Points to No. 486 Points
Numbers in brackets represent reductions

3.7 Negotiating Access Prices

The "guidelines to be applied" in Clause 13, Schedule 4 of the Code allow WNR to charge a price anywhere between the floor and ceiling costs, but WNR must ensure that there is consistency in its application of the pricing principles. Prices charged should reflect as far as is reasonably practicable the standard of the infrastructure concerned, the operations proposed to be carried on by the access seeker, the relevant market conditions, and any other identified preference of the access seeker.

Under Section 21 of the Code, an access seeker negotiating inside the regime may also apply to the Authority for an opinion as to whether the price sought by WNR in negotiations for an access agreement meets the requirements of Clause 13, Schedule 4 of the Code.

4. Determination

The Determination of the ceiling costs to apply to the seven terminal end sections of the SWM, as summarised in Table 3, has been made after balancing the differing needs and interests of the community, access seekers and WNR as required under Section 20(4) of the *Railways (Access) Act 1998*.

It is also consistent with the Rail Access Regulator's Costing Principles Determination dated 27 September 2002, and the Floor and Ceiling Costs Determinations dated 24 September 2003, and 15 October 2003.

With the exception of the maintenance costs, the Authority is of the view that WNR has approached the calculation of the ceiling costs of these route sections in a manner that is consistent with the Regulator's Costing Principles Determination, and previous Floor and Ceiling Costs Determinations.

WNR will be required to amend its proposed ceiling costs for the seven route sections in a manner that is consistent with the Authority's determined levels as summarised in Table 3 to apply as from the date of this Determination. As the costs are calculated as at January 2004, WNR will be entitled to apply the appropriate CPI-X and 2004-05 WACC adjustments as approved by the Authority.

LYNDON ROWE
CHAIRMAN

5 July 2004