



Proposed Floor and Ceiling Costs for Mainline, Worsley line and Terminal End Bits

August 2008 Review

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Executive Summary

This document is WestNet Rail's (WNR's) submission to the Economic Regulatory Authority (ERA) on floor and ceiling costs as required by Clause 9 of the Access Code.

The floor and ceiling costs are calculated using an Access Pricing Model (APM) audited and approved by the ERA.

WNR has developed a new APM and corrected a number of methodological errors in the previous model. The new model has been reconciled with the previous model and approved by the ERA.

These methodological corrections have the effect of a net increase in the 2008 ceilings of \$5.8m. The main driver behind this increase is the omission of overheads related to Perway Management in the old model (\$5.9m)

The following table shows the effect of these corrections on the different line sections. Full details of these corrections are contained in a supplementary submission.

| Line Section | New Methodology | | % Increase |
|----------------------------------|-----------------------|-----------------------|--------------|
| | Effective 1 July 2008 | Effective 1 July 2009 | |
| Kwinana to Bunbury Inner Harbour | \$31,376,872 | \$36,054,544 | 14.9% |
| Brunswick to Premier | \$10,059,590 | \$11,608,900 | 15.4% |
| Forrestfield to Kalgoorlie | \$164,271,186 | \$189,556,587 | 15.4% |
| Kalgoorlie to Leonora | \$30,456,664 | \$32,171,074 | 5.6% |
| Kalgoorlie to Esperance | \$51,845,364 | \$57,338,924 | 10.6% |
| Terminal Ends | \$3,122,648 | \$3,409,938 | 9.2% |
| Grain Lines | \$18,482,706 | \$19,767,194 | 6.9% |
| Total | \$309,615,029 | \$349,907,163 | 13.0% |
| Kwinana to Soundcem | n.a | \$3,206,148 | n.a |

Using the recalculated 2008 ceilings as a reference point, WNR has updated the asset base, unit prices, overheads and operating expenditure to calculate the following proposed ceilings effective 1 July 2009.

The main drivers behind these increases are changes to the unit prices of some of the major components of the asset base. Unit prices have been updated by an independent expert consultant.

Concrete sleeper costs have increased significantly while the price of timber sleepers has slightly decreased since the last unit price report in 2006. Consequently those lines where concrete sleepers are considered the Modern Equivalent Asset (MEA) show a much larger increase in the ceiling than timber sections.

Sections with a concrete sleeper MEA include the Southwest Mainline, Brunswick-Premier and Forrestfield-Kalgoorlie sections. Sections with a timber MEA include Kalgoorlie-Esperance, Kalgoorlie-Leonora and the Grain Lines.

The costs of earthworks, ballast and turnouts have also increased significantly since 2006. The majority of other capital components have been escalated by relevant ABS producer price indices.

The following table details these unit price increases.

| Item | | 2006 | 2008 |
|----------------------------------|--------------------------------------|-----------|-----------|
| Ballast | Ballast Cost (\$ per tonne, Midland) | \$21 | \$34 |
| Rail | 41 kg/m (\$ per tonne) | \$1,600 | \$1,600 |
| | 50 kg/m (\$ per tonne) | \$1,500 | \$1,500 |
| | 60 kg/m (\$ per tonne) | \$1,440 | \$1,400 |
| Sleepers | Timber - Narrow Gauge | \$103 | \$98 |
| | Timber - Standard Gauge | \$118 | \$108 |
| | Steel - Narrow Gauge | \$65 | \$88 |
| | Steel - Standard Gauge | \$75 | \$102 |
| | Concrete - Narrow Gauge | \$82 | \$120 |
| | Concrete - Standard Gauge | \$90 | \$155 |
| Turnouts | Narrow Gauge | \$206,418 | \$246,700 |
| | Standard Gauge | \$205,000 | \$281,250 |
| Earthworks (\$ per linear metre) | Earthworks (\$ per linear metre) | \$250 | \$262 |

Note: These prices have been escalated by 2.75% in the model to reflect 2009 prices¹.

Increases in annual operating costs since the last regulatory rest in 2006 have also contributed to the increases in the proposed ceiling costs. This includes maintenance (15.4%), overheads (7.9%) and operating expenditure (7.9%)².

¹WA Department of Treasury and Finance (http://www.dtf.wa.gov.au/cms/tre_content.asp?ID=604)

² These figures refer to the June 2006 to June 2008 period prices. All prices have been escalated by a further 2.75% in the model to reflect 2009 prices

1. Introduction

This document is WestNet Rail's (WNR) submission to the Economic Regulatory Authority (ERA) on Floor and ceiling costs as required by Clause 9 of the Access Code for the following lines:

- Kwinana to Bunbury;
- Terminal "end bits" of the Kwinana to Bunbury line
- Brunswick to Premier;
- Forrestfield to Kalgoorlie;
- Kalgoorlie to Leonora;
- Kalgoorlie to Esperance; and
- Kwinana to Soundcem

WNR previously undertook a review of floor and ceiling costs for these lines in 2006, with the subsequent determination made by the ERA on 31 July 2006. This submission is for the determination which will apply for the period 1 July 2009 to 30 June 2012.

This submission represents a reset of the floor and ceiling costs. WNR has constructed a new Access Pricing Model (APM) which corrects a number of methodological errors in the previous model. As such, there are some significant differences in some of the components of the floor and ceiling costs.

WNR has also updated unit prices, overhead and operating costs and the asset base to determine the proposed floor and ceiling costs for 2009.

This document contains sections on:

- A Description of the new APM
- The process WNR has undertaken to calculate the proposed ceilings and floors;
- The key assumptions in calculating the proposed ceilings and floors;
- The proposed ceilings and floors; and
- A variance analysis between the proposed ceilings and the 2008 ceilings (calculated using the new APM);

2. The New Access Pricing Model

WNR has converted the original Access Pricing Model (APM) to a Microsoft Excel based model. This new APM is also based on the approved Costing Principles and has been developed to provide a more transparent and user friendly model suitable for publication on the ERA website.

This new model has been audited and approved by the ERA. A full reconciliation of the old and new models has been detailed in a supplementary submission.

The New model corrects a number of methodological errors in the old model which became apparent during the audit process. The net impact of these errors is a \$4.6m increase in the 2006 ceiling costs. By applying the relevant Weighted Average Cost of Capital (WACC) and CPI-X increases to calculate 2008 values, the net difference equates to \$5.8m

The main driver behind this increase is the omission of overheads related to Perway Management in the old model (\$5.9m).

The following table shows the effect of these corrections on the different line sections. Full details of these corrections are contained in a supplementary submission.

| Line Section | 2008 Ceilings | | % Increase |
|----------------------------------|----------------------|----------------------|-------------|
| | Old Methodology | New Methodology | |
| Kwinana to Bunbury Inner Harbour | \$31,642,191 | \$31,376,872 | -0.8% |
| Brunswick to Premier | \$9,402,700 | \$10,059,590 | 7.0% |
| Forrestfield to Kalgoorlie | \$159,842,073 | \$164,271,186 | 2.8% |
| Kalgoorlie to Leonora | \$30,385,669 | \$30,456,664 | 0.2% |
| Kalgoorlie to Esperance | \$51,306,286 | \$51,845,364 | 1.1% |
| Terminal Ends | \$3,471,013 | \$3,122,648 | -10.0% |
| Grain Lines | \$17,766,747 | \$18,482,706 | 4.0% |
| Total | \$303,816,680 | \$309,615,029 | 1.9% |
| Kwinana to Soundcem | n.a | n.a | n.a |

Using the recalculated 2008 ceilings as a reference point, WNR has updated the asset base, unit prices, overheads and operating expenditure to calculate the proposed ceilings effective 1 July 2009.

Section 5 compares the proposed 2009 ceilings with the recalculated 2008 ceilings. A comparison between the 2008 ceilings from the July 1 determination and the proposed 2009 ceilings is detailed in Appendix 2, however it should be noted that any comparison between the two is distorted by the methodological corrections in the new APM.

A confidential electronic version of the New APM has been submitted to the ERA to support this submission. Appendix 3 illustrates the basic methodology employed in the New APM.

3. Process Overview

WNR has recalculated ceilings for 2006 using the New APM, correcting the methodological errors in the existing floor and ceiling costs. Using these revised costs as a base, WNR has recalculated the floor and ceilings by adjusting elements of the model to account for the following:

1. Changes to the asset base;
2. Increases in unit prices used to determine the Gross Replacement Value (GRV) of the asset;
3. Updated overheads and operating expenditure, and
4. Updated Gross Tonne Kilometre and Train Activity data – used to allocate overheads.

3.1. Changes to Asset Base

The same asset population approved by the ERA in September 2006 has been used in the calculation of the floors and ceilings in this submission, with four exceptions:

Burekup Loop

An additional crossing loop has been constructed at Burekup, on the Kwinana to Bunbury line. A manual adjustment for the proposed loop was included in the previous determination. This has been replaced with real asset information.

Kwinana to Soundcem

The Kwinana to Soundcem line is included in this submission at the request of the ERA.

Gibson and Beckwith Crossing Loops

Crossing loops at Gibson, on the Kalgoorlie-Esperance section and Beckwith, east of Koolyanobbing, have been included in the asset base. It is intended that these loops will be constructed by the time the proposed ceilings in this submission come into effect (1 July 2009).

3.2. Unit Prices

An independent external consultant, GHD, was engaged to market test all unit prices of capital and maintenance costs per kilometre in WNR's asset base. This was done by obtaining quotes from multiple suppliers in the market and making subsequent recommendations as to current market rates. WNR has escalated these prices by 2.75% in the model to reflect 2009 prices³.

The report has been made available as a part of WNR's submission to the ERA.

³WA Department of Treasury and Finance (http://www.dtf.wa.gov.au/cms/tre_content.asp?ID=604)

3.3. Overhead and Operating Costs

With regards to Overhead, Operating and Network Management Costs WNR has applied CPI movements (forecast to 1 July 2009), to the ERA approved overhead costs used in the 2006 determination.

The Perth All Groups CPI was used for the June 06 to June 08 periods. The movement in this index was 7.8%. For the period June 08 to June 09, a projection of 2.75% has been applied⁴ resulting in an effective rate of 10.73% for the June 06 to June 09 period.

4. Key Assumptions

This section outlines the key assumptions underlying the proposed floor and ceiling calculations in the New APM.

4.1. Capital

4.1.1. Weighted Average Cost of Capital (WACC)

The WACC determined by the ERA on 23 June 2008 of 9.77% has been carried forward to 2009.

4.1.2. Modern Equivalent Asset (MEA)

The same MEA approved by the ERA in 2006 has been used in the calculation of the floors and ceilings in this submission, with the exception of the Kwinana to Soundcem section, Burekup Loop, Gibson Loop and Beckwith Loop.

4.1.3. Economic Lives of assets

The same economic lives of assets approved by the ERA in 2006 have been used in the calculation of the proposed floors and ceilings.

4.1.4. Remoteness Factors

The same remoteness factors approved by the ERA in 2006 have been used in the calculation of the proposed floors and ceilings.

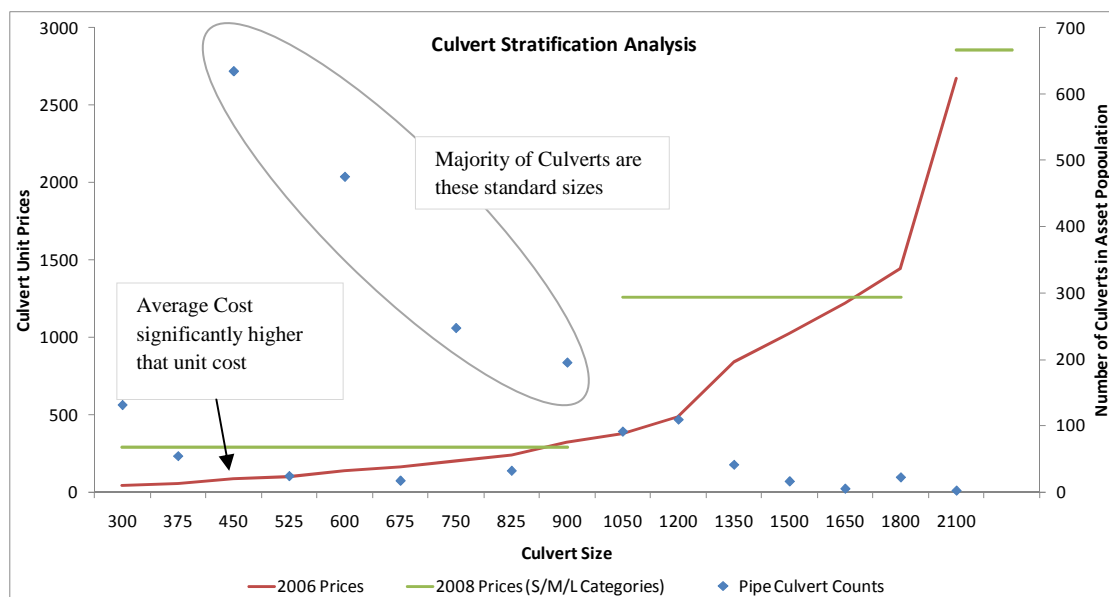
⁴WA Department of Treasury and Finance (http://www.dtf.wa.gov.au/cms/tre_content.asp?ID=604)

4.1.5. Culverts

The current asset base has 83 different types of culverts. Each of these is assumed to be the MEA and has a market tested unit price. The ERA requested that WNR apply a simplified methodology to the calculation of the GRV of culverts. This involved stratifying the asset base into small, medium and large categories and applying average unit prices to the population.

WNR initially applied this stratification which resulted in a 228% increase in the total GRV of the culvert asset base. This occurred due to the highly standard nature of WNR’s culvert asset base. Whilst there are 83 different types of culvert, the vast majority are accounted for by relatively few standard sizes.

When ‘average’ unit prices for each category were supplied by GHD, they tended to be higher than the actual cost of the culvert size which accounted for the majority of culverts in that particular category. The following chart illustrates this phenomenon.



WNR believes that any methodological simplification should be cost neutral. This phenomenon could be overcome by using weighted average unit prices for each category however that would be counter to the initial aim of simplifying the process.

For these reasons, WNR has used the existing methodology and escalated the cost of culverts by the movement in the ABS Road and Bridge Construction Index between June 2006 and June 2008 of 15.4%. For the period June 2008 to June 2009, a projection of 2.75% has been applied⁵ resulting in an effective rate of 18.6% for the June 06 to June 09 period.

⁵WA Department of Treasury and Finance (http://www.dtf.wa.gov.au/cms/tre_content.asp?ID=604)

4.1.6. Transport Costs

The transport cost approved by the ERA in September 2006 was \$0.11 per net tonne kilometre. This has been escalated to \$0.1265 per net tonne kilometre.

WNR has escalated this cost by the movement in the ABS Transportation Index (reference 6401.0) between June 2006 and June 2008 of 8.2%. For the period June 2008 to June 2009, a projection of 2.75% has been applied⁶ resulting in an effective rate of 11.2% for the June 06 to June 09 period.

4.1.7. Construction Costs

The same assumptions regarding design, project management, construction financing costs and construction margins that were approved by the ERA in 2006 have been used in this submission.

4.2. Operating Costs

4.2.1. Working Capital

The methodology in the approved Costing Principles has been adopted by WNR in calculating the cost of working capital.

4.2.2. Overheads

WestNet has used the following per annum values for overheads in the APM:

| Item | 2006 Determination | Proposed 2009 Determination | Increase | Allocation Methodology | |
|--------------------------------|-----------------------|--------------------------------|----------|------------------------|----------------|
| WNR Overheads and insurance | 11,701,868 | 12,957,623 | 10.7% | 50/50 | GTK / Train No |
| WNR Corporate Support Services | 3,629,500 | 4,018,990 | 10.7% | 50/50 | GTK / Train No |
| WestNet Group Overheads | 862,158 | 954,678 | 10.7% | 50/50 | GTK / Train No |
| Total Overheads | 16,193,526 | 17,931,291 | 10.7% | | |

4.2.3. Gross Tonne Kilometres (GTKs) and Train Movement Numbers

GTK's and Train Movement Numbers are used to allocate overheads and operating costs on the basis indicated in the sections above and below. The new APM has been updated to use the GTKs and Train Movement Numbers for 2007/8 financial year.

4.2.4. Operating Costs

WestNet has used the following per annum values for operating costs in the APM.

⁶WA Department of Treasury and Finance (http://www.dtf.wa.gov.au/cms/tre_content.asp?ID=604)

| Item | 2006 Determination | Proposed 2009 Determination | Increase | Allocation Methodology |
|---------------------------------------|-----------------------|--------------------------------|----------|------------------------------------|
| Civil & C&CS Head office and Regional | 6,477,000 | 7,172,062 | 10.7% | Direct Regional Budgets and GTK |

4.2.5. Network Management Costs

WestNet has used the following values for Network Management in the APM;

| Item | 2006 Determination | Proposed 2009 Determination | Increase | Allocation Methodology |
|-----------------------------|-----------------------|--------------------------------|----------|------------------------|
| Centralised Train Control | 3,474,437 | 3,847,287 | 10.7% | Direct allocation |
| Network Management Overhead | 1,140,990 | 1,263,432 | 10.7% | Train numbers |
| Total Network Management | 4,615,427 | 5,110,719 | 10.7% | Train numbers |

Centralised Train Control has been directly allocated to the six main routes based on the number of train controllers required to manage each Route.

The network management overhead which includes scheduling and access management is allocated on route section train numbers divided by the system wide train numbers which is consistent with the previous determinations.

4.2.6. Maintenance

Maintenance includes both routine and cyclical maintenance for track, signaling and communications infrastructure. Routine maintenance is the corrective action taken as follow up to routine inspections. Cyclical maintenance comprises tasks that are undertaken at regular intervals which are necessary to achieve the expected asset life. Maintenance excludes Major Periodical Maintenance (MPM) which comprises activities undertaken which extend the life of the asset. Maintenance activities included are consistent with those prescribed in Schedule 4 of the Railways (Access) Code 2000 and the approved Costing Principles.

The GHD Review of Unit Prices estimated a 15.4% increase in maintenance costs between June 2006 and June 2008. WNR have escalated this cost by 2.75% to reflect 2009 prices⁷.

| Item (\$ per km) | 2006 | 2009 | Increase |
|---|--------|---------|----------|
| Kwinana to Bunbury (inc Kwinana-Soundcem) | 17,610 | 20,881 | 18.6% |
| Terminal "end bits | 9,392 | 11,136 | 18.6% |
| Brunswick to Worsley | 17,610 | 20,881 | 18.6% |
| Worsley to Premier | 9,392 | 11,136 | 18.6% |
| Forrestfield to Kalgoorlie | 18,784 | 22,273 | 18.6% |
| Kalgoorlie to Leonora | 9,392 | 11,136 | 18.6% |
| Kalgoorlie to Esperance | 11,740 | 13,921 | 18.6% |
| Total | 93,920 | 111,365 | 18.6% |

⁷WA Department of Treasury and Finance (http://www.dtf.wa.gov.au/cms/tre_content.asp?ID=604)

5. Floor and Ceiling Costs effective 1 July 2009

| | New APM WACC: 9.77% 75% of CPI: 3.181% Effective 1 July 2008 | Ceiling Submission New APM WACC: 9.77% Effective 1 July 2009 | % Increase |
|---|---|---|------------|
| Kwinana to Bunbury Inner Harbour | \$31,376,872 | \$36,054,544 | 15% |
| Route Section | | | |
| Kwinana to Mundijong Jn | \$5,114,705 | \$5,987,707 | 17% |
| Mundijong Jn to Pinjarra | \$7,432,991 | \$8,883,253 | 20% |
| Pinjarra to Pinjarra East | \$616,985 | \$670,811 | 9% |
| Pinjarra East to Alumina Jn | \$612,797 | \$670,314 | 9% |
| Pinjarra East to Pinjarra South | \$289,738 | \$318,327 | 10% |
| Pinjarra to Wagerup | \$4,595,232 | \$5,389,876 | 17% |
| Wagerup to Brunswick Jn | \$6,763,726 | \$7,466,542 | 10% |
| Brunswick Jn to Picton Jn | \$4,422,377 | \$4,966,923 | 12% |
| Picton Jn to Bunbury Inner Harb | \$1,528,322 | \$1,700,790 | 11% |
| Brunswick to Premier | \$10,059,590 | \$11,608,900 | 15% |
| Route Section | | | |
| Brunswick North - East | \$160,966 | \$194,901 | 21% |
| Brunswick - Brunswick East | \$428,610 | \$549,858 | 28% |
| Brunswick East - Worsley | \$3,279,698 | \$3,798,905 | 16% |
| Worsley - Worsley North | \$564,089 | \$692,015 | 23% |
| Worsley North - Hamilton | \$1,265,888 | \$1,233,821 | -3% |
| Worsley East - Worsley North | \$167,019 | \$186,630 | 12% |
| Worsley - Worsley East | \$307,841 | \$353,934 | 15% |
| Worsley East - Ewington Jn | \$3,444,982 | \$4,121,074 | 20% |
| Ewington Jn - Premier | \$440,499 | \$477,761 | 8% |
| Forrestfield to Kalgoorlie | \$164,271,186 | \$189,556,587 | 15% |
| Route Section | | | |
| F'Field Sth to Midland | \$7,077,322 | \$8,599,902 | 22% |
| Midland to Millendon Jn | \$7,169,711 | \$7,651,143 | 7% |
| Millendon Jn to Toodyay West | \$24,608,387 | \$27,658,158 | 12% |
| Toodyay West to Avon Yard | \$11,071,814 | \$12,262,318 | 11% |
| Avon Yard to West Merredin | \$37,519,990 | \$43,652,362 | 16% |
| West Merredin to Koolyanobbing | \$34,558,805 | \$40,516,619 | 17% |
| Koolyanobbing to West Kalgoorlie | \$36,127,295 | \$42,407,758 | 17% |
| West Kalgoorlie to Border | \$1,913,511 | \$2,171,770 | 13% |
| Avon to West Merredin Sidings | \$2,349,286 | \$2,590,629 | 10% |
| West Merredin to Koolyanobbing Sidings | \$1,276,141 | \$1,390,038 | 9% |
| Koolyanobbing to W Kal Sidings | \$598,924 | \$655,891 | 10% |
| Kalgoorlie to Leonora | \$30,456,664 | \$32,171,074 | 6% |
| Route Section | | | |
| Kalgoorlie to Malcolm | \$27,152,521 | \$28,667,471 | 6% |
| Malcolm to Leonora | \$3,271,975 | \$3,469,954 | 6% |
| Menzies sidings | \$32,168 | \$33,649 | 5% |
| Kalgoorlie to Esperance | \$51,845,364 | \$57,338,924 | 11% |
| Route Section | | | |
| West Kalgoorlie to Hampton | \$2,989,473 | \$3,243,679 | 9% |
| Hampton to Kambalda | \$5,181,897 | \$5,877,892 | 13% |
| Kambalda to Salmon Gums | \$29,042,580 | \$31,430,665 | 8% |
| Salmon Gums to Esperance | \$14,378,037 | \$16,510,528 | 15% |
| Kambalda siding | \$62,465 | \$66,015 | 6% |
| Norseman Siding | \$55,984 | \$58,989 | 5% |
| Salmon Gums Siding | \$134,929 | \$151,156 | 12% |

Ceiling Costs effective 1 July 2009 (cont)

| | New APM WACC: 9.77% 75% of CPI: 3.181% Effective 1 July 2008 | Ceiling Submission New APM WACC: 9.77% Effective 1 July 2009 | % Increase |
|--|---|---|------------|
| Terminal Ends | \$3,122,648 | \$3,409,938 | 9% |
| Route Section | | | |
| Inner Harbour 485 Pt to Alcoa (Inbound) | \$448,064 | \$478,247 | 7% |
| Inner Harbour 486 Pt to ALCOA (Outbound) | \$308,645 | \$334,806 | 8% |
| Inner Harbour 487 Pt to Worsley (Outbound) | \$208,154 | \$228,228 | 10% |
| Inner Harbour 485 Pt to 486 pts | \$407,990 | \$431,313 | 6% |
| Inner Harbour 486 Pt to 487 pts | \$157,150 | \$166,383 | 6% |
| Inner Harbour 487 Pt to Woodchips | \$468,470 | \$510,233 | 9% |
| Kwinana no3 points to bauxite junction | \$476,541 | \$530,482 | 11% |
| Alcoa Bauxite Jn - Alcoa Bauxite Sdg | \$313,045 | \$345,225 | 10% |
| Alcoa Bauxite Jn - Alcoa Caustic Sdg Pts | \$228,884 | \$262,884 | 15% |
| Alcoa Caustic Sdg Pts -Alcoa Alumina Sdg Pts | \$105,705 | \$122,137 | 16% |
| Kwinana to Soundcem | n.a | \$3,206,148 | n.a |
| Grain Lines | | | |
| Avon to Goomalling | \$5,651,024 | \$5,989,441 | 6% |
| Katanning to Tambellup | \$4,315,177 | \$4,724,402 | 9% |
| Kulin to Yilminning | \$8,516,505 | \$9,053,351 | 6% |

Floor Costs effective 1 July 2009

| | New APM WACC: 9.77% 75% of CPI: 3.181% Effective 1 July 2008 | Floor Submission New APM WACC: 9.77% Effective 1 July 2009 | % Increase |
|---|---|---|------------|
| Kwinana to Bunbury Inner Harbour | \$2,080,449 | \$2,418,433 | 16% |
| Route Section | | | |
| Kwinana to Mundijong Jn | \$291,527 | \$366,195 | 26% |
| Mundijong Jn to Pinjarra | \$423,948 | \$540,031 | 27% |
| Pinjarra to Pinjarra East | \$107,240 | \$117,876 | 10% |
| Pinjarra East to Alumina Jn | \$136,653 | \$155,665 | 14% |
| Pinjarra East to Pinjarra South | \$45,146 | \$49,889 | 11% |
| Pinjarra to Wagerup | \$220,273 | \$254,170 | 15% |
| Wagerup to Brunswick Jn | \$347,575 | \$353,224 | 2% |
| Brunswick Jn to Picton Jn | \$327,214 | \$377,703 | 15% |
| Picton Jn to Bunbury Inner Harb | \$180,874 | \$203,680 | 13% |
| Brunswick to Premier | \$281,725 | \$459,270 | 63% |
| Route Section | | | |
| Brunswick North - East | \$6,489 | \$10,603 | 63% |
| Brunswick - Brunswick East | \$12,950 | \$37,854 | 192% |
| Brunswick East - Worsley | \$102,919 | \$231,568 | 125% |
| Worsley - Worsley North | \$30,139 | \$34,909 | 16% |
| Worsley North - Hamilton | \$37,945 | \$35,718 | -6% |
| Worsley East - Worsley North | \$6,898 | \$7,230 | 5% |
| Worsley - Worsley East | \$10,461 | \$10,957 | 5% |
| Worsley East - Ewington Jn | \$67,333 | \$83,168 | 24% |
| Ewington Jn - Premier | \$6,591 | \$7,262 | 10% |
| Forrestfield to Kalgoorlie | \$7,286,219 | \$7,762,662 | 7% |
| Route Section | | | |
| F'Field Sth to Midland | \$544,886 | \$800,567 | 47% |
| Midland to Millendon Jn | \$566,568 | \$491,427 | -13% |
| Millendon Jn to Toodyay West | \$1,467,460 | \$1,295,855 | -12% |
| Toodyay West to Avon Yard | \$725,421 | \$651,754 | -10% |
| Avon Yard to West Merredin | \$1,300,748 | \$1,486,264 | 14% |
| West Merredin to Koolyanobbing | \$1,151,017 | \$1,304,655 | 13% |
| Koolyanobbing to West Kalgoorlie | \$1,272,360 | \$1,468,302 | 15% |
| West Kalgoorlie to Border | \$113,863 | \$101,473 | -11% |
| Avon to West Merredin Sidings | \$80,161 | \$90,452 | 13% |
| West Merredin to Koolyanobbing Sidings | \$42,659 | \$48,135 | 13% |
| Koolyanobbing to W Kal Sidings | \$21,074 | \$23,779 | 13% |
| Kalgoorlie to Leonora | \$731,098 | \$821,793 | 12% |
| Route Section | | | |
| Kalgoorlie to Malcolm | \$601,641 | \$677,284 | 13% |
| Malcolm to Leonora | \$128,735 | \$143,695 | 12% |
| Menzies sidings | \$722 | \$814 | 13% |
| Kalgoorlie to Esperance | \$1,865,362 | \$2,106,811 | 13% |
| Route Section | | | |
| West Kalgoorlie to Hampton | \$218,452 | \$239,873 | 10% |
| Hampton to Kambalda | \$281,795 | \$313,713 | 11% |
| Kambalda to Salmon Gums | \$841,359 | \$944,853 | 12% |
| Salmon Gums to Esperance | \$517,072 | \$600,830 | 16% |
| Kambalda siding | \$1,690 | \$1,907 | 13% |
| Norseman Siding | \$1,455 | \$1,641 | 13% |
| Salmon Gums Siding | \$3,539 | \$3,993 | 13% |

Floor Costs effective 1 July 2009 (cont)

| | New APM WACC: 9.77% 75% of CPI: 3.181% Effective 1 July 2008 | Floor Submission New APM WACC: 9.77% Effective 1 July 2009 | % Increase |
|--|---|---|------------|
| Terminal Ends | \$118,464 | \$132,424 | 12% |
| Route Section | | | |
| Inner Harbour 485 Pt to Alcoa (Inbound) | \$19,734 | \$21,875 | 11% |
| Inner Harbour 486 Pt to ALCOA (Outbound) | \$12,362 | \$13,706 | 11% |
| Inner Harbour 487 Pt to Worsley (Outbound) | \$7,801 | \$8,653 | 11% |
| Inner Harbour 485 Pt to 486 pts | \$18,770 | \$20,788 | 11% |
| Inner Harbour 486 Pt to 487 pts | \$7,195 | \$7,969 | 11% |
| Inner Harbour 487 Pt to Woodchips | \$7,177 | \$8,096 | 13% |
| Kwinana no3 points to bauxite junction | \$22,488 | \$25,746 | 14% |
| Alcoa Bauxite Jn - Alcoa Bauxite Sdg | \$11,845 | \$13,175 | 11% |
| Alcoa Bauxite Jn - Alcoa Caustic Sdg Pts | \$7,639 | \$8,547 | 12% |
| Alcoa Caustic Sdg Pts -Alcoa Alumina Sdg Pts | \$3,454 | \$3,868 | 12% |
| Kwinana to Soundcem | n.a | \$168,906 | n.a |
| Grain Lines | | | |
| Avon to Goomalling | \$219,705 | \$210,985 | -4% |
| Katanning to Tambellup | \$120,654 | \$169,155 | 40% |
| Kulin to Yilminning | \$127,474 | \$142,754 | 12% |

Appendix 1. Floor and Ceiling Cost Components

A1.1 Kwinana to Bunbury Inner Harbour

| Revised Ceiling @ July 2009 (000's) | | | | | | | | | | |
|-------------------------------------|---------------|-----------------|-----------------|----------------|----------------|----------------|----------------|----------------|------------------|-----|
| Route Section | Section | | Capital | Maintenance | Working | | | Overhead | Floor | GRV |
| | Length | Total Ceiling | | | Capital | Operating | Capital | | | |
| Kwinana to Mundijong Jn | 29.11 | \$5,988 | \$4,295 | \$608 | \$210 | \$371 | \$504 | \$366 | \$42,333 | |
| Mundijong Jn to Pinjarra | 47.73 | \$8,883 | \$6,395 | \$997 | \$312 | \$507 | \$672 | \$540 | \$63,390 | |
| Pinjarrato Pinjarra East | 1.47 | \$671 | \$258 | \$31 | \$13 | \$145 | \$224 | \$118 | \$2,534 | |
| Pinjarra East to Alumina Jn | 0.23 | \$670 | \$143 | \$5 | \$7 | \$200 | \$315 | \$156 | \$1,378 | |
| Pinjarra East to Pinjarra South | 1.06 | \$318 | \$135 | \$22 | \$7 | \$60 | \$94 | \$50 | \$1,334 | |
| Pinjarra to Wagerup | 33.52 | \$5,390 | \$3,938 | \$700 | \$192 | \$236 | \$324 | \$254 | \$40,361 | |
| Wagerup to Brunswick Jn | 42.97 | \$7,467 | \$5,644 | \$897 | \$276 | \$276 | \$374 | \$353 | \$56,918 | |
| Brunswick Jn to Picton Jn | 22.08 | \$4,967 | \$3,481 | \$461 | \$170 | \$350 | \$505 | \$378 | \$34,321 | |
| Picton Jn to Bunbury Inner Harb | 3.52 | \$1,701 | \$996 | \$74 | \$49 | \$230 | \$352 | \$204 | \$9,805 | |
| Total Route | 181.69 | \$36,055 | \$25,286 | \$3,794 | \$1,235 | \$2,375 | \$3,364 | \$2,418 | \$252,374 | |

A1.2 Brunswick to Premier

| Revised Ceiling @ July 2009 (000's) | | | | | | | | | | |
|-------------------------------------|--------------|-----------------|----------------|----------------|--------------|--------------|----------------|--------------|-----------------|-----|
| Route Section | Section | | Capital | Maintenance | Working | | | Overhead | Floor | GRV |
| | Length | Total Ceiling | | | Capital | Operating | Capital | | | |
| Brunswick North - East | 0.91 | \$195 | \$109 | \$19 | \$5 | \$12 | \$49 | \$11 | \$1,072 | |
| Brunswick - Brunswick East | 1.03 | \$550 | \$325 | \$21 | \$16 | \$35 | \$153 | \$38 | \$2,948 | |
| Brunswick East - Worsley | 22.00 | \$3,799 | \$2,905 | \$459 | \$142 | \$87 | \$206 | \$232 | \$28,476 | |
| Worsley - Worsley North | 2.32 | \$692 | \$414 | \$48 | \$20 | \$42 | \$168 | \$35 | \$3,987 | |
| Worsley North - Hamilton | 8.58 | \$1,234 | \$859 | \$96 | \$42 | \$58 | \$179 | \$36 | \$8,623 | |
| Worsley East - Worsley North | 1.07 | \$187 | \$118 | \$12 | \$6 | \$11 | \$41 | \$7 | \$1,158 | |
| Worsley - Worsley East | 1.89 | \$354 | \$190 | \$21 | \$9 | \$23 | \$110 | \$11 | \$1,925 | |
| Worsley East - Ewington Jn | 28.24 | \$4,121 | \$3,309 | \$314 | \$162 | \$79 | \$257 | \$83 | \$33,282 | |
| Ewington Jn - Premier | 2.39 | \$478 | \$403 | \$27 | \$20 | \$5 | \$23 | \$7 | \$3,941 | |
| Total Route | 68.41 | \$11,609 | \$8,632 | \$1,018 | \$422 | \$351 | \$1,186 | \$459 | \$85,412 | |

A1.3 Forrestfield to Kalgoorlie

| Revised Ceiling @ July 2009 (000's) | | | | | | | | | | |
|--|---------------|------------------|------------------|-----------------|----------------|----------------|----------------|----------------|--------------------|-----|
| Route Section | Section | | Capital | Maintenance | Working | | | Overhead | Floor | GRV |
| | Length | Total Ceiling | | | Capital | Operating | Capital | | | |
| F'Field Sth to Midland | 25.71 | \$8,600 | \$6,420 | \$573 | \$314 | \$647 | \$647 | \$801 | \$59,915 | |
| Midland to Millendon Jn | 28.25 | \$7,651 | \$5,969 | \$629 | \$292 | \$394 | \$367 | \$491 | \$55,339 | |
| Millendon Jn to Toodyay West | 125.14 | \$27,658 | \$22,239 | \$2,787 | \$1,086 | \$844 | \$701 | \$1,296 | \$208,633 | |
| Toodyay West to Avon Yard | 51.83 | \$12,262 | \$9,731 | \$1,154 | \$475 | \$479 | \$423 | \$652 | \$90,959 | |
| Avon Yard to West Merredin | 190.94 | \$43,652 | \$35,544 | \$4,253 | \$1,736 | \$901 | \$1,218 | \$1,486 | \$333,005 | |
| West Merredin to Koolyanobbing | 191.98 | \$40,517 | \$32,686 | \$4,276 | \$1,597 | \$829 | \$1,128 | \$1,305 | \$307,338 | |
| Koolyanobbing to West Kalgoorlie | 204.33 | \$42,408 | \$32,840 | \$4,551 | \$1,604 | \$1,294 | \$2,119 | \$1,468 | \$305,392 | |
| West Kalgoorlie to Border | 6.21 | \$2,172 | \$1,735 | \$138 | \$85 | \$99 | \$114 | \$101 | \$16,240 | |
| Avon to West Merredin Sidings | 18.05 | \$2,591 | \$2,087 | \$402 | \$102 | \$0 | \$0 | \$90 | \$18,741 | |
| West Merredin to Koolyanobbing Sidings | 9.61 | \$1,390 | \$1,121 | \$214 | \$55 | \$0 | \$0 | \$48 | \$10,085 | |
| Koolyanobbing to W Kal Sidings | 4.75 | \$656 | \$525 | \$106 | \$26 | \$0 | \$0 | \$24 | \$4,680 | |
| Total Route | 856.78 | \$189,557 | \$150,898 | \$19,083 | \$7,371 | \$5,486 | \$6,718 | \$7,763 | \$1,410,327 | |

A1.4 Kalgoorlie to Leonora

| Revised Ceiling @ July 2009 (000's) | | | | | | | | | | |
|-------------------------------------|---------------|-----------------|-----------------|----------------|----------------|--------------|--------------|--------------|------------------|-----|
| Route Section | Section | | Capital | Maintenance | Working | | | Overhead | Floor | GRV |
| | Length | Total Ceiling | | | Capital | Operating | Overhead | | | |
| Kalgoorlie to Malcolm | 237.50 | \$28,667 | \$24,399 | \$2,645 | \$1,192 | \$198 | \$233 | \$677 | \$250,165 | |
| Malcolm to Leonora | 24.54 | \$3,470 | \$2,897 | \$273 | \$142 | \$99 | \$60 | \$144 | \$29,621 | |
| Menzies sidings | 0.33 | \$34 | \$29 | \$4 | \$1 | \$0 | \$0 | \$1 | \$294 | |
| Total Route | 262.36 | \$32,171 | \$27,325 | \$2,922 | \$1,335 | \$297 | \$293 | \$822 | \$280,080 | |

A1.5 Kalgoorlie to Esperance

| Revised Ceiling @ July 2009 (000's) | | | | | | | | | | |
|-------------------------------------|---------------|-----------------|-----------------|----------------|----------------|----------------|----------------|----------------|------------------|-----|
| Route Section | Section | | Capital | Maintenance | Working | | | Overhead | Floor | GRV |
| | Length | Total Ceiling | | | Capital | Operating | Overhead | | | |
| West Kalgoorlie to Hampton | 17.88 | \$3,244 | \$2,451 | \$249 | \$120 | \$221 | \$203 | \$240 | \$24,053 | |
| Hampton to Kambalda | 38.25 | \$5,878 | \$4,377 | \$532 | \$214 | \$341 | \$413 | \$314 | \$43,334 | |
| Kambalda to Salmon Gums | 229.60 | \$31,431 | \$25,146 | \$3,196 | \$1,228 | \$715 | \$1,145 | \$945 | \$250,770 | |
| Salmon Gums to Esperance | 111.60 | \$16,511 | \$13,376 | \$1,554 | \$653 | \$375 | \$553 | \$601 | \$132,179 | |
| Kambalda siding | 0.61 | \$66 | \$55 | \$8 | \$3 | \$0 | \$0 | \$2 | \$547 | |
| Norseman Siding | 0.52 | \$59 | \$49 | \$7 | \$2 | \$0 | \$0 | \$2 | \$492 | |
| Salmon Gums Siding | 1.28 | \$151 | \$127 | \$18 | \$6 | \$0 | \$0 | \$4 | \$1,270 | |
| Total Route | 399.73 | \$57,339 | \$45,582 | \$5,565 | \$2,227 | \$1,652 | \$2,314 | \$2,107 | \$452,646 | |

A1.6 Terminal Ends

| Revised Ceiling @ July 2009 (000's) | | | | | | | | | | |
|--|--------------|----------------|----------------|--------------|-------------|--------------|----------------|--------------|-----------------|-----|
| Route Section | Section | | Capital | Maintenance | Working | | | Overhead | Floor | GRV |
| | Length | Total Ceiling | | | Capital | Operating | Overhead | | | |
| Inner Harbour 485 Pt to Alcoa (Inbound) | 0.51 | \$478 | \$84 | \$6 | \$4 | \$67 | \$318 | \$22 | \$851 | |
| Inner Harbour 486 Pt to ALCOA (Outbound) | 0.38 | \$335 | \$90 | \$4 | \$4 | \$41 | \$195 | \$14 | \$902 | |
| Inner Harbour 487 Pt to Worsley (Outbound) | 0.33 | \$228 | \$76 | \$4 | \$4 | \$25 | \$120 | \$9 | \$762 | |
| Inner Harbour 485 Pt to 486 pts | 0.08 | \$431 | \$48 | \$1 | \$2 | \$65 | \$315 | \$21 | \$465 | |
| Inner Harbour 486 Pt to 487 pts | 0.06 | \$166 | \$20 | \$1 | \$1 | \$25 | \$120 | \$8 | \$198 | |
| Inner Harbour 487 Pt to Woodchips | 3.18 | \$510 | \$450 | \$35 | \$22 | \$0 | \$2 | \$8 | \$4,883 | |
| Kwinana no3 points to bauxite junction | 1.85 | \$530 | \$218 | \$21 | \$11 | \$56 | \$225 | \$26 | \$2,212 | |
| Alcoa Bauxite Jn - Alcoa Bauxite Sdg | 1.30 | \$345 | \$125 | \$14 | \$6 | \$39 | \$161 | \$13 | \$1,329 | |
| Alcoa Bauxite Jn - Alcoa Caustic Sdg Pts | 1.89 | \$263 | \$160 | \$21 | \$8 | \$14 | \$60 | \$9 | \$1,735 | |
| Alcoa Caustic Sdg Pts -Alcoa Alumina Sdg | 0.94 | \$122 | \$79 | \$10 | \$4 | \$5 | \$24 | \$4 | \$855 | |
| Total Route | 10.52 | \$3,410 | \$1,350 | \$117 | \$66 | \$338 | \$1,539 | \$132 | \$14,192 | |

A1.7 Kwinana to Soundcem

| Revised Ceiling @ July 2009 (000's) | | | | | | | | | | |
|-------------------------------------|---------|---------------|---------|-------------|---------|-----------|----------|----------|----------|-----|
| Route Section | Section | | Capital | Maintenance | Working | | | Overhead | Floor | GRV |
| | Length | Total Ceiling | | | Capital | Operating | Overhead | | | |
| Kwinana to Soundcem | 18.54 | \$3,206 | \$2,688 | \$387 | \$131 | \$0 | \$0 | \$169 | \$26,849 | |

A1.8 Grain Lines

| Revised Ceiling @ July 2009 (000's) | | | | | | | | | | |
|-------------------------------------|---------|---------------|---------|-------------|---------|-----------|----------|----------|----------|-----|
| Route Section | Section | | Capital | Maintenance | Working | | | Overhead | Floor | GRV |
| | Length | Total Ceiling | | | Capital | Operating | Overhead | | | |
| Avon to Goomalling | 57.69 | \$5,989 | \$5,168 | \$369 | \$252 | \$151 | \$48 | \$211 | \$53,630 | |
| Katanning to Tambellup | 46.71 | \$4,724 | \$3,768 | \$299 | \$184 | \$438 | \$35 | \$169 | \$39,021 | |
| Kulin to Yilmining | 99.81 | \$9,053 | \$8,008 | \$486 | \$391 | \$156 | \$12 | \$143 | \$82,552 | |

Appendix 2. Comparison of Ceiling Costs 2008-2009

Comparison of 2008 Ceilings (Old Methodology) with Proposed 2009 Ceilings.

| | Old APM Ceiling Submission WACC: 9.77% Effective 1 July 2008 | New APM Ceiling Submission WACC: 9.77% Effective 1 July 2009 | % Increase |
|---|---|---|------------|
| Kwinana to Bunbury Inner Harbour | \$31,642,191 | \$36,054,544 | 14% |
| Route Section | | | |
| Kwinana to Mundijong Jn | \$5,079,533 | \$5,987,707 | 18% |
| Mundijong Jn to Pinjarra | \$7,228,455 | \$8,883,253 | 23% |
| Pinjarra to Pinjarra East | \$773,099 | \$670,811 | -13% |
| Pinjarra East to Alumina Jn | \$854,917 | \$670,314 | -22% |
| Pinjarra East to Pinjarra South | \$352,093 | \$318,327 | -10% |
| Pinjarra to Wagerup | \$4,363,422 | \$5,389,876 | 24% |
| Wagerup to Brunswick Jn | \$6,636,389 | \$7,466,542 | 13% |
| Brunswick Jn to Picton Jn | \$4,579,492 | \$4,966,923 | 8% |
| Picton Jn to Bunbury Inner Harb | \$1,774,792 | \$1,700,790 | -4% |
| Brunswick to Premier | \$9,402,700 | \$11,608,900 | 23% |
| Route Section | | | |
| Brunswick North - East | \$189,675 | \$194,901 | 3% |
| Brunswick - Brunswick East | \$525,772 | \$549,858 | 5% |
| Brunswick East - Worsley | \$3,337,198 | \$3,798,905 | 14% |
| Worsley - Worsley North | \$548,690 | \$692,015 | 26% |
| Worsley North - Hamilton | \$1,120,618 | \$1,233,821 | 10% |
| Worsley East - Worsley North | \$151,149 | \$186,630 | 23% |
| Worsley - Worsley East | \$295,033 | \$353,934 | 20% |
| Worsley East - Ewington Jn | \$2,837,894 | \$4,121,074 | 45% |
| Ewington Jn - Premier | \$396,669 | \$477,761 | 20% |
| Forrestfield to Kalgoorlie | \$159,842,073 | \$189,556,587 | 19% |
| Route Section | | | |
| F'Field Sth to Midland | \$7,611,509 | \$8,599,902 | 13% |
| Midland to Millendon Jn | \$7,660,905 | \$7,651,143 | 0% |
| Millendon Jn to Toodyay West | \$24,064,419 | \$27,658,158 | 15% |
| Toodyay West to Avon Yard | \$11,197,075 | \$12,262,318 | 10% |
| Avon Yard to West Merredin | \$36,192,341 | \$43,652,362 | 21% |
| West Merredin to Koolyanobbing | \$32,903,282 | \$40,516,619 | 23% |
| Koolyanobbing to West Kalgoorlie | \$34,327,839 | \$42,407,758 | 24% |
| West Kalgoorlie to Border | \$2,119,498 | \$2,171,770 | 2% |
| Avon to West Merredin Sidings | \$2,093,653 | \$2,590,629 | 24% |
| West Merredin to Koolyanobbing Sidings | \$1,140,059 | \$1,390,038 | 22% |
| Koolyanobbing to W Kal Sidings | \$531,494 | \$655,891 | 23% |
| Kalgoorlie to Leonora | \$30,385,669 | \$32,171,074 | 6% |
| Route Section | | | |
| Kalgoorlie to Malcolm | \$26,951,443 | \$28,667,471 | 6% |
| Malcolm to Leonora | \$3,403,057 | \$3,469,954 | 2% |
| Menzies sidings | \$31,169 | \$33,649 | 8% |
| Kalgoorlie to Esperance | \$51,306,286 | \$57,338,924 | 12% |
| Route Section | | | |
| West Kalgoorlie to Hampton | \$3,129,867 | \$3,243,679 | 4% |
| Hampton to Kambalda | \$5,248,979 | \$5,877,892 | 12% |
| Kambalda to Salmon Gums | \$28,472,543 | \$31,430,665 | 10% |
| Salmon Gums to Esperance | \$14,217,514 | \$16,510,528 | 16% |
| Kambalda siding | \$58,420 | \$66,015 | 13% |
| Norseman Siding | \$52,503 | \$58,989 | 12% |
| Salmon Gums Siding | \$126,461 | \$151,156 | 20% |

Comparison of 2008 Ceilings (Old Methodology) with Proposed 2009 Ceilings. (cont)

| | Old APM Ceiling Submission WACC: 9.77% Effective 1 July 2008 | New APM Ceiling Submission WACC: 9.77% Effective 1 July 2009 | % Increase |
|--|---|---|------------|
| Terminal Ends | \$3,471,013 | \$3,409,938 | -2% |
| Route Section | | | |
| Inner Harbour 485 Pt to Alcoa (Inbound) | \$548,259 | \$478,247 | -13% |
| Inner Harbour 486 Pt to ALCOA (Outbound) | \$360,656 | \$334,806 | -7% |
| Inner Harbour 487 Pt to Worsley (Outbound) | \$239,542 | \$228,228 | -5% |
| Inner Harbour 485 Pt to 486 pts | \$494,634 | \$431,313 | -13% |
| Inner Harbour 486 Pt to 487 pts | \$189,990 | \$166,383 | -12% |
| Inner Harbour 487 Pt to Woodchips | \$415,061 | \$510,233 | 23% |
| Kwinana no3 points to bauxite junction | \$530,703 | \$530,482 | 0% |
| Alcoa Bauxite Jn - Alcoa Bauxite Sdg | \$350,462 | \$345,225 | -1% |
| Alcoa Bauxite Jn - Alcoa Caustic Sdg Pts | \$234,761 | \$262,884 | 12% |
| Alcoa Caustic Sdg Pts -Alcoa Alumina Sdg Pts | \$106,946 | \$122,137 | 14% |
| Kwinana to Soundcem | | \$3,206,148 | n.a |
| Grain Lines | | | |
| Avon to Goomalling | \$5,601,741 | \$5,989,441 | 7% |
| Katanning to Tambellup | \$3,961,758 | \$4,724,402 | 19% |
| Kulin to Yilminning | \$8,203,248 | \$9,053,351 | 10% |

Appendix 3. APM structure

