



CMT Solutions Pty Ltd
for Queensland Competition Authority

Review of Aurizon Network's Capital
Expenditure 2012–13

20 May 2014



SYNOPSIS

Engineering Assessment of Aurizon Network Pty Ltd Capital Expenditure 2012–13

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Supplement to this report

Aurizon Network Capital Expenditure Review 2012–13: Prudence Assessment Forms



1 Executive summary

This report summarises the process and delivers the outcomes by which CMT Solutions Pty Ltd (CMT), supported by Marsden Jacob Associates (Marsden Jacob), undertook a risk-based assessment to determine the prudence of Aurizon Network’s 2012–13 capital expenditure claim¹ in compliance with the requirements of Schedule A of the QR Network Access Undertaking 2010².

CMT was commissioned to assess 103 projects valued at \$187,280,115 (excluding interest during construction (IDC)) from the 2012–13 Aurizon Network capital expenditure submission (86% of the total claim³). From the 103 projects provided, a representative sample of 63 projects valued at \$183,976,627 (excluding IDC) was selected. Using a structured and rigorous risk-based assessment process, CMT determined the projects within this sample to be prudent in scope, standard and cost, and thereby recommended for their inclusion in the Regulatory Asset Base (RAB).

As far as was reasonably possible, the sample selected included projects from all systems and disciplines, thereby reflecting external validity to the total project claim it represented. In consequence, CMT considers it reasonable to conclude that the projects in the 2012–13 Aurizon Network capital expenditure claim, provided to CMT for assessment, are generally prudent in scope, standard and cost.

Table 1-1 summarises the outcomes from the CMT prudence assessment of the 2012–13 Aurizon Network capital expenditure submission.

Table 1-1: Assessment outcomes – Aurizon Network 2012–13 capital expenditure⁴

Project number	Project name	System	2012–2013 Claimable expenditure Inclusive of IDC ⁵ (\$)	Prudence assessments		
				Cost	Scope	Standard
A.02745	Blackwater System: Switch Roller Proc & Installation	Blackwater	524,283	✓	✓	✓
A.03676	Blackwater Crew Change Pads	Blackwater	5,048,559	✓	✓	✓
A.03879	Access Road Upgrade Goowarra-Dingo-Umolo	Blackwater	111,143	✓	✓	✓

¹ With exception of GAPE projects and the Raglan, Bluff, Duinga and Wycarbah feeder station post-commissioning projects, which were assessed by separate commission

² Consolidated version as at December 2013

³ As above, the remaining 14% included the GAPE and feeder station post-commission projects

⁴ Prudence demonstrated ✓

⁵ Interest during construction

Project number	Project name	System	2012–2013 Claimable expenditure Inclusive of IDC ^s (\$)	Prudency assessments		
				Cost	Scope	Standard
A.03896	Overheads Renewal Rocklands to Callemondah	Blackwater	1,266,553	✓	✓	✓
A.03945	Replacement of Damaged Fist Sleeper-Raglan	Blackwater	2,311,201	✓	✓	✓
A.03959	Blackwater Track & Formation Renewal	Blackwater	1,114,191	✓	✓	✓
A.03978	O/F Transmission Network Upgrade Rockhampton to Gladstone	Blackwater	2,156,983	✓	✓	✓
A.03979	Weather Stations in the Blackwater System	Blackwater	185,074	✓	✓	✓
A.04065	Provision of Split Detection - Blackwater	Blackwater	159,937	✓	✓	✓
A.04066	BW Model 10/Harmon Boom Mech Replacement	Blackwater	114,350	✓	✓	✓
A.04084	Fist Fastener Sleeper Upgrade - Callemondah	Blackwater	3,356,308	✓	✓	✓
A.04112	Callemondah Yard Turnout Upgrade Project	Blackwater	2,959,654	✓	✓	✓
A.04114	Blackwater & Goonyella Turnout Upgrade 2	Blackwater	2,689,890	✓	✓	✓
A.04151	Duaranga Flood Detection System	Blackwater	182,615	✓	✓	✓
A.04214	OH Equipment Renewal Blackwater FY13	Blackwater	1,888,206	✓	✓	✓
A.04252	Rolleston Flood Protection Stage 2	Blackwater	8,067,997	✓	✓	✓
A.02503	Dunsmure Passing Loop	Goonyella	985,585	✓	✓	✓
A.02517	Millennium Balloon Loop Upgrade	Goonyella	9,217,630	✓	✓	✓
A.03364	Coppabella Grade Easing	Goonyella	682,786	✓	✓	✓
A.03365	Wotonga Angle	Goonyella	42,616,541	✓	✓	✓
A.03372	Fist Fastened Sleeper Upgr: Coal Systems	Goonyella	4,698,934	✓	✓	✓
A.03627	Goonyella Corridor: Stowage Locations	Goonyella	2,236,992	✓	✓	✓
A.03845	Harmonic Filter Reactor Replacement	Goonyella	154,686	✓	✓	✓
A.03884	Culvert Upgrades at 57.920 & 57.660km Hatfield to Bolin	Goonyella	165,196	✓	✓	✓
A.04022	Security Fencing - Coppabella and Dingo Yards	Goonyella	414,289	✓	✓	✓
A.04040	Concrete Sleeper Upgrades - Goonyella	Goonyella	1,917,252	✓	✓	✓
A.04154	Concrete Sleeper Upgrade GN Phase 1	Goonyella	7,436,004	✓	✓	✓



Project number	Project name	System	2012–2013 Claimable expenditure Inclusive of IDC ⁵ (\$)	Prudency assessments		
				Cost	Scope	Standard
A.04155	Concrete Sleeper Upgrade GN Phase 2	Goonyella	3,054,911	✓	✓	✓
A.04190	Digital TI21 Track Circuit Upgrade – Coppabella to Hay Point	Goonyella	3,079,667	✓	✓	✓
A.04215	OH Equipment Renewal Goonyella FY13	Goonyella	3,020,577	✓	✓	✓
A.03876	Moura Corridor Crew Change & Stowage Loc	Moura	750,823	✓	✓	✓
A.04036	Fencing Upgrade Moura and Blackwater Systems	Moura	204,575	✓	✓	✓
A.03803	Newlands - 53 to 60kg Rail Renewal	Newlands	815,414	✓	✓	✓
A.03864	Pelican Creek Road - Noise Reduction	Newlands	104,581	✓	✓	✓
A.03882	Sleeper Replacements - Newlands	Newlands	566,490	✓	✓	✓
A.03925	Upgrade Drain at 1166.890km Durraburra	Newlands	233,408	✓	✓	✓
A.04002	Newlands Bridge & Culvert Assessment	Newlands	161,583	✓	✓	✓
A.04052	Upgrade Four Culverts - Newlands	Newlands	1,056,056	✓	✓	✓
A.04113	Concrete Sleeper Upgrade - Newlands	Newlands	4,901,684	✓	✓	✓
A.04145	Newlands Culvert Upgrade Project	Newlands	10,585,812	✓	✓	✓
A.01980	CQ Coal Formation Strengthening	System wide	1,774,282	✓	✓	✓
A.02273	Coal System: Turnout Replacements St 2	System wide	1,929,416	✓	✓	✓
A.02628	CQCR: Coal Loss Management	System wide	514,518	✓	✓	✓
A.02816	CQ Coal: Level Crossing Investigations	System wide	2,943,940	✓	✓	✓
A.03465	CQ Coal Transformer Refurbishments	System wide	5,631,211	✓	✓	✓
A.03709	Private / QRN Level Crossing Infrastructure	System wide	3,600,709	✓	✓	✓
A.03722	Network Sleeper Upgrade Strategy	System wide	205,072	✓	✓	✓
A.03792	6 Hole Glued Insulation Joint Asset Renewal	System wide	967,447	✓	✓	✓
A.03831	Track Circuit and Points Refurbishment	System wide	231,149	✓	✓	✓
A.03856	CQ Coal Formation Strengthening Prgm	System wide	2,166,741	✓	✓	✓

Project number	Project name	System	2012–2013 Claimable expenditure Inclusive of IDC ⁵ (\$)	Prudency assessments		
				Cost	Scope	Standard
A.03929	Gracemere Overbridge - Capital Contribute	System wide	10,362,552	✓	✓	✓
A.03931	Train Control Disaster Recovery	System wide	14,468,991	✓	✓	✓
A.03960	ION Meter Installation Upgrade Final	System wide	562,868	✓	✓	✓
A.04023	Level Crossing Protection System	System wide	1,018,214	✓	✓	✓
A.04044	Upgrade CQ Coal System Fencing (2012/13)	System wide	668,074	✓	✓	✓
A.04045	Upgrade Fencing Moura/Blackwater/Newlands	System wide	409,276	✓	✓	✓
A.04074	POSS Points Condition Monitors	System wide	1,135,856	✓	✓	✓
A.04111	Dual Telemetry Upgrade	System wide	2,592,446	✓	✓	✓
A.04124	S1 to S2 Telemetry Upgrade	System wide	1,039,442	✓	✓	✓
A.04203	Formation Engineering Assessment & GPR Record	System wide	2,290,668	✓	✓	✓
A.04283	12/13 Formation Strengthening Project St	System wide	4,380,095	✓	✓	✓
A.04296	CDS Rail Points Condition Monitoring	System wide	1,095,249	✓	✓	✓
A.04313	Gauge Face Lubrication Asset Renewal	System wide	1,898,129	✓	✓	✓
Total Expenditure Claim assessed (\$)			183,976,627			
Interest During Construction (\$)				9,108,140		
Total assessed inclusive of IDC (\$)					193,084,767	
Total Expenditure Claim provided to CMT (\$)			187,280,115			
Interest During Construction (\$)				9,128,149		
Total Expenditure Claim inclusive of IDC (\$)					196,408,264	

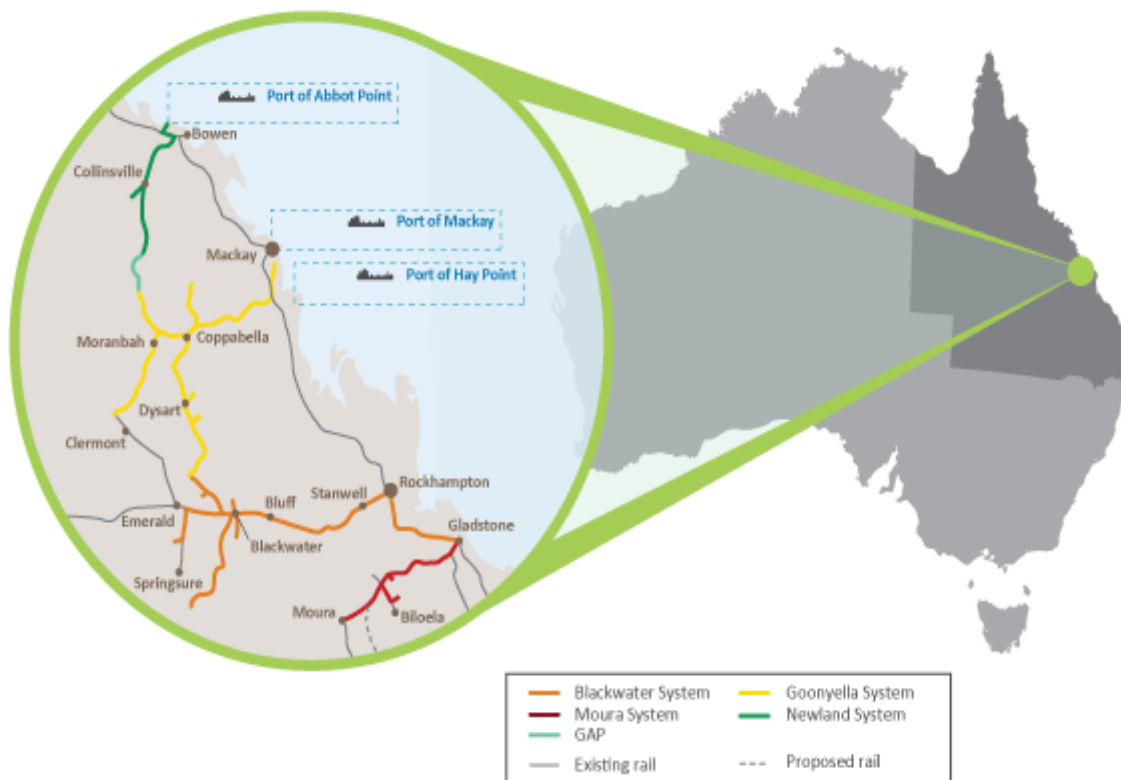


1 Introduction

1.1 Background

Aurizon Holdings Limited is a national provider of rail- and road-based freight transport. Aurizon Network Pty Ltd (Aurizon Network), a wholly owned subsidiary of Aurizon Holdings Limited, is the Rail Infrastructure Manager of the 2,670km Central Queensland Coal Network (CQCN), and is responsible for its operation, expansion and maintenance (Figure 1-1⁶).

Figure 1-1: Central Queensland Coal Network



The *Queensland Competition Authority Act 1997* (QCA Act) and the *Queensland Competition Authority Regulation 2007* regulate access to the CQCN. The QCA Act and Regulation are supplemented by the Aurizon Network ‘Access Undertaking’ as approved by the QCA.

The Access Undertaking provides a framework for access to the CQCN, including setting out the pricing principles and process for setting tariffs. The tariff determines the access charges Aurizon Network may charge to third-party above rail operators; and hence provides the primary means by which Aurizon Network recovers the cost of infrastructure investment. The tariff is calculated from the capital component of the Aurizon Regulatory Access Base (RAB). Capital expenditure, however, can only be included in the RAB if it is approved by the QCA.

⁶ Source: <http://www.qca.org.au/Rail/Aurizon/Aurizon-rail-systems>

To gain QCA's approval of capital expenditure, Aurizon Network must follow the process as detailed in Schedule A of the QR Network Access Undertaking 2010⁷ (2010 Access Undertaking commonly known as the 'UT3'). As part of this process, Aurizon Network must submit documental evidence to the QCA that clearly demonstrates and substantiates prudence in terms of scope, standard and cost of selected infrastructure project works.

In December 2013, the QCA commissioned CMT (the assessor) to provide technical advice to assist it on determining whether the:

- work undertaken with respect to customer pre-approved projects was consistent with the scope of works approved by customers
- scope of projects not pre-approved by customers, mostly asset replacement, was prudent
- standard of projects was prudent
- cost of projects was prudent.

The CMT team was supported by Marsden Jacob.

1.2 Extent of CMT's review

As directed by the QCA's contractual terms of reference, CMT undertook the assessment of Aurizon Network's capital expenditure claim with particular regard to Schedule A Maintenance of Regulatory Asset Base (Schedule A) of the approved UT3.

The CMT assessment comprised a review of the projects submitted as part of the 2012–13 Aurizon Network capital expenditure claim, with the exception of Goonyella to Abbot Point Expansion (GAPE) and feeder station⁸ post-commissioning projects.

1.3 Structure of this report

This report is structured as follows:

- Section 1:** Provides an introduction and overview of the report.
- Section 2:** Provides an overview of Aurizon Network's 2012–13 capital expenditure claim.
- Section 3:** Describes the methodology adopted for assessment, and how the representative sample projects were chosen for review.
- Section 4:** Summarises the information provided by Aurizon Network for the representative sample project assessment.

⁷ Consolidated version as at December 2013

⁸ Includes Raglan, Bluff, Duaringa and Wycarbah feeder stations on the Blackwater System



Section 5: Provides a summary of key selected projects that were part of Aurizon’s 2012-13 claim.

This report’s appendices contain the front-page summaries of individual assessment reports of prudence for the selected projects, namely:

Appendix A: Assessment form index and form summary of prudence assessments

Appendix B: Assessment form example

Appendix C: Aurizon Network response to query regarding research and development status of some projects.

In addition, this document is supported by a supplement report, Aurizon Network Capital Expenditure Review 2012–13: Prudence Assessment Forms. This supplement includes the full assessments, inclusive of the comments and analysis, which form the basis upon which the final prudence outcome outlined in this report was developed.

2 Overview

2.1 Aurizon Network’s 2012–13 capital expenditure claim

2.1.1 Total claim expenditure 2012–13

Under the UT3 framework, Aurizon Network submitted a claim for its 2012–13 capital expenditure to be included in the RAB. Aurizon Network’s total 2012–13 claim submission is valued at \$226,418,677 (\$216,573,672 exclusive of Interest During Construction (IDC)).

2.1.2 Structure of claim 2012–13

Aurizon Network has structured its 2012–13 claim into eight schedules, as detailed below:

Schedule 1: Claim summary workbook, which includes Aurizon Network 2012–13 capital expenditure.

Schedule 2: IDC claim model, which includes the IDC summary 2012–13 capital expenditure claim spreadsheet.

Schedule 3: System expansion projects (Table 2-1), which are those that add capacity to the existing network, be it track capacity or additional electrical capacity. For the 2012–13 claim, Aurizon Network is seeking \$83,526,565 (\$75,324,014 excluding IDC) in capital expenditure (CAPEX) for a total of 11 system expansion projects that were commissioned or formally discontinued as per Clause 2.5 of Schedule A of the UT3.

Table 2-1: System expansion projects for 2012–13 claim⁹

Project name	Project	Location	CAPEX	IDC	2012–13
Wotonga Angle	A.03365	Goonyella	35.940.795	6.676.747	42.617.541
Dunsmure Passing Loop¹⁰	A.02503	Goonyella	774.169	211.417	985.585
Coppabella Grade Easing	A.03364	Goonyella	552.184	130.602	682.786
Millennium Balloon Loop	A.02517	Goonyella	8.751.103	466.527	9.217.630
Grantleigh Tunnel Duplication	A.01573	Blackwater	300	13	313
Coppabella to Ingsdon	A.02194	Goonyella	12.908	388	13.296
Raglan Feeder Station	A.02222	Blackwater	4.180.623	33.353	4.213.977
Bluff Feeder Station	A.02602	Blackwater	1.799.079	28.288	1.827.367

⁹ Bolded projects assessed by CMT

¹⁰ Formally discontinued



Project name	Project	Location	CAPEX	IDC	2012–13
Duaringa Feeder Station	A.02603	Blackwater	1.898.100	25.609	1.923.709
Wvcarbah Feeder Station	A.02604	Blackwater	453.325	-773	452.552
GAPE	A.03473	GAPE	20.962.429	630.379	21.592.808

Schedule 4: Track and civil assets (TACA) projects (Table 2-2), which are those related to the rail formation, corridor civil works, ballast, sleepers, rail and structures such as culverts and bridges. The TACA total for the 2012–13 claim is made up of 45 projects totalling \$83,069,445 (\$82,669,482 excluding IDC). TACA projects include eight (8) asset classes: structures, formation/ballast, sleepers, rail, turnouts, corridor access, civil and track upgrades.

Table 2-2: TACA projects for 2012–13 claim¹¹

Project name	Project number	Location	CAPEX \$	IDC \$	2012–13 claim \$
Upgrade Culvert at 33.091km Central Line	A.03708	Blackwater	12,667	359	13,025
Replacement of Damaged Fist Sleeper-Rag	A.03945	Blackwater	2,279,135	32,066	2,311,201
Blackwater Track & Formation Renewal	A.03959	Blackwater	1,101,395	12,796	1,114,191
Fist Fastener Sleeper Upgrade – Callemon	A.04084	Blackwater	3,318,815	37,493	3,356,308
Callemondah Yard Turnout Upgrade Project	A.04112	Blackwater	2,947,087	12,568	2,959,654
Blackwater & Goonyella Turnout Upgrade 2	A.04114	Blackwater	2,744,259	-54,369	2,689,890
Tunnel Curve Realignment	A.04135	Blackwater	1,359	46	1,405
Upgrade Culverts on Central Line and NCL	A.04136	Blackwater	34,232	1,503	35,735
Rocklands Top of Rail Lubricator	A.04292	Blackwater	73,149	-3,005	70,144
Rolleston Flood Protection Stage 2	A.04252	Blackwater	8,038,676	29,321	8,067,997
Fist Fastened Sleeper Upgrade: Coal Systems	A.03372	Goonyella	4,641,133	57,801	4,698,934
Rock Slope Upgrade Cobobella-Broadlea	A.03862	Goonyella	2,665	83	2,749
Culvert Upgrades at 57.920 & 57.660 Kilometres Hatfield to Bolingbroke	A.03884	Goonyella	160,299	4,897	165,196
MacKenzie River Overflow Bridge	A.03886	Goonyella	15,720	488	16,208
Hay Point Departure Roads 1 & 2-Track	A.03952	Goonyella	37,459	1,524	38,984
Concrete Sleeper Upgrades - Goonyella	A.04040	Goonyella	1,845,571	71,682	1,917,252
Bluff Yard Angle Upgrade	A.04120	Goonyella	3,842	139	3,981

¹¹ Bolded projects assessed by CMT

Project name	Project number	Location	CAPEX \$	IDC \$	2012-13 claim \$
Track Upgrade Braeside to Mindi	A.04122	Goonyella	2,982	130	3,112
Concrete Sleeper Upgrade GN Phase 1	A.04154	Goonyella	7,457,755	-21,751	7,436,004
Concrete Sleeper Upgrade GN Phase 2	A.04155	Goonyella	3,119,348	-64,437	3,054,911
Newlands: Scour Remediation at 100.39kms	A.02263	Newlands	13,215	26	13,241
Newlands - 53 to 60kg Rail Renewal	A.03803	Newlands	1,836,332	52,696	1,889,028
Sleeper Replacements - Newlands	A.03882	Newlands	568,405	-1,915	566,490
Upgrade Drain at 1166.890km Durraburra	A.03925	Newlands	220,636	12,772	233,408
Newlands Bridge & Culvert Assessment	A.04002	Newlands	149,926	11,657	161,583
Bowen River Bridge Track Upgrade	A.04035	Newlands	46,699	1,229	47,928
Upgrade Four Culverts - Newlands	A.04052	Newlands	1,016,442	39,614	1,056,056
Ballast Replacement Newlands Line	A.04055	Newlands	13,272	438	13,710
Concrete Sleeper Upgrade - Newlands	A.04113	Newlands	4,866,499	35,185	4,901,684
Network Siding Upgrade Project	A.04134	Newlands	8,412	321	8,732
Newlands Culvert Upgrade Project	A.04145	Newlands	10,637,624	-51,812	10,585,812
CQ Coal Formation Strengthening	A.01980	System wide	1,761,509	12,773	1,774,282
Coal System: Turnout Replacements St 2	A.02273	System wide	1,845,608	83,808	1,929,416
Coal Systems: Armco Pipe Renewals	A.03371	System wide	20,596	432	21,028
CQCR: Renewal of Network Inspection Vehicle	A.03543	System wide	52,874	776	53,649
Network Sleeper Upgrade Strategy	A.03722	System wide	181,683	23,389	205,072
6 Hole Glued Insulation Joint Asset Rene	A.03792	System wide	964,153	3,295	967,447
Rail Replacement Program	A.03843	System wide	398,606	-7,604	391,001
CQ Coal Formation Strengthening Prgm	A.03856	System wide	2,113,179	53,562	2,166,741
Gracemere Overbridge - Capital Contribute	A.03929	System wide	10,000,000	362,552	10,362,552
CQ Coal Formation Strengthening Project	A.03934	System wide	127,637	-759	126,879
Formation Eng Assessmt & GPR Record	A.04203	System wide	2,309,519	-18,851	2,290,668



Project name	Project number	Location	CAPEX \$	IDC \$	2012–13 claim \$
12/13 Formation Strengthening Project St	A.04283	System wide	4,535,960	-155,865	4,380,095
Stage 2 Slope Remediation	A.04294	System wide	146,679	-5,132	141,547
Gauge Face Lubrication Asset Renewal	A.04313	System wide	1,982,504	-84,375	1,898,129

Schedule 5: Electrical assets (Table 2-3) are all elements of the electrical supply and distribution network that provide electrical traction on the systems. Electrical projects include three (3) types: network distribution, power systems and supervisory systems. The electrical assets total for the 2012–13 claim is \$12,229,949 (\$12,006,658 excluding IDC) and is made up of 10 projects.

Table 2-3: Electrical asset projects for 2012–13 claim¹²

Project name	Project number	Location	CAPEX \$	IDC \$	2012–13 claim \$
Overheads Renewal Rocklands to Callemondah	A.03896	Blackwater	1,226,168	40,385	1,266,553
OH Equipment Renewal Blackwater FY13	A.04214	Blackwater	1,895,576	-7,371	1,888,206
Goonyella: Harmonic Filter Secondary System Replacement	A.03448	Goonyella	43,449	867	44,316
Harmonic Filter Reactor Replacement	A.03845	Goonyella	158,784	-4,098	154,686
OH Equipment Renewal Goonyella FY13	A.04215	Goonyella	3,044,967	-24,390	3,020,577
Collinsville LV Power and Comms Rational	A.03826	Newlands	60,666	6,526	67,193
CQ Coal Transformer Refurbishments	A.03465	System wide	5,422,687	208,524	5,631,211
Critical Neutral Section Replacement	A.03805	System wide	86,981	447	87,428
Traction Fault Locator Upgrade	A.03829	System wide	28,272	1,128	29,400
Traction SCADA Remote Terminal Unit (RTU)	A.03927	System wide	39,107	1,272	40,379

¹² Bolded projects assessed by CMT

Schedule 6: Signalling and track side system (S&TSS) assets (Table 2-4) are those required to control train movements, identify train location, operate rail points, operate active level crossing protection, and to monitor and protect the below rail assets from rolling stock defects, to reduce the risk of derailment or infrastructure damage. The S&TSS assets total for the 2012–13 claim is \$8,320,654 (\$8,392,778 excluding IDC) for 19 projects.

Table 2-4: S&TSS asset projects for 2012–13 claim¹²

Project name	Project number	Location	CAPEX \$	IDC \$	2012–13 claim \$
Callemondah Pan Cam	A.02100	Blackwater	31,186	923	32,109
Blackwater Sys: Switch Roller Proc & Inst	A.02745	Blackwater	524,835	-552	524,283
Aldoga Axle Counter Renewal	A.03830	Blackwater	14,369	436	14,804
Weather Stations in the Blackwater System	A.03979	Blackwater	180,898	4,176	185,074
Provision of Split Detection - Blackwater	A.04065	Blackwater	160,399	-462	159,937
BW Model 10/Harmon Boom Mech Replacement	A.04066	Blackwater	115,164	-814	114,350
Duaranga Flood Detection System	A.04151	Blackwater	185,356	-2,741	182,615
Goonyella Sys: Teksol Switch Roller Inst	A.02117	Goonyella	72,157	1,996	74,153
Pan Cam Upgrade at Jilalan	A.04025	Goonyella	39,810	-772	39,038
Digital TI21 Track Circuit Upgrade – Coppabella to Hay Point	A.04190	Goonyella	3,081,519	-1,852	3,079,667
LED Signal Replacement	A.01048	System wide	152,708	-3,339	149,369
Rockhampton Yard: Control Instrument and Reference Wagons	A.02613	System wide	66,430	-1,846	64,585
Level Crossing Half Booms Upgrade	A.03749	System wide	82,891	5,516	88,407
Track Circuit and Points Refurbishment	A.03831	System wide	224,740	6,409	231,149
WIM (Wheel Impact Monitor) Alarms to UTC	A.03947	System wide	26,858	181	27,039
Level Crossing Protection System	A.04023	System wide	1,026,703	-8,490	1,018,214
Adding Station Name to Point Machines	A.04062	System wide	102,576	2,180	104,756
POSS Points Condition Monitors	A.04074	System wide	1,167,795	-31,939	1,135,856



Project name	Project number	Location	CAPEX \$	IDC \$	2012–13 claim \$
CDS Rail Points Condition Monitoring	A.04296	System wide	1,136,383	-41,134	1,095,249

Schedule 7: Telecommunications (Table 2-5) assets provide data linkages between field equipment and network control, the network control systems, digital and microwave radio systems, and IT systems critical to the operability of Aurizon Network. This asset class also includes projects that build network control resilience and disaster recovery ability. Telecommunications 2012-13 claim comprised 8 projects at a total cost of \$21,681,653 (\$21,336,267 excluding IDC).

Table 2-5: Telecommunications assets projects for 2012–13 claim¹³

Project name	Project number	Location	CAPEX \$	IDC \$	2012–13 claim \$
CQ Control Centre Consolidation	A.03649	System wide	801,235	3,820	805,056
Train Control Disaster Recovery	A.03931	System wide	14,110,629	358,362	14,468,991
Bandwidth Increase for Moranbah North	A.03949	Goonyella	1,534	28	1,562
ION Meter Installation Upgrade Final	A.03960	System wide	556,205	6,663	562,868
Westrace Hot Standby Upgrade	A.03962	System wide	52,470	1,836	54,306
O/F Transmission Network Upgrade Rockhampton to Gladstone	A.03978	Blackwater	2,161,065	-4,082	2,156,983
Dual Telemetry Upgrade	A.04111	System wide	2,616,676	-24,231	2,592,446
S1 to S2 Telemetry Upgrade	A.04124	System wide	1,036,452	2,990	1,039,442

Schedule 8: Corridor assets (Table 2-6) are those within, or that access, the rail corridor, but are not directly part of the track structure, signalling or telecoms networks, or the electrical overhead systems. These assets include fencing and corridor security, environmental protection, corridor access, and level crossings. The corridor assets total for the 2012–13 claim is \$17,590,409 (\$16,844,471 excluding IDC) for 15 projects.

¹³ Bolded projects assessed by CMT

Table 2-6: Corridor assets projects for 2012–13 claim¹⁴

Project name	Project number	Location	CAPEX \$	IDC \$	2012–13 claim \$
CQCR: Coal Loss Management	A.02628	System wide	535,924	-21,406	514,518
CQ Coal: Level Crossing Investigations	A.02816	System wide	2,679,480	264,461	2,943,940
Goonyella Corridor: Stowage Locations	A.03627	Goonyella	2,146,304	90,688	2,236,992
Blackwater Crew Change Pads	A.03676	Blackwater	4,871,903	176,656	5,048,559
Private / QRN Level Crossing Infrastructure	A.03709	System wide	3,420,888	179,821	3,600,709
Pelican Creek Road - Noise Reduction	A.03864	Newlands	101,376	3,205	104,581
Newlands Corridor Crew Change & Stowage	A.03875	Newlands	148,450	6,816	155,267
Moura Corridor Crew Change & Stowage Loc	A.03876	Moura	732,896	17,927	750,823
Access Road Upgrade Goowarra-Dingo-Umolo	A.03879	Blackwater	113,111	-1,968	111,143
Fencing Upgrade goony Ella & Newlands Sys	A.03928	System wide	294,679	5,800	300,478
Security Fencing - Coppabella and Dingo Yards	A.04022	Goonyella	406,222	8,067	414,289
Fencing Upgrade Moura and Blackwater Systems	A.04036	Moura	198,553	6,023	204,575
Upgrade CQ Coal System Fencing (2012/13)	A.04044	System wide	665,452	2,622	668,074
Upgrade Fencing Moura/Blackwater/Newland	A.04045	System wide	396,844	12,432	409,276
CQCN Mine Loadout OTV Contact Signs	A.04285	System wide	132,390	-5,204	127,185

2.1.3 Supporting information

For each of the projects listed above, the following documentation was provided:

- SAP ZWISR project cost report
- funding requests, as applicable

¹⁴ Bolded projects assessed by CMT



- pre-feasibility Investment Approval Request (IAR), if applicable
- project plans, if available
- completion certifications or other closing documentation, where available.

During the course of assessment, additional data was required, and a Request Register Log along with Request for Information (RFI) list was subsequently developed. In response to the RFI list, Aurizon Network provided a significant additional amount of data to CMT.

The assessor acknowledges the effort that Aurizon Network made to provide additional requested data as quickly and efficiently as possible; however, it is noted that this assessment took considerably longer than was initially anticipated due to delays in obtaining some of the requested information. The assessor believes there is considerable potential to improve the information management system relating to capital infrastructure investments by Aurizon Network to facilitate the availability of data, especially where it is crucial to the prudency criteria, and to thereby streamline future capital expenditure reviews.

3 Methodology

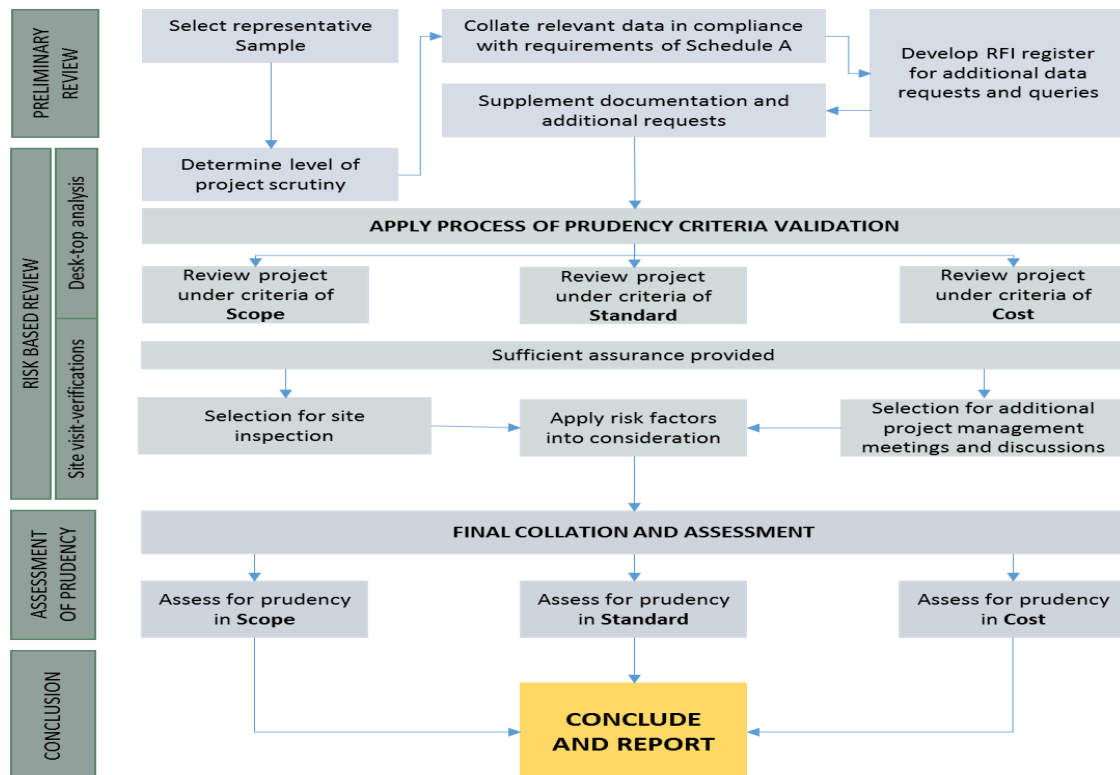
In May 2014 Aurizon Network’s 2012–13 submitted a revised claim valued at \$226,418,677 (\$216,573,672 exclusive of IDC), which included a total of 108 projects. This assessment was undertaken based on the original submission submitted to QCA on 13 December 2013. However, as the revised figures submitted in May 2014 do not affect CMT’s final position on the prudency assessment for inclusion in the 2012–13 RAB, the figures included in this report have been updated to reflect the revised claim.

The figures above includes GAPE and feeder station post-commissioning projects, which were not within the scope of projects to be assessed by CMT. Upon removal of these projects, the list of projects provided to CMT for prudency assessment totalled \$196,408,264 (\$187,280,115 excluding IDC), and consisted of 103 projects (86% of the total submission expenditure claim for 2012–13 as calculated without IDC).

3.1 Methodology for prudency assessment

The methodology used to assess each project is summarised in Figure 3-1 below.

Figure 3-1: Assessment of prudency methodology





To ensure a consistency of approach in the test for prudence, CMT developed a risk matrix and structured assessment format. This approach ensured rigour around the assessment process, which was specifically critical when assessing a large number of smaller projects that required diligence to ensure all prudence criteria were justly considered equally across the works (refer Section 3.3).

3.1.1 Preliminary review

The first step in undertaking the prudence assessment was to select a representative sample of projects from the total submission. To ensure that this sample was a true representation of works delivered within the claim period, CMT applied a logical method for the selection of projects. Wherever possible, it was considered important to ensure a cross-section of projects from every system was included in the final selection.

Primarily the approach involved applying the following criteria for the selection of the representative sample of projects for assessment:

- a percentage of the selected projects must be from each system
- projects of high value (i.e. over \$10,000,000) must be selected
- where possible a percentage of the projects from each project discipline and from each system must be selected
- wherever possible, a percentage of projects from each project type from each system should be selected.

The summary of total percentages and types of project selected from the 2012–13 claim using these criteria are shown in Table 3-1 below.

Table 3-1: Summary of representative sample of projects selected for assessment

System	Project type	Total projects claimed ¹⁵	Total projects assessed by CMT	% from TOTAL ¹⁶ claim
Blackwater	Corridor	2	2	2.28%
	Electrical	2	2	1.39%
	S&TSS	7	5	0.52%
	TACA	10	6	9.18%
	Telecoms	1	1	0.95%

¹⁵ The number of projects excludes any feeder station post-commissioning or GAPE projects

¹⁶ TOTAL claim is defined as the whole submission claim, inclusive of the GAPE and all post-commissioning work

System	Project type	Total projects claimed ¹⁵	Total projects assessed by CMT	% from TOTAL ¹⁶ claim
	Expansion	1	0	0%
Goonyella	Corridor	2	2	1.17%
	Electrical	3	2	1.40%
	Expansion	5	4	23.63%
	S&TSS	3	1	1.36%
	TACA	10	5	7.97%
	Telecoms	1	0	0%
Moura	Corridor	2	2	0.42%
Newlands	Corridor	2	1	Insignificant
	Electrical	1	0	0%
	TACA	11	7	9%
System wide	Corridor	7	5	4%
	Electrical	4	1	2%
	S&TSS	9	4	2%
	TACA	14	9	11%
	Telecoms	6	4	8%
TOTAL Projects Assessed			63	86%

3.1.2 Risk-based approach

CMT assessed each individual project within the prudency criteria as outlined in Schedule A of 2010 Access Undertaking, and as summarised in Table 3-2. As summarised in Table 3-2, the process for assessment of prudency involves an evaluation of each individual project under a set of approved criteria within the parameters of:

- scope
- standard
- cost.

Table 3-2 below lists the key criteria from Schedule A and the QCA's Terms of Reference that have been applied by CMT in assessing prudency of scope, standard and cost.



Table 3-2: Key elements in assessment of prudence of scope, standard and cost¹⁷

Scope	<ul style="list-style-type: none"> • The projects are: <ul style="list-style-type: none"> — below rail infrastructure — commissioned in 2012–13 — considered to be capital expenditure and not maintenance — approved by at least 60% of the relevant customer group (weighted by Reference Tonnes¹⁸) — not excessive to reasonable demand — consistent with the Network Asset Management Plan — funded by Aurizon Network, or the proportion funded by QR Network is clearly stated — justified where Aurizon Network had reasonable grounds to proceed, given the circumstances relevant at the time of the decision¹⁹. • An assessment of the appropriateness of processes used to evaluate alternatives. • The asset replacement expenditure is consistent with asset age and composition. • Customer-specific capital expenditure has been approved by the customer concerned.
Standard	<ul style="list-style-type: none"> • The projects are: <ul style="list-style-type: none"> — of a reasonable standard to meet the scope, and not overdesigned — consistent with existing standard and configuration of adjacent infrastructure (to the extent that the existing infrastructure has been accepted as reasonable²⁰) — compliant with standards: in circumstances where there is a departure from existing standards, other considerations need to be assessed²¹.
Cost	<ul style="list-style-type: none"> • The project costs are reasonable for the scope and standard considering: <ul style="list-style-type: none"> — scale, nature and complexity — market conditions — procurement policies — project management aspects.

Within each criteria, an assessment was made based upon the data submitted in the claim, professional judgement and the risk profile of the individual project. The risk profile was determined based on a combination of the criticality of the financial, network supply chain and safety risks associated with the project.

¹⁷ Derived from QR Network’s Access Undertaking 2010 Schedule A, and QCA’s terms of reference to CMT

¹⁸ QR Network’s Access Undertaking 2010 Schedule A Clause 3.2.2 (f)

¹⁹ QR Network’s Access Undertaking 2010 Schedule A Clause 3.3.2 b (ii)

²⁰ QR Network’s Access Undertaking 2010 Schedule A Clause 3.3.3 b (iii)

²¹ QR Network’s Access Undertaking 2010 Schedule A Clause 3.3.3 c

To ensure consistency in the risk approach, the risk matrix (Figure 3-2) was applied as guide during the assessment process. Where criteria scored a rating of > 1 (i.e. 2 or 3), additional information was requested from Aurizon Network until the assessor was satisfied that sufficient assurance of prudence had been provided. If it was considered that the works did not, and would never, conform to or satisfy the requirements of the prudence criteria, a score of 4 was allocated. None of the projects assessed scored a 4 in any of the criteria.

The risk matrix was applied wherever issues were raised under the selection criteria. The subsequent score resultant from the matrix application provided an indicator as to whether issues need to be further questioned or raised at a higher level. This approach ensured a consistent ruling on the criticality of information for prudence review.

By implementing the rigour of applying the risk matrix around each criterion detailed in Table 3-2, CMT was able to ensure that each identified risk was documented by applying a simple scoring rating of 1 to 3. A score of 2 identified potential risks where further substantiation of assurance of prudence was required, and a score of 3 identified a potential lack of prudence for the specific criteria. Large groupings of 2 or 3 scorings within a number of criteria would also identify potential major issues concerning prudence in any specific parameter (i.e. scope, standard or cost).

Figure 3-2: Risk matrix

Assessment of information supporting the element (refer Table 3-2)	Risk		
	Project is of high cost (\$10m+) and/or commercial/safety critical, with high risks to supply chain if standards/scope/cost are compromised. Project is comprised of components not familiar to Aurizon Network’s operations, or is outsourced to Alliance or other major contract	Project or components of project are of medium cost (\$5-10m), and comprised of components considered as ‘business as usual’ for Aurizon Network	Project or components are low cost (less than \$5m), and of low commercial/safety risk to supply chain – ‘business as usual’
1. Project appears to fulfil requirement – information fully supportive	1	1	1
2. Project fulfils overall prudence requirement but: a information not supplied; or b some issues identified	2	2	1
3. Project fulfils overall prudence requirement but: a information not supplied; and b some issues identified	3	2	1



The risk matrix in combination with the use of the assessment forms detailed below acted as a guide and provided assurance that the same assessment rigour was being applied to each project regardless of its nature. This was considered critical in view of the large number of 'smaller projects' which needed to be assessed in this 2012-13 claim.

3.1.3 Assessment of prudence forms

To further ensure consistency in the assessment, CMT developed a form for the individual evaluation of each project under the criteria defined in Table 3-2. This form was developed specifically for the 2012–13 prudence reviews, and an example of it is provided in Appendix B.

The form incorporates the application of the risk-based approach by allowing the assessor to nominate a rating during the project review process. Items with a risk rating of >1 (i.e. 2–3) can be easily identified and further information and clarification requested. All projects that initially scored all 1s were assessed as prudent in the first round.

As justification was received in response to the issues raised on the remaining projects, CMT used a combination of the additional information, professional judgement and experience, and good industry practice guidelines to confirm assurance of prudence and decrease the score. This process of information gathering, discussion and further review was recorded in the Request Register Log and within emails and documentation logged in the 2012–13 Capital Expenditure Sharepoint Site set up specifically for project discussion during the prudence review.

As each project component was clarified and sufficient assurance of prudence provided, the rating is reassessed until a final overall prudence score of 1 is achieved.

A summary of each project assessed (the first page of the assessment form) is provided in Appendix A of this report. This summary details the overall and final assessment of scope, standard and scope. The full assessment form and details on the prudence outcome for each criteria detailed in Table 3-2 for each of the 63 representative sample projects assessed is provided in the supplement to this report, Aurizon Network Capital Expenditure Review 2012–13; Prudence Assessment Forms.

The supplement report is structured as follows:

- Part 1: Schedule 3 – Expansion projects
- Part 2: Schedule 4 – Track and civil assets projects
- Part 3: Schedule 5 – Electrical systems projects
- Part 4: Schedule 6 – Signalling and track side systems projects
- Part 5: Schedule 7 – Telecoms projects
- Part 6: Schedule 8 – Corridor projects.

3.2 Site assessments

As part of and during the prudency review, a site visit was conducted on selected projects. Projects were chosen using a risk-based approach; selecting those with significant costs or of specific concern. The works inspected on the site visit included:

- Train Control Disaster Recovery (Rockhampton and Mackay) (A.03931)
- Gracemere Overbridge Construction (A.03929)
- Level Crossing Removals at Somerset Road and Malchi Road (A.02816)
- Overhead Renewals Near Hay Point (similar works to A.03896, A.04214 and A.04215 (refer to Section 5.2 in this report) submitted in 2012–13)
- Goonyella Crew Change Pads at Waitara and Goonyella Mine (similar works to A.03676 Blackwater Crew Change Pads submitted in 2012–13)
- Wotonga Angle (A.03365)
- Millennium Balloon Loop (A.02517).

The site visit also included a visit to the coal dust monitoring station at Mindi, which, although not part of the submission claim this year, demonstrated to the assessors the actions being undertaken by Aurizon Network to ensure compliance with environmental and regulatory requirements in terms of the management of coal dust.

The works site visit was conducted between Monday 17 February and Wednesday 19 February 2014. The site visit was an essential part of the assessment, as it provided the assessors with a visual confirmation of the standard of the works and an opportunity to discuss any issues and questions with project staff.

Inspection of some of the works, such as overhead renewals, was not of the actual projects submitted in the 2012–13 claim. However, the inspection was of works of a similar nature, and provided the assessor with a good understanding of the scope difficulties pertaining to works of that type. In addition, the assessor was able to make a visual verification of the consistency of the standard being applied in relation to existing standard and configuration of adjacent infrastructure as per the requirements of Clause 3.3.3 b (iii) of Schedule A.

Overall, CMT considered that the site visit enabled the assessments to be conducted with greater efficiency, and would like to acknowledge the cooperation of Aurizon Network in organising and conducting the visit so efficiently.



4 The 2012–13 capital expenditure submission assessment

4.1 General

Aurizon Network’s 2012–13 capital expenditure claim totals \$216,573,672 million (excluding IDC), of which \$29,293,556 million (excluding IDC) for the post-commissioning works were assessed under a separate consultancy. Of the remaining \$187,280,115 million in the submission, CMT has assessed 63 representative projects, totalling \$183,976,627 million (excluding IDC). The breakdown of these assessments is provided in Table 4-1 below.

Table 4-1: Summary of assessments undertaken by CMT

	Values excluding IDC	Percentages
Value (\$) of overall claim	\$ 216,573,671	
Value (\$) of overall claim available for CMT review	\$ 187,280,115	
Value of projects selected for CMT review	\$ 183,976,627	
Percentage of available claim covered		98%
Percentage of overall claim covered (including GAPE and post-commissioning works)		85%

Table 4-2 below provides a summary of the project types and cost claims of the projects assessed.

Table 4-2: Summary of project types and costs as assessed by CMT

Project number	Project name	System	Exc. IDC \$	% ²²	Costs	
					IDC \$	Total \$
A.02745	Blackwater Sys: Switch Roller Proc & Inst	Blackwater	524,835	0.272%	-552	524,283
A.03676	Blackwater Crew Change Pads	Blackwater	4,871,903	2.615%	176,656	5,048,559
A.03879	Access Road Upgrade Goowarra-Dingo-Umolo	Blackwater	113,111	0.058%	-1,968	111,143

²² From total assessed by CMT

Project number	Project name	System	Exc. IDC \$	% ²²	Costs	
					IDC \$	Total \$
A.03896	Overheads Renewal Rocklands to Callemondah	Blackwater	1,226,168	0.656%	40,385	1,266,553
A.03945	Replacement of Damaged Fist Sleeper-Ragl	Blackwater	2,279,135	1.197%	32,066	2,311,201
A.03959	Blackwater Track & Formation Renewal	Blackwater	1,101,395	0.577%	12,796	1,114,191
A.03978	O/F Transmission Network Upgrade Rockhampton to Gladstone	Blackwater	2,161,065	1.117%	-4,082	2,156,983
A.03979	Weather Stations in the Blackwater System	Blackwater	180,898	0.096%	4,176	185,074
A.04065	Provision of Split Detection - Blackwater	Blackwater	160,399	0.083%	-462	159,937
A.04066	BW Model 10/Harmon Boom Mech Replacement	Blackwater	115,164	0.059%	-814	114,350
A.04084	Fist Fastener Sleeper Upgrade - Callemon	Blackwater	3,318,815	1.738%	37,493	3,356,308
A.04112	Callemondah Yard Turnout Upgrade Project	Blackwater	2,947,087	1.533%	12,568	2,959,654
A.04114	Blackwater & Goonyella Turnout Upgrade 2	Blackwater	2,744,259	1.393%	-54,369	2,689,890
A.04151	Duaranga Flood Detection System	Blackwater	185,356	0.095%	-2,741	182,615
A.04214	OH Equipment Renewal Blackwater FY13	Blackwater	1,895,576	0.978%	-7,371	1,888,206
A.04252	Rolleston Flood Protection Stage 2	Blackwater	8,038,676	4.178%	29,321	8,067,997
A.02503	Dunsmure Passing Loop	Goonyella	774,169	0.510%	211,417	985,585
A.02517	Millennium Balloon Loop Upgrade	Goonyella	8,751,103	4.774%	466,527	9,217,630
A.03364	Coppabella Grade Easing	Goonyella	552,184	0.354%	130,602	682,786
A.03365	Wotonga Angle	Goonyella	35,939,795	22.071%	6,676,747	42,616,541
A.03372	Fist Fastened Sleeper Upgr: Coal Systems	Goonyella	4,641,133	2.434%	57,801	4,698,934
A.03627	Goonyella Corridor: Stowage Locations	Goonyella	2,146,304	1.159%	90,688	2,236,992
A.03845	Harmonic Filter Reactor Replacement	Goonyella	158,784	0.080%	-4,098	154,686
A.03884	Culvert Upgrades at 57.920 & 57.660km Hatfield to Bolin	Goonyella	160,299	0.086%	4,897	165,196
A.04022	Security Fencing - Coppabella and Dingo Yards	Goonyella	406,222	0.215%	8,067	414,289



Project number	Project name	System	Exc. IDC \$	% ²²	Costs	
					IDC \$	Total \$
A.04040	Concrete Sleeper Upgrades - Goonyella	Goonyella	1,845,571	0.993%	71,682	1,917,252
A.04154	Concrete Sleeper Upgrade GN Phase 1	Goonyella	7,457,755	3.851%	-21,751	7,436,004
A.04155	Concrete Sleeper Upgrade GN Phase 2	Goonyella	3,119,348	1.582%	-64,437	3,054,911
A.04190	Digital TI21 Track Circuit Upgrade – Coppabella to Haypoint	Goonyella	3,081,519	1.595%	-1,852	3,079,667
A.04215	OH Equipment Renewal Goonyella FY13	Goonyella	3,044,967	1.564%	-24,390	3,020,577
A.03876	Moura Corridor Crew Change & Stowage Loc	Moura	732,896	0.389%	17,927	750,823
A.04036	Fencing Upgrade Moura and Blackwater Systems	Moura	198,553	0.106%	6,023	204,575
A.03803	Newlands - 53 to 60kg Rail Renewal	Newlands	850,301	0.422%	-34,887	815,414
A.03864	Pelican Creek Road - Noise Reduction	Newlands	101,376	0.054%	3,205	104,581
A.03882	Sleeper Replacements - Newlands	Newlands	568,405	0.293%	-1,915	566,490
A.03925	Upgrade Drain at 1166.890km Durraburra	Newlands	220,636	0.121%	12,772	233,408
A.04002	Newlands Bridge & Culvert Assessment	Newlands	149,926	0.084%	11,657	161,583
A.04052	Upgrade Four Culverts - Newlands	Newlands	1,016,442	0.547%	39,614	1,056,056
A.04113	Concrete Sleeper Upgrade - Newlands	Newlands	4,866,499	2.539%	35,185	4,901,684
A.04145	Newlands Culvert Upgrade Project	Newlands	10,637,624	5.482%	-51,812	10,585,812
A.01980	CQ Coal Formation Strengthening	System wide	1,761,509	0.919%	12,773	1,774,282
A.02273	Coal System: Turnout Replacements St 2	System wide	1,845,608	0.999%	83,808	1,929,416
A.02628	CQCR: Coal Loss Management	System wide	535,924	0.266%	-21,406	514,518
A.02816	CQ Coal: Level Crossing Investigations	System wide	848,889	1.525%	264,461	2,943,940
A.03465	CQ Coal Transformer Refurbishments	System wide	3,553,923	2.916%	208,524	5,631,211
A.03709	Private / QRN Level Crossing Infrastructure	System wide	1,685,860	1.865%	179,821	3,600,709

Project number	Project name	System	Exc. IDC \$	% ²²	Costs	
					IDC \$	Total \$
A.03722	Network Sleeper Upgrade Strategy	System wide	14,491	0.106%	23,389	205,072
A.03792	6 Hole Glued Insulation Joint Asset Renewal	System wide	964,153	0.501%	3,295	967,447
A.03831	Track Circuit and Points Refurbishment	System wide	224,740	0.120%	6,409	231,149
A.03856	CQ Coal Formation Strengthening Program	System wide	2,113,179	1.122%	53,562	2,166,741
A.03929	Gracemere Overbridge - Capital Contribute	System wide	10,000,000	5.367%	362,552	10,362,552
A.03931	Train Control Disaster Recovery	System wide	10,187,248	7.494%	358,362	14,468,991
A.03960	ION Meter Installation Upgrade Final	System wide	556,205	0.292%	6,663	562,868
A.04023	Level Crossing Protection System	System wide	1,026,703	0.527%	-8,490	1,018,214
A.04044	Upgrade CQ Coal System Fencing (2012/13)	System wide	627,397	0.346%	2,622	668,074
A.04045	Upgrade Fencing Moura/Blackwater/Newlands	System wide	288,036	0.212%	12,432	409,276
A.04074	POSS Points Condition Monitors	System wide	1,121,472	0.588%	-31,939	1,135,856
A.04111	Dual Telemetry Upgrade	System wide	2,616,676	1.343%	-24,231	2,592,446
A.04124	S1 to S2 Telemetry Upgrade	System wide	1,036,452	0.538%	2,990	1,039,442
A.04203	Formation Eng. Assessment & GPR Record	System Wide	2,309,519	1.186%	-18,851	2,290,668
A.04283	12/13 Formation Strengthening Project St	System Wide	4,535,960	2.268%	-155,865	4,380,095
A.04296	CDS Rail Points Condition Monitoring	System Wide	1,136,383	0.567%	-41,134	1,095,249
A.04313	Gauge Face Lubrication Asset Renewal	System Wide	1,982,504	0.983%	-84,375	1,898,129

Summaries of capital expenditure assessed by CMT by project type and system expenditure are listed in Table 4-3 and Table 4-4 below.

Table 4-3: Summary of capital expenditure by system, as assessed by CMT

System	CMT assessment \$		% value from total	Number assessed
	Exc. IDC	Inc. IDC		
Blackwater	31,863,841	32,136,944	17%	16
Goonyella	72,079,153	79,681,052	41%	14
Moura	931,449	955,398	0%	2



System	CMT assessment \$		% value from total	Number assessed
	Exc. IDC	Inc. IDC		
Newlands	18,411,210	18,425,028	10%	8
System wide	\$60,690,974	61,886,346	32%	23

Table 4-4: Summary of capital expenditure by type, as assessed by CMT²³

Type	CMT assessment \$		% assessed from total	Number assessed
	Exc. IDC	Inc. IDC		
Corridor	16,268,953	17,007,480	9%	12
Electrical	11,748,183	11,961,233	6%	5
Expansion	46,017,250	53,502,543	4%	4
S&TSS	7,803,794	7,726,394	4%	10
TACA	81,657,419	82,066,387	45%	27
Telecoms	20,481,028	20,820,730	11%	5

CMT has assessed 63 of the 103 projects submitted (excluding GAPE and feeder station post-commissioning projects). The 40 remaining projects account for the difference in the total of the claim assessed and the overall claim (\$3,303,488 exclusive of IDC).

4.1.1 Projects selected for economic review

CMT used a risk-based approach to select a number of larger projects which were subject to an economic-focused prudency assessment in addition to the engineering focused review provided by CMT. This assessment included an economic assessment of market (i.e. procurement and contractual efficiencies) and non-market (regulatory economics) as appropriate

The selected projects were:

- Wotonga Angle (A.03365 – \$35,939,795 million excluding IDC)
- Millennium Balloon Loop (A.02517 – \$8,751,103 million excluding IDC)

²³ Please note the totals shown in Table 4-3 and 4-4 have been derived directly from Aurizon Network Submission Claim worksheet hence reflect the exact project costs (that is the unrounded costs). If calculating the rounded project figures from the project summary table a rounding error of 89c will occur in the total thereby making the total \$183,976,626 (exclusive of IDC) as opposed to \$183,976,627. Similar rounding differences will occur for separate totals in discipline and system groups. Therefore for greater accuracy, where totals are required, these have been calculated directly from the worksheets (includes cents) and not from the rounded \$ project totals represented in the tables.

- Train Control Disaster Recovery (A.03931 – \$14,110,629 million excluding IDC).

These projects were valued at \$58,801,527 million exclusive of IDC, which is 32% of the value of the claims assessed by CMT and 27% of the overall total claim. These projects are discussed individually in Section 5 of this report.

4.2 Expansion projects (Schedule 3)

4.2.1 Introduction

Projects falling into the expansion category are shown in Table 4-5 below.

Table 4-5: Total claim value of expansion projects assessed

Project name	Project number	Location	CAPEX \$	IDC \$	2012–13 claim \$
Wotonga Angle	A.03365	Goonyella	35,939,795	6,676,747	42,616,541
Dunsmure Passing Loop ²⁴	A.02503	Goonyella	774,169	211,417	985,585
Coppabella Grade Easing	A.03364	Goonyella	552,184	130,602	682,786
Millennium Balloon Loop	A.02517	Goonyella	8,751,103	466,527	9,217,630

4.2.2 Assessment of project scope

The Millennium Balloon Loop and Wotonga Angle projects are discussed in detail in Section 5. The remaining projects, Coppabella Grade Easing and Dunsmure Passing Loop, are summarised in the following paragraphs.

The scope for both projects was originally developed to support anticipated GAPE tonnages. The developed scope was expressed in the 2010 Coal Rail Infrastructure Master Plan (2010 CRIMP), and was successful in obtaining the required customer approval vote. However, as the demand for GAPE tonnages greatly diminished with the GFC²⁵, both projects were ceased.

²⁴ Formally discontinued

²⁵ Global financial crisis



In consideration of current market conditions, decrease in demand for GAPE tonnages and redesign to smaller consist lengths eliminating the requirement for the grade easing and track extensions included in the scope of these two projects, the ceasing of these two projects prior to civil works commencing is considered prudent.

In consideration of the above, it is considered that the initial scope was prudent in view of market demand. However, as demand changed it is considered prudent that works were ceased prior to civil works commencing.

4.2.3 Assessment of technical standards

From the information provided, it is considered that the preliminary design works and feasibility requirements were carried out to comply to, and in compliance with, regulatory requirements and standards.

Therefore, in consideration of the above and the level of works achieved for the projects being assessed, the standard of works is considered prudent.

4.2.4 Assessment of project costs

It is considered that in view of the original scope of the Dunsmure and Coppabella works, the costs for the design packages (includes full civil, signalling and overhead designs) and feasibility studies were considered reasonable.

From the information provided, the overall costs of the expansion projects for the 2012–13 claim are considered prudent.

4.3 Track and civil assets projects (TACA: Schedule 4)

4.3.1 Introduction

Projects falling into the TACA category were claimed for all systems except Moura, and also for system wide works. The range of projects is shown in Table 4-6.

Table 4-6: Total claim value of TACA projects assessed

Project name	Project number	Location	CAPEX \$	IDC \$	2012–13 claim \$
Replacement of Damaged Fist Sleeper-Rag	A.03945	Blackwater	2,279,135	32,066	2,311,201
Blackwater Track & Formation	A.03959	Blackwater	1,101,395	12,796	1,114,191
Fist Fastener Sleeper Upgrade – Callemondah	A.04084	Blackwater	3,318,815	37,493	3,356,308
Callemondah Yard Turnout Upgrade	A.04112	Blackwater	2,947,087	12,568	2,959,654
Blackwater & Goonyella Turnout Upgrade 2	A.04114	Blackwater	2,744,259	-54,369	2,689,890
Rolleston Flood Protection Stage 2	A.04252	Blackwater	8,038,676	29,321	8,067,997
Fist Fastened Sleeper Upgr: Coal Systems	A.03372	Goonyella	4,641,133	57,801	4,698,934
Culvert Upgrades at 57.920 & 57.660 Kilometres Hatfield to Bolingbroke	A.03884	Goonyella	160,299	4,897	165,196
Concrete Sleeper Upgrades - Goonyella	A.04040	Goonyella	1,845,571	71,682	1,917,252
Concrete Sleeper Upgrade GN Phase 1	A.04154	Goonyella	7,457,755	-21,751	7,436,004
Concrete Sleeper Upgrade GN Phase 2	A.04155	Goonyella	3,119,348	-64,437	3,054,911
Newlands - 53 to 60kg Rail Renewal	A.03803	Newlands	850,301	-34,887	815,414
Sleeper Replacements - Newlands	A.03882	Newlands	568,405	-1,915	566,490
Upgrade Drain at 1166.890km Durraburra	A.03925	Newlands	220,636	12,772	233,408
Newlands Bridge & Culvert Assessment	A.04002	Newlands	149,926	11,657	161,583
Upgrade Four Culverts - Newlands	A.04052	Newlands	1,016,442	39,614	1,056,056
Concrete Sleeper Upgrade - Newlands	A.04113	Newlands	4,866,499	35,185	4,901,684
Newlands Culvert Upgrade Project	A.04145	Newlands	10,637,624	-51,812	10,585,812
CQ Coal Formation Strengthening	A.01980	System wide	1,761,509	12,773	1,774,282
Coal System: Turnout Replacements St 2	A.02273	System wide	1,845,608	83,808	1,929,416
Network Sleeper Upgrade Strategy	A.03722	System wide	181,683	23,389	205,072
6 Hole Glued Insulation Joint Asset Rene	A.03792	System wide	964,153	3,295	967,447
CQ Coal Formation Strengthening Prgm	A.03856	System wide	2,113,179	53,562	2,166,741
Gracemere Overbridge - Capital Contribute (Figure 4-1)	A.03929	System wide	10,000,000	362,552	10,362,552



Project name	Project number	Location	CAPEX \$	IDC \$	2012–13 claim \$
Formation Eng Assessmt & GPR Record	A.04203	System wide	2,309,519	-18,851	2,290,668
12/13 Formation Strengthening Project St	A.04283	System wide	4,535,960	-155,865	4,380,095
Gauge Face Lubrication Asset Renewal	A.04313	System wide	1,982,504	-84,375	1,898,129

4.3.2 Assessment of project scope

Within the TACA category there are some groups of projects that link together to form overall renewal programs of work. These projects typically only delivered a single product type, such as upgraded culverts, new rail, sleepers or strengthened formation which, when combined, could be seen to form an overall renewal strategy.

On the whole, the project scopes were considered prudent given the reasonable expectations of Aurizon Network and its customers. Where further clarification was required, focused meetings were held with Aurizon Network to highlight any issues arising during the document review. These meetings were found to be informative, and in CMT’s opinion were an effective way of clarifying concerns and obtaining additional information to substantiate project prudence criteria.

It should be noted that this category included three projects which only delivered assessments of existing assets or developed a strategy for replacement of assets.

These three projects were:

- Network Sleeper Upgrade Strategy (A.03722)
- Newlands Bridge and Culvert Assessment (A.04002)
- Formation Engineering Assessment and GPR Record (A.04203).

While these projects did not create physical assets and were completed in a previous financial year, they have been assessed as prudent within this claim. This is due to the fact that the cost of undertaking these works is considered a prudent business expense, and the assets being assessed have been replaced with upgraded assets during the current claim period.

In addition to the above, it should be noted that the Gracemere Project (Figure 4-1) also did not deliver an Aurizon Network asset. However, through the assessment process and following a site visit to the bridge and inspection of adjacent infrastructure, CMT assessed that outlay of capital contribution by Aurizon Network for construction of this new overbridge for Department of Main Roads (DTMR) has enabled Aurizon Network to decommission two very high-risk level crossings (A.02816) and make savings on forthcoming track works. CMT considers this project scope prudent due to the reduced risk of the level crossings and the reduced costs for track work.

Finally, there were some instances where project costs have been claimed even though commissioning did not occur within the 2012–13 financial year; notably for upgraded culverts on the Newlands line (Project A.04145). After seeking clarification from the Aurizon Network and QCA, it is understood that for projects with ‘breakable scope’, this has been previously debated and QCA has found them to be acceptable. ‘Breakable scope’ has been defined as where the deliverables of a project form separate discreet units, each of which may either be commissioned or deleted from the scope individually without affecting any other project deliverables.

Figure 4-1: Gracemere overbridge – TACA



The review of TACA projects also highlighted one instance where the claimed project expenditure was largely the cost of bulk procurement of items purchased but not yet installed and/or commissioned. Similar to the Newlands upgraded culverts, this project, A.04313 Gauge Face Lubrication Asset Renewal, was also composed of a breakable scope, and the bulk procurement items were specialist equipment with a single source of supply. It is seen as logical in such instances to ensure the necessary materials are to hand in a timely manner.



In summary, the overall scope of the submitted TACA projects is considered to be prudent.

4.3.3 Assessment of technical standards

The technical standards to which the TACA projects have been designed and delivered were generally in accordance with current expectations and likely future traffic needs.

However, one area where the technical standard of the claimed delivery raised engineering queries was the refurbishment of cluster 5 of A.04145: the upgraded culverts on the Newlands line. The completed works were claimed to have a 10-year lifespan, but have only been certificated by external engineers for three years. There is therefore a danger that at the end of this three-year period, these culverts may be deemed no longer fit to carry the required traffic task at the full line speed.

Noting the technical risk (above), from the information provided CMT considered that generally the standard of the TACA projects is considered to be prudent.

4.3.4 Assessment of project costs

From recent professional experience CMT can confirm that the project costs submitted for TACA works are broadly within the range of industry expectations. It is, however, noted that in some cases, greater accuracy in the initial estimating process upon which the initial project approval was based would have prevented the need to seek later budget increases.

For some TACA projects it has been possible to derive unit costs for the work scopes delivered, and these are shown on the individual project assessment forms. In general, it was found that these were within an industry expected range, with works being performed adjacent to live railroad usually falling at the higher end of the industry range. This result was expected.

Figure 4-2: Typical culvert renewal works



Figure 4-2 shows a typical example of TACA culverts project new works as seen on the site visit.

Where unit costs could not be calculated due to inconsistencies in work breakdown in the SAP reports, a more generic approach was taken to form a view of the prudence of the project costs.

Notwithstanding the above, the overall TACA project costs are believed to be prudent.

4.4 Electrical assets projects (Schedule 5)

4.4.1 Introduction

Projects falling into this category were located in the Goonyella, Blackwater and system wide. The range of projects is shown in Table 4-7.



Table 4-7: Total claim value of electrical projects assessed

Project name	Project number	Location	CAPEX \$	IDC \$	2012–13 claim \$
Overheads Renewal Rocklands to Callemondah	A.03896	Blackwater	1,226,168	40,385	1,266,553
OH Equipment Renewal Blackwater FY13	A.04214	Blackwater	1,895,576	-7,371	1,888,206
Harmonic Filter Reactor Replacement	A.03845	Goonyella	158,784	-4,098	154,686
OH Equipment Renewal Goonyella FY13	A.04215	Goonyella	3,044,967	-24,390	3,020,577
CQ Coal Transformer Refurbishments	A.03465	System wide	5,422,687	208,524	5,631,211

4.4.2 Assessment of project scope

The scopes of the electrical projects claimed are generally in accordance with what would be expected to maintain existing capability and satisfy expected future demand.

There has generally been demonstration that scopes have been developed in a systematic manner. The exception to this would be for overhead equipment renewal projects such as A.04214 Overhead Equipment Renewal Blackwater FY13, where the scope at each site of work was dependent upon the state of the equipment as assessed at the time of executing the work. This was found to be the general case for all overhead equipment renewal projects included in the electrical projects claim.

While it is accepted that damaged or life-expired equipment does require replacement, a fluid arrangement such as this can lead to both over-expenditure and under-delivery of the overall project scope. In the example above, the planned delivery was for upgrade of areas within a 38km length of corridor. Actual delivery covered upgrades over a greater length of corridor (48km), but it is unclear whether the larger overall length was achieved by deleting worksites at intermediate locations.

To provide sufficient assurance of the prudence of scope, CMT visited similar works in process (Figure 4-3) and had numerous discussions with relevant project staff. On completion of the site visits, it was considered that while it is important to note the comment above in relation to scope creep, the scope was generally considered prudent.

Overall, the scope of the electrical projects included in the claim was considered prudent.

Figure 4-3: Overhead equipment works



4.4.3 Assessment of technical standards

Overhead line and traction current supply systems are reliable within a reasonable design life. Many of the electrical systems and individual components found within the CQCN are now aged beyond their original design life.

The only economic option for components such as catenary, contact wires or harmonic filters is replacement of assets. Where possible, the refurbishment of existing equipment/components beyond economic repair, such as transformers, is the prudent option.

Considering the statement above, the standards to which the electrical projects have been designed and delivered are generally in accordance with reasonable expectations for this type of business and current and future traffic needs, and are therefore considered prudent.



4.4.4 Assessment of project costs

Items such as the overhead line system cable and harmonic filters are both relatively portable, available and affordable. Pantographs of passing locomotives run on overhead contact wires which are consumable items, and it is therefore reasonable to replace them with new ‘off-the-shelf’ items.

Typically, it is more efficient to refurbish and retain items that are difficult and expensive to replace. An example of this type of item is extending the life of an electrical transformer, reducing its whole-of-asset-life cost. Items such as transformers, however, are logistically much more difficult to transport, expensive to replace and, typically, not available off the shelf. Using recent experience gained working with other railway operators, CMT considers that the cost of the electrical projects within this 2012-13 claim are prudent when compared with similar work undertaken on other comparable systems.

4.5 Signalling and track side systems asset projects (S&TSS: Schedule 6)

4.5.1 Introduction

Projects in this category have been claimed for Goonyella, Blackwater and for system wide works (Table 4-8).

Table 4-8: Total claim value of S&TSS projects assessed

Project name	Project number	Location	CAPEX \$	IDC \$	2012–13 claim \$
Blackwater Sys: Switch Roller Proc & Inst	A.02745	Blackwater	524,835	-552	524,283
Weather Stations in the Blackwater System	A.03979	Blackwater	180,898	4,176	185,074
Provision of Split Detection - Blackwater	A.04065	Blackwater	160,399	-462	159,937
BW Model 10/Harmon Boom Mechanical Replacement	A.04066	Blackwater	115,164	-814	114,350
Duaranga Flood Detection System	A.04151	Blackwater	185,356	-2,741	182,615
Digital TI21 Track Circuit upgrade – Coppabella to Hay Point	A.04190	Goonyella	3,081,519	-1,852	3,079,667

Project name	Project number	Location	CAPEX \$	IDC \$	2012–13 claim \$
Track Circuit and Points Refurbishment	A.03831	System wide	224,740	6,409	231,149
Level Crossing Protection System	A.04023	System wide	1,026,703	-8,490	1,018,214
POSS Points Condition Monitors	A.04074	System wide	1,167,795	-31,939	1,135,856
CDS Rail Points Condition Monitoring	A.04296	System wide	1,136,383	-41,134	1,095,249

4.5.2 Assessment of project scope

The scopes of the S&TSS projects claimed are generally in accordance with what would be expected to maintain existing capability and satisfy expected future demand.

However, within this category there are some projects which are being claimed as research and development for tax purposes. Please see email correspondence from Aurizon Network in Appendix C. While it is understood that the tax treatment of the research and development claimed projects is reviewed as part of a separate exercise, it should be noted that some of the claimed projects may have a relatively short lifespan should the technology used prove unsuitable for the required purpose.

Overall, the prudence of scope of the S&TSS projects assessed is considered prudent.

4.5.3 Assessment of technical standards

This category of work covers a wide variety of S&TSS projects, ranging from core activities such as track circuit refurbishment to more diverse items such as weather stations and flood detection systems.

Each of the projects included in this category is intended to enhance the safety and reliability of traffic using the coal network.

Despite this wide variety of project types and deliverables, each of the projects installed as part of the operational signalling system has to be designed and delivered in accordance with a rigid protocol, to ensure that any faults which may develop in the system result in a 'right side failure' where the safety of traffic using or crossing the rail corridor is not compromised.

Taking this into consideration, the standards to which the projects have been designed and delivered are generally in accordance with current expectations for this type of business and future traffic needs.



Some of the claimed S&TSS works form a trial of equipment not previously used in the CQCN, which may therefore need early replacement if the current trial proves unsuccessful.

4.5.4 Assessment of project costs

Given the limited number of organisations operating within the railway signalling area in Australia, the claimed project costs are, as expected, comparable with industry expectations.

In some instances, the proportion of the project costs assigned to project management falls outside what might normally be expected for railway work. However, this proportion is easily skewed by project value and the management input required for projects of this nature.

CMT’s review also highlighted some examples where the claimed S&TSS project expenditure was largely the cost of bulk procurement of items purchased but not yet installed and/or commissioned. These projects were composed of a breakable scope, and the bulk procurement items were specialist equipment with a single source of supply. It is considered prudent in such instances to ensure the necessary materials are to hand in a timely manner.

4.6 Telecom asset projects (Schedule 7)

4.6.1 Introduction

Projects falling into this category were claimed mainly for system wide works. This is as expected for this particular asset group, as the majority of telecom projects would naturally fall into the system wide category. The range of projects is shown in Table 4-9.

The Train Control Disaster Recovery project is discussed in detail in Section 5.

The overall number of telecoms projects included in the claim, and therefore assessed in this review, is comparatively small, with each project covering large areas of corridor. The large geographical coverage of each project is what would be expected for work of this type.

Table 4-9: Total claim value of telecom projects assessed

Project name	Project number	Location	CAPEX \$	IDC \$	2012–13 Claim \$
Train Control Disaster Recovery	A.03931	System wide	14,110,629	358,362	14,468,991
ION Meter Installation Upgrade Final	A.03960	System wide	556,205	6,663	562,868
O/F Transmission Network Upgrade Rockhampton to Gladstone	A.03978	Blackwater	2,161,065	-4,082	2,156,983

Project name	Project number	Location	CAPEX \$	IDC \$	2012–13 Claim \$
Dual Telemetry Upgrade	A.04111	System wide	2,616,676	-24,231	2,592,446
S1 to S2 Telemetry Up	A.04124	System wide	1,036,452	2,990	1,039,442

4.6.2 Assessment of project scope

The telecoms projects sampled were all based around the enhancement of the existing telecoms systems to improve the reliability of the CQCN for all users, particularly the upgrade from single to dual telemetry. As such, the project scopes are considered to be prudent.

4.6.3 Assessment of technical standards

Telecommunication upgrades are a relatively specialised and safety critical area of railway operations. While systems and cable routes installed some time ago can operate adequately on a day-to-day business, in general they can no longer deliver the required reliability of service where a fault may have developed which requires system or circuit downtime to trace and correct.

Installation of the new telecommunications systems included in the claim is intended to offer systems with duplicated data carrying capacity, such that service reliability can be maintained, even in the situation where the duplicated system is out of service.

As such, the standards to which the projects have been designed and delivered are generally in accordance with current expectations for the Central Queensland Coal Rail network and future traffic needs.

4.6.4 Assessment of project costs

The costs of these telecoms projects are generally subject to reasonable control. They are also comparable to costs incurred by other railway system operators. As such, project costs within this category are considered to be reasonable and prudent.



4.7 Corridor asset projects (Schedule 8)

4.7.1 Introduction

The projects chosen for review within this category covered a wide range of works, varying from coal loss management to noise mitigation work at a third-party property, access road replacement, corridor fencing and level crossing study, survey, upgrade and removal.

Table 4-10: Total claim value of corridor projects assessed

Project name	Project number	Location	CAPEX \$	IDC \$	2012–13 claim \$
CQCR: Coal Loss Management	A.02628	System wide	535,924	-21,406	514,518
CQ Coal: Level Crossing Investigations	A.02816	System wide	2,679,480	264,461	2,943,940
Goonyella Corridor: Stowage Locations	A.03627	Goonyella	2,146,304	90,688	2,236,992
Blackwater Crew Change Pads	A.03676	Blackwater	4,871,903	176,656	5,048,559
Private / QRN Level Crossing Infrastructure	A.03709	System wide	3,420,888	179,821	3,600,709
Pelican Creek Road - Noise Reduction	A.03864	Newlands	101,376	3,205	104,581
Moura Corridor Crew Change & Stowage Locations	A.03876	Moura	732,896	17,927	750,823
Access Road Upgrade Goowarra-Dingo-Umolo	A.03879	Blackwater	113,111	-1,968	111,143
Security Fencing - Coppabella and Dingo Yards	A.04022	Goonyella	406,222	8,067	414,289
Fencing Upgrade Moura and Blackwater Systems	A.04036	Moura	198,553	6,023	204,575
Upgrade CQ Coal System Fencing (2012/13)	A.04044	System wide	665,452	2,622	668,074
Upgrade Fencing Moura/Blackwater/Newland	A.04045	System wide	396,844	12,432	409,276

4.7.2 Assessment of project scope

On the whole, assessment of the scopes of work within this category has shown the corridor projects undertaken to have been prudent.

One area of note within the category is the scope management of corridor fencing works. In this particular area, the scope does seem to have been highly fluid, with a large number of changes made throughout the project life cycle. These changes do, however, seem to have been well managed, with the overall length of fencing delivered not being adversely impacted.

The scope of the property upgrade works at Pelican Creek Road does, at first sight, seem to be imprudent, as it created an asset in a third-party property. Mitigating this, however, is that delivery of these works removed the need to construct and maintain a length of noise barrier within the operational corridor. However, it should be noted that internal approval was sought for exemption from normal state government procurement requirements for this work, and that, for reasons unknown, the quoted external supplier cost increased significantly between April 2011 and March 2012. Although the signed copy of the exemption document has not been made available for review, it is expected that the requested exemption was provided, as the quoted sole tenderer ultimately went on to deliver the works.

4.7.3 Assessment of technical standards

The standards to which the corridor projects have been designed and delivered are generally in accordance with current expectations for this type of business and future traffic needs.

Some of the level crossing work, in particular, was required to meet legal obligations with regard to safety of the corridor and road users.

The coal loss management work was also undertaken to assist Aurizon Network demonstrate compliance with environmental legislation.

It is noted that Somerset Road and Malchi Road level crossings (A.02816) have been decommissioned following opening of the adjacent Gracemere Overbridge. However, while the work undertaken appears to have been completed to the appropriate standard, the redundant elements of the signal interlocking system have been left in place, pending later removal. Although accepted as common practice within Queensland railway networks, this does place a theoretical restriction on system capacity, as the signalling system will still operate as if the crossings still physically existed, rather than allowing free flow of rail traffic.

4.7.4 Assessment of project costs

Overall, the costs of the assessed corridor projects within this category are believed to be prudent.

As noted above, fencing works were subject to significant variation, but overall costs appear to have been unaffected.



5 Detailed projects

The following projects were selected for an additional economic review, based on issues identified during the engineering prudence assessment process (e.g. Train Disaster Recovery) or due to their higher cost risk profile (e.g. Wotonga Angle).

5.1 Wotonga Angle project

Schedule 3 expansion projects A.03365

5.1.2 Overview

The Wotonga Angle project was an integral component of the overall GAPE strategy. It was one of 12 projects put to industry as part of the Northern Bowen Basin.

“190mtpa (NBB190) planning scenario detailed in section 5.1.7 of the 2010 Coal Rail Infrastructure Master Plan (2010 CRIMP)”²⁶

In addition to the GAPE project, which would facilitate a final capacity of 190mtpa to Abbot Point and Dalrymple Bay Coal Terminal (DBCT), the 12 projects equated to expansions in the Goonyella and Newlands systems, which would enable and support the capacity expansions. The Wotonga Angle works would specifically enable an additional 50mtpa to Abbot Point by providing a turning angle and short duplication at Wotonga to enable trains to travel to the north. The Wotonga Angle project went to customer vote, seeking endorsement, and was successful. After the vote, Aurizon Network sought and obtained regulatory pre-approval of scope as per 3.1.1(a) (ii) in Schedule A of the 2010 Access Undertaking. QCA endorsement was officially awarded in May 2011 for an indicative value of \$45 million.

The chronology and costs of the project are shown in Table 5-1 below.

Table 5-1: Chronology and costs – Wotonga Angle

Stage	Date	Project cost or estimate \$	Comments
Business case	June 2010	\$44,572,000	Completed expenditure within original budget
Actual cost to date	July 2013	\$35,939,795	Project status closed

²⁶ Aurizon Network document, Schedule 3 – New Expansions and Post Commissioning CAPEX

Stage	Date	Project cost or estimate \$	Comments
Minor Funding Request	November 2011	\$2,000,000	-
Minor Funding Request	March 2013	\$588,000	-
Previous approved RAB claims	-	\$0	No previous funding
Total RAB submission 2012–13	2014 submission	\$35,939,795	Project financially complete

5.1.3 Assessment of project scope

In summary, the project scope (Figure 5-1) consisted of:

- a new (diesel – non electrified) angle of 2.707km in length to be constructed (2.617km Wotonga – Blair Athol Branch to 176.567km Goonyella Branch), with the capacity to hold trains of up to 2.15km in length
- electrified duplication at Wotonga on the Goonyella Branch of 2.840km in length (173.972km to 176.821km), with the capacity to hold trains of up to 2.15km in length.

Figure 5-1: Wotonga Angle track work



The scope was subject to an Independent Peer Review (IPR). The IPR report, provided with the feasibility IAR, details that the IPR team accepts the scope of the project as being fair, given the project requirements.

From the information assessed and in CMT’s opinion, the scope of the constructed project is similar to the pre-approved scope and is therefore considered prudent.



5.1.4 Assessment of project technical standards

The major elements of the work were deemed to be consistent with existing standards and track configurations for the Goonyella and Blackwater lines for required speeds and tonnages.

Based on the information assessed by CMT, the standard is considered prudent.

5.1.5 Assessment of project costs

The project accounts for approximately 18% of the 2012–13 total capital expenditure, with a total of \$42,616,541 (\$35,939,735 excluding IDC) claimable expenditure from an approved funding budget of \$44,572,000. A formal internal peer review and estimate review was undertaken of the project estimate and budget prior to the award of approved funding.

The project was commissioned in March 2011.

As the project did not provide its full benefit to the supply chain until completion of the Northern Missing Link and Newlands expansion works, the expenditure claim against the project was held over until the 2012–13 year when contracted tonnages began to be achieved and the angle is fulfilling the design scope requirements. As a result, minimum project expenditure occurred in the 2012–13 year, with the majority of spend (73%) previously occurring in the 2010–11 year.

Due to the extent of the works, a mix of internal and external service providers delivered the various components of the project. These are identified in Table 5-2, with the percentage of costs of each component.

Works were undertaken without disrupting network operations, with separation of the worksite and live track. Subsequently, the costs for track and civil works were in the higher range of industry expectations.

Table 5-2: Costs for Wotonga Angle

Component	Total costs	Percentage from total
Project management	Incorporated	Approximately 3% (this figure incorporated in percentages below)
Track & civil/structural costs	\$19,698,850	55%
Signals and communications	\$8,855,199.26	25%
Overheads	\$3,497,122	10%
Other	Contingency	10%

From the information assessed, and in consideration of the type and standard of works, it is CMT's opinion that the costs are considered prudent.

5.2 Millennium Balloon Loop project

Schedule 3 expansion projects A.02517

5.2.2 Overview

The Millennium Balloon Loop project was to expand the Millennium one-train balloon loop to a two-train balloon loop. The works were at the request of BHP Mitsubishi Alliance (BMA), in order to service the new coalmine at Daunia, and to increase the capacity of the Millennium Balloon Loop from 5.2mtpa or 1068 one-way paths annually to 9.7mtpa or 1944 one-way paths annually.

The Millennium balloon loop is used by two mines, Poitrel owned by BHP Mitsui Coal Pty Ltd (BMC), and Millennium owned by Peabody. Hence the loop is considered common user infrastructure, and is not scoped as a customer-specific branch line.

The project was originally programmed to commence in March 2010; however, when the Daunia project was formally put on hold by BMA due to the global financial crisis, the construction of the loop was delayed. Work on the loop recommenced after Network Services received advice in June 2010 that the Daunia project had recommenced, and that BMA were ready to negotiate, finalise and execute the necessary contractual documents at that time.

The Daunia project was finally approved on the basis of a traditional Access Facilitation Deed (AFD). The AFD provides for BMA to repay the infrastructure investment by way of an annuity stream for the term of the AFD.



Figure 5-2: Millennium Balloon Loop track work



The chronology and costs of the project are shown in Table 5-3: Chronology and costs for Millennium Balloon Loop below.

Table 5-3: Chronology and costs for Millennium Balloon Loop

Stage	Date	Project cost or estimate \$	Comments
Minor Funding Request	February 2008	\$100,000	Ongoing project – not financially complete
Minor Funding Request	September 2008	\$900,000	
Feasibility IAR	April 2011	\$9,972,000	
Project plan	March 2008	\$10,972,000	
Actual cost to date	July 2013	\$9,217,630	
Previous approved RAB claims	-	\$0	Nil
Total RAB submission 2012–13	2014 submission	\$8,751,103	Excludes IDC
		\$9,217,630	Includes IDC

5.2.3 Assessment of project scope

The Millennium balloon loop is located in the Goonyella corridor on the South Goonyella branch, and was originally approximately 5km in length. The upgrade works included:

- track and civil works comprising 1.8km 50kg/m CWR standard carbon rail
- two single-span RC bridges
- level crossing works
- overheads – 1.8km of overhead wiring and height gauges for two level crossings
- signals and communications.

From the information assessed and in CMT’s opinion, the scope is considered prudent.

5.2.4 Assessment of technical standards

The major elements of the work are considered to be consistent with existing standards and track configurations for the Goonyella and Blackwater lines for required speeds and tonnages.

CMT visually inspected and deemed the standard and quality of the completed works as prudent.

5.2.5 Assessment of project costs

The project accounts for approximately 4% of the 2012–13 capital expenditure claim, with a total of \$9,217,630 claimable expenditure.

The approved project outlay as reviewed in the Project Plan cost management plan was \$10,972,000.

The 2010–11 expenditure was \$1,462,628 in preparatory and feasibility works; however, this was not claimed until this 2012–13 period.

The percentage breakdown of component costs is shown in Table 5-4.

Table 5-4: Project costs for Millennium Balloon Loop

Component	Total costs (\$)	Percentage from total
Project management and statutory fees	Approximate	11%
Track & civil/structural costs	4,217,469.37	38%
Signals and communications	1,829,514.81	17%
Overheads	1,385,028	13%
Other	Approximate	21%

From the information assessed and in consideration of the type and standard of works, it is CMT's opinion that the costs are considered prudent.

5.3 Train Control Disaster Recovery project

Schedule 7 telecoms projects A.03931

5.3.2 Overview

The Train Control Disaster Recovery work was intended, among other things, to duplicate the existing Rockhampton Train Control Centre in a totally separate building, so that if a disaster at the existing Rockhampton facility, train control could be switched to a substitute location. Another objective of the project works was to create a 'cold start' capability to bring the train control systems back up online within 24 hours of a major disruption.



In order to create this capability, it was necessary to locate a suitable building to house the necessary staff and equipment. Subsequent to risk review meetings and option discussions, the decision was made to house the new control centre in the existing Aurizon Network building in Mackay, which had previously housed the former train control facility for the Goonyella and Newlands systems.

Figure 5-3: Controller work station, Mackay Facility



The project originally consisted of three stages of work, but stage 3 has now been removed from scope for delivery under a future project.

The chronology and costs of the project are shown in Table 5-5 below.

Table 5-5: Chronology and costs for Train Control Disaster Recovery

Stage	Date	Project cost or estimate \$	Comments
Minor Funding Request	November 2011	5,300,000	Total approved funding of \$18,800,000
Feasibility IAR	June 2012	13,300,000	
Actual cost to date	July 2013	14,468,991	Project is not financially complete
Previous approved RAB claims	-	0	Nil
Total RAB submission 2012–13	2014 submission	14,468,991	-

5.3.3 Assessment of project scope

The options analysis leading to the selection of this project's scope appeared to be limited, with little if any economic or financial analysis of the optimal solution to the problem.

Although possibly the optimal solution, the assessment concluded that the financial analysis undertaken to justify the undertaking of this work was not sufficiently detailed, or that it did not consider other works which could be undertaken at the Rockhampton facility, probably for a lesser cost than creating the duplicate facility, to prevent a disaster from occurring.

That aside, the importance for both the supply and the state of Queensland, of ensuring the reliability of movement of coal between pit and port, is noted. Further, from an engineering perspective it is reasonable for Aurizon Network to have built-in redundancy for its train control system, to facilitate future maintenance and renewal works, and ensure minimised disruption to rail traffic.

Thus, while the purely economic arguments against the execution of the proposed project scope may be valid, the other considerations noted suggest that creation of an alternative facility, rather than reinforcement of a single facility, may be an appropriate long-term strategy.

Given due consideration to the above, and based upon the information assessed (including numerous discussions with project management staff who were involved with the initial options evaluation and decision), CMT has deemed the scope as prudent. However, it is noted that a well-documented multi-criteria decision or options evaluation procedure, inclusive of an approved form of financial analysis, would have significantly facilitated the assessment process and mitigated any dispute.

5.3.4 Assessment of technical standards

The major elements of the work were assessed to be consistent with existing standards and track configurations across the CQCN for required speeds and tonnages.

CMT visited the new facility at Mackay and assessed the standard and quality of the completed works as prudent.

From the information assessed by CMT, the standard is therefore considered prudent.

5.3.5 Assessment of project costs

The project accounts for approximately 6% of the 2012–13 capital expenditure claim, with a total of \$14,468,991 claimable expenditure.



The approved project outlay as reviewed in the Minor Funding Request and IAR was \$18,800,000.

The percentage breakdown of component costs is shown in Table 5-6 below.

Table 5-6: Project costs for Train Control Disaster Recover project

Component	Total costs (\$)	Percentage from total
Project management fees	815,381	6%
Track & civil/structural costs	4,809,678	34%
Signals and communications	5,902,204	42%
Overheads	n/a	-
Other	Approximate	18%

From the information assessed and in consideration of the type and standard of works, it is CMT's opinion that the costs are considered prudent.

6 Conclusion

CMT, supported by Marsden Jacob, was commissioned to assess 103²⁷ projects from Aurizon Network's 2012–13 capital expenditure claim. From the total 103 projects, a representative sample of 63 projects was selected.

CMT applied a structured and rigorous risk-based process, developed in compliance with the requirements of prudence as defined in the 2010 Access Undertaking Schedule A²⁸ to assess the 63 projects selected. On completion, and on the basis of the information provided by Aurizon Network for the assessment, it is CMT's considered decision that the projects assessed were considered prudent in scope, standard and cost.

Consequently, it is recommended that these 63 projects, of total value \$183,976,627 (excluding IDC), should to be included in Aurizon Network's RAB.

As far as was reasonably possible, the sample selected included items from all systems, projects types and a range of disciplines; thereby reflecting external validity to the total project claim it represented. In consequence, as it is CMT's calculation that the representative sample selected was a reasonable representation of all 103 projects, CMT concludes that the Aurizon Network 2012–13 capital expenditure projects provided to CMT for assessment are generally prudent in scope, standard and cost.

Due to the large number of smaller projects in this assessment and the necessity to encompass a relevant selection of projects across systems, types and disciplines, it was considered that implementing the use of structured assessment forms provided a more rigorous approach. This approach gave greater assurance to the assessors that individual criteria had been worked through within each project to sufficiently satisfy the requirements of prudence of scope, standard and cost as individual parameters.

However, during the review some issues and questions were raised, and these have been discussed in this report. In conclusion, although CMT noted that overall the requirements for prudence have been met, it is considered that there is potential to streamline future capital expenditure reviews by:

- ensuring crucial information relating to or substantiating prudence criteria is, if not submitted with the claim, easily accessible and available for assessment
- providing, where possible, alignment with scope breakdown, estimating information and collation of expenditure in the SAP. This would facilitate calculating unit rates²⁹ in order to compare with industry-range expectations for cost prudence criteria.

²⁷ Excludes GAPE and Raglan, Bluff, Duaringa and Wycarbah feeder station post-commissioning projects, which were assessed by separate commission

²⁸ Consolidated version at December 2013

²⁹ A 'unit rate' is the cost per unit (unit of measurement such as kilometre, metre or kilogram) to build or repair the asset or perform some action of works (i.e. cost of sleeper renewal – action). Establishing the unit rate allows the



Similarly, it is felt that in specific cases, such as the Train Control Disaster Recovery project, greater diligence should have been exercised in the documentation of criteria and/or financial decision analysis undertaken. Through discussions with project staff, it is noted that while various factors and options were considered, a documented stage gate procedure detailing the options and financial considerations would have facilitated understanding of the justification of final scope; thereby streamlining and expediting the overall prudency review process.

assessor to compare a variety of unit rates for similar works across industry (allowing for location and other variances), and thereby ascertain whether costs are considered in an expected industry range



APPENDIX A

Summary of Prudency Assessments

INDEX of Forms 1 to 58



INDEX TO FORMS (Note: appendix reference number is on the top right hand side corner of each individual project form)					
Schedule Number	Project Number	Project Name	System	Submitted Claim (Inclusive of IDC)	APPENDIX REF. NUMBER
EXPANSION PROJECTS SCHEDULE 3	A.02503	Dunsmure Passing Loop	Goonyella	\$985,585	1
	A.02517	Millennium Balloon Loop Upgrade	Goonyella	\$9,217,630	2
	A.03364	Coppabella Grade Easing	Goonyella	\$682,786	3
	A.03365	Wotonga Angle	Goonyella	\$42,616,541	4
TACA PROJECTS SCHEDULE 4	A.01980	CQ Coal Formation Strengthening	System Wide	\$1,774,282	5
	A.02273	Coal System: Turnout Replacements St 2	System wide	\$1,929,416	6
	A.03372	Fist Fastened Sleeper Upgr: Coal Systems	Goonyella	\$4,698,934	7
	A.03722	Network Sleeper Upgrade Strategy	System Wide	\$205,072	8
	A.03792	6 Hole Glued Insulation Joint Asset Renewal	System Wide	\$967,447	9
	A.03803	Newlands - 53 to 60kg Rail Renewal	Newlands	\$815,414	10
	A.03856	CQ Coal Formation Strengthening Prgm	System Wide	\$2,166,741	11
	A.03882	Sleeper Replacements - Newlands	Newlands	\$566,490	12
	A.03884	Culvert Upgrades at 57.920 & 57.660km Hatfield to Bolin	Goonyella	\$165,196	13
	A.03925	Upgrade Drain at 1166.890km Durraburra	Newlands	\$233,408	14
	A.03929	Gracemere Overbridge - Capital Contribute	System Wide	\$10,362,552	15
	A.03945	Replacement of Damaged Fist Sleeper-Raglan	Blackwater	\$2,311,201	16
	A.03959	Blackwater Track & Formation Renewal	Blackwater	\$1,114,191	17
	A.04002	Newlands Bridge & Culvert Assessment	Newlands	\$161,583	18
	A.04040	Concrete Sleeper Upgrades - Goonyella	Goonyella	\$1,917,252	7
	A.04052	Upgrade Four Culverts - Newlands	Newlands	\$1,056,056	19
	A.04084	Fist Fastener Sleeper Upgrade - Callemondah	Blackwater	\$3,356,308	20
	A.04112	Callemondah Yard Turnout Upgrade Project	Blackwater	\$2,959,654	21
	A.04113	Concrete Sleeper Upgrade - Newlands	Newlands	\$4,901,684	22
	A.04114	Blackwater & Goonyella Turnout Upgrade 2	Blackwater	\$2,689,890	23
	A.04145	Newlands Culvert Upgrade Project	Newlands	\$10,585,812	24
	A.04154	Concrete Sleeper Upgrade GN Phase 1	Goonyella	\$7,436,004	7
	A.04155	Concrete Sleeper Upgrade GN Phase 2	Goonyella	\$3,054,911	7
	A.04203	Formation Eng Assessmt & GPR Record	System Wide	\$2,290,668	25
	A.04252	Rolleston Flood Protection Stage 2	Blackwater	\$8,067,997	26
	A.04283	12/13 Formation Strengthening Project St	System Wide	\$4,380,095	27
	A.04313	Gauge Face Lubrication Asset Renewal	System Wide	\$1,898,129	28
	ELECTRICAL PROJECTS SCHEDULE 5	A.03465	CQ Coal Transformer Refurbishments	System Wide	\$5,631,211
A.03845		Harmonic filter reactor replacement	Goonyella	\$154,686	30
A.03896		Overheads Renewal Rocklands to Callemondah	Blackwater	\$1,266,553	31
A.04214		OH Equipment Renewal Blackwater FY13	Blackwater	\$1,888,206	32
A.04215		OH Equipment Renewal Goonyella FY13	Goonyella	\$3,020,577	33
A.02745		Blackwater Sys: Switch roller Proc & Inst	Blackwater	\$524,283	34
S&TSS PROJECTS SCHEDULE 6	A.03831	Track Circuit and Points Refurbishment	System Wide	\$231,149	35
	A.03979	Weather Stations in the Blackwater System	Blackwater	\$185,074	36
	A.04023	Level Crossing Protection System	System Wide	\$1,018,214	37
	A.04065	Provision of Split Detection - Blackwater	Blackwater	\$159,937	38
	A.04066	BW Model 10/Harmon Boom Mech Replacement	Blackwater	\$114,350	39
	A.04074	POSS Points Condition Monitors	System Wide	\$1,135,856	40
	A.04151	Duaringa Flood Detection System	Blackwater	\$182,615	41
	A.04190	Digital TI21 track circuit upgrade – Coppabella to Hay Point	Goonyella	\$3,079,667	42
	A.04296	CDS Rail Points Condition Monitoring	System Wide	\$1,095,249	43
TELECOMS PROJECTS SCHEDULE 7	A.03931	Train Control Disaster Recovery Project	System Wide	\$14,468,991	44
	A.03960	ION Meter Installation Upgrade Final	System Wide	\$562,868	45
	A.03978	O/F Transmission Network Upgrade Rockhampton to Gladstone	Blackwater	\$2,156,983	46
	A.04111	Dual Telemetry Upgrade	System Wide	\$2,592,446	47
	A.04124	S1 to S2 Telemetry Upgrade	System Wide	\$1,039,442	48
TELECOMS PROJECTS SCHEDULE 8	A.02628	CQCR: Coal Loss Management	System Wide	\$514,518	49
	A.02816	CQ Coal: Level Crossing Investigations	System Wide	\$2,943,940	50
	A.03627	Goonyella Corridor: Stowage Locations	Goonyella	\$2,236,992	52
	A.03676	Blackwater Crew Change Pads	Blackwater	\$5,048,559	52
	A.03709	Private / QRN Level Crossing Infrastructure	System Wide	\$3,600,709	51
	A.03864	Pelican Creek Road - Noise Reduction	Newlands	\$104,581	53
	A.03876	Moura Corridor Crew Change & Stowage Loc	Moura	\$750,823	52
	A.03879	Access Road Upgrade Goowarra-Dingo-Umolo	Blackwater	\$111,143	54
	A.04022	Security Fencing - Coppabella and Dingo Yards	Goonyella	\$414,289	55
	A.04036	Fencing Upgrade Moura and Blackwater Systems	Moura	\$204,575	56
	A.04044	Upgrade CQ Coal System Fencing (2012/13)	System Wide	\$668,074	57
	A.04045	Upgrade Fencing Moura/Blackwater/Newlands	System Wide	\$409,276	58

Project Name: Dunsmure Passing Loop

Project Number: A 02503

Summary of Prudency Assessment and General Project Information

Type of project	CAPEX Expansion	-	Was there sufficient demonstration of prudency of capital expenditure in accordance with Clauses 2 and 3 of Schedule A – refer to Section 1, 2, 3 of this form	Prudency of Cost	✓
Schedule	3	-		Prudency of Standard	✓
Does the project have direct links to or directly follow from on any other project	GAPE Expansion works –one of four expansion projects to support GAPE tonnages	-		Prudency of Scope	✓
Were sufficient details provided to accurately determine the location of the project within the CQCR	Yes, passing loop at Saraji to Dysart	1		Overall prudency assessment	
Was the amount of expenditure accurately and clearly provided (including sufficient breakdown to determine reasonableness of major components against industry benchmark costs)	Yes	1	The detail of scope, standard and cost for the works completed are considered prudent and justified given the planned GAPE tonnages from South Goonyella Branch. Considering the effects of the GFC and current market conditions it is considered a prudent decision to cease the works until costs are justified.		
Minor Funding request	n/a		Has the project been considered by the QCA for RAB approval previously	No	
Project Completion Date	June 2013			Commissioning or evidence of completion sited	N/A
Has the project achieved financial completion	Yes				
Cost details of the claim	Financial Year	Total claimable expenditure	Applicable interest during construction (IDC)	Total claimable expenditure	
Previous claims if applicable	2012-2013	\$774,169	211,417	\$985,585	
	n/a			n/a	
			TOTAL COSTS	\$985,585	

Project Name: Millennium Balloon Loop Upgrade

Project Number: A 02517

Summary of Prudency Assessment and General Project Information

Type of project	CAPEX Expansion	-
Schedule	3	-
Does the project have direct links to or directly follow from on any other project	No	-
Were sufficient details provided to accurately determine the location of the project within the CQCR	Yes, Goonyella system Daunia	1
Was the amount of expenditure accurately and clearly provided (including sufficient breakdown to determine reasonableness of major components against industry benchmark costs)	Yes	1

Was there sufficient demonstration of prudency of capital expenditure in accordance with Clauses 2 and 3 of Schedule A – refer to Section 1, 2, 3 of this form	Prudency of Cost	✓
	Prudency of Standard	✓
	Prudency of Scope	✓
Overall prudency assessment		
Overall the project is considered to prudently provide a cost effective standard solution to facilitate the expansion and increased efficiencies of haulage capacity from the existing Millennium Mine and newly constructed Daunia Mine.		

Minor Funding request	Feb 2008 - \$100,00; Sept 2008 - \$900,000 Feasibility IAR April 2011 \$9,972,000	
Project Completion Date	June 2013	
Has the project achieved financial completion	Yes	

Has the project been considered by the QCA for RAB approval previously	No
Commissioning or evidence of completion sited	Yes

Financial Year	Total claimable expenditure	Interest During Construction (IDC)	Total claimable expenditure
2012-2013	\$8,751,103	466,527	\$9,217,630
Previous claims if applicable	n/a		n/a
		TOTAL COSTS	\$9,217,630

Project Name: Coppabella Grade Easing

Project Number: A 03364

Summary of Prudency Assessment and General Project Information

Type of project	CAPEX Expansion	-
Schedule	3	-
Does the project have direct links to or directly follow from on any other project	GAPE Expansion works –one of four expansion projects to support GAPE tonnages	-
Were sufficient details provided to accurately determine the location of the project within the CQCR	Yes – to extend the Coppabella angle on the Goonyella branc	1
Was the amount of expenditure accurately and clearly provided (including sufficient breakdown to determine reasonableness of major components against industry benchmark costs)	Yes	1

Was there sufficient demonstration of prudency of capital expenditure in accordance with Clauses 2 and 3 of Schedule A – refer to Section 1, 2, 3 of this form	Prudency of Cost	✓
	Prudency of Standard	✓
	Prudency of Scope	✓
Overall prudency assessment		
The detail of scope, standard and cost for the works completed are considered prudent and justified given the planned GAPE tonnages from South Goonyella Branch. Considering the effects of the GFC and current market conditions it is considered a prudent decision to cease the works until costs are justified.		

Minor Funding request	n/a
Project Completion Date	n/a – project ceased
Has the project achieved financial completion	Yes

Has the project been considered by the QCA for RAB approval previously	No
Commissioning or evidence of completion sited	N/A

Financial Year	Total claimable expenditure	Applicable interest during construction (IDC)	Total claimable expenditure
2012-2013	\$552,184	130,602	\$682,786
Previous claims if applicable	n/a		n/a
TOTAL COSTS			\$682,786

Project Name: Wotonga Angle

Project Number: A 03365

Summary of Prudency Assessment and General Project Information

Type of project	CAPEX Expansion	-	Was there sufficient demonstration of prudency of capital expenditure in accordance with Clauses 2 and 3 of Schedule A – refer to Section 1, 2, 3 of this form	Prudency of Cost	✓	
Schedule	3	-		Prudency of Standard	✓	
Does the project have direct links to or directly follow from on any other project	No	-		Prudency of Scope	✓	
Were sufficient details provided to accurately determine the location of the project within the CQCR	Yes, Goonyella system Daunia	1		Overall prudency assessment		
Was the amount of expenditure accurately and clearly provided (including sufficient breakdown to determine reasonableness of major components against industry benchmark costs)	Yes	1		Overall the project is considered to prudently provide a cost effective standard solution to facilitate the expansion and increased efficiencies of haulage capacity from the existing Millennium Mine and newly constructed Daunia Mine.		
Minor Funding request	Feb 2008 - \$100,00; Sept 2008 - \$900,000 Feasibility IAR April 2011 \$9,972,000		Has the project been considered by the QCA for RAB approval previously	No		
Project Completion Date	June 2013		Commissioning or evidence of completion sited	Yes		
Has the project achieved financial completion	Yes					
Cost details of the claim	Financial Year	Total claimable expenditure	Interest During Construction (IDC)	Total claimable expenditure		
	2012-2013	\$8,751,103	466,527	\$9,217,630		
Previous claims if applicable	n/a			n/a		
	TOTAL COSTS			\$9,217,630		

Project Name: CQ Coal Formation Strengthening

Project Number: A 01980

Summary of Prudency Assessment and General Project Information

Type of project	TACA	-
Schedule	4	-
Does the project have direct links to or directly follow from on any other project	Yes. This is stage 1 of the formation strengthening program which includes four other projects.	-
Were sufficient details provided to accurately determine the location of the project within the CQCR	Yes. AUC Transfer Form for 2012/13 work provided in response to request for this information.	1
Was the amount of expenditure accurately and clearly provided (including sufficient breakdown to determine reasonableness of major components against industry benchmark costs)	Although Lime Slurry Pressure Injection (LSPI) is fairly specialized work there was no indication that any market testing of actual costs had been undertaken. Formation reconstruction was undertaken using in house staff.	1

Was there sufficient demonstration of prudency of capital expenditure in accordance with Clauses 2 and 3 of Schedule A – refer to Section 1, 2, 3 of this form	Prudency of Cost	✓
	Prudency of Standard	✓
	Prudency of Scope	✓
Overall prudency assessment		
Overall the project is considered prudent in terms of cost, standard and scope.		

Minor Funding request	Various throughout claim year	
Project Completion Date	May 2013	
Has the project achieved financial completion	Yes	

Has the project been considered by the QCA for RAB approval previously	Yes
Commissioning or evidence of completion sited	Yes – AUC Sheet

Financial Year	Total claimable expenditure	Interest During Construction (IDC)	Total claimable expenditure	
Cost details of the claim	2012-2013	\$1,761,509	12,773	\$ 1,774,282
Previous claims if applicable	n/a			\$16,825,322
		TOTAL COSTS		\$18,599,604

Project Name: Coal System Turnout Replacements Stage 2

Project Number: A 02273

Summary of Prudency Assessment and General Project Information

Type of project	TACA	-
Schedule	4	-
Does the project have direct links to or directly follow from on any other project	Yes. This is named as Stage 2 of the Coal System Turnout Replacement project.	-
Were sufficient details provided to accurately determine the location of the project within the CQCR	Although this is a system wide project the exact numbers and km points of the affected turnouts were given.	1
Was the amount of expenditure accurately and clearly provided (including sufficient breakdown to determine reasonableness of major components against industry benchmark costs)	Yes. Expenditure amount clearly shown and comparable with turnout replacements in the local metropolitan area.	1

Was there sufficient demonstration of prudency of capital expenditure in accordance with Clauses 2 and 3 of Schedule A – refer to Section 1, 2, 3 of this form	Prudency of Cost	✓
	Prudency of Standard	✓
	Prudency of Scope	✓
Overall prudency assessment		
Overall the project is considered prudent in cost, standard and scope.		

Minor Funding request	Various throughout the claim year	
Project Completion Date	Ongoing	
Has the project achieved financial completion	No	

Has the project been considered by the QCA for RAB approval previously	Yes
Commissioning or evidence of completion sited	Ongoing

	Financial Year	Total claimable expenditure	Interest During Construction (IDC)	Total claimable expenditure
Cost details of the claim	2012-2013	\$1,845,608	\$83,808	\$ 1,929,416
Previous claims if applicable	n/a			\$14,518,454
			TOTAL COSTS	\$16,447,870

Project Name: Fist Fastener replacements and Sleeper Upgrades – Coal System

Project Number: A 04154, A 03372, A 04155, A 04040

Summary of Prudency Assessment and General Project Information

Type of project	TACA	-	<p>Was there sufficient demonstration of prudency of capital expenditure in accordance with Clauses 2 and 3 of Schedule A – refer to Section 1, 2, 3 of this form</p> <table border="1"> <tr> <td>Prudency of Cost</td> <td>✓</td> </tr> <tr> <td>Prudency of Standard</td> <td>✓</td> </tr> <tr> <td>Prudency of Scope</td> <td>✓</td> </tr> </table>	Prudency of Cost	✓	Prudency of Standard	✓	Prudency of Scope	✓
Prudency of Cost	✓								
Prudency of Standard	✓								
Prudency of Scope	✓								
Schedule	4	-							
Does the project have direct links to or directly follow from on any other project	Yes. This is a part of a program of works across the network of sleeper upgrades and 20tal fist clip replacement. These projects relate to works in the program on the Goonyella System	-							
Were sufficient details provided to accurately determine the location of the project within the QCR	Yes	1							
Was the amount of expenditure accurately and clearly provided (including sufficient breakdown to determine reasonableness of major components against industry benchmark costs)	Yes, SAP WBS breakdown provided in sufficient detail. However there was high consistencies in recording other than in plant costs, making it difficult to obtain a robust unit rate across sections	1							
Minor Funding request	Various throughout the claim year		<p>Has the project been considered by the QCA for RAB approval previously</p> <p>Commissioning or evidence of completion sited</p>						
Project Completion Date	Ongoing								
Has the project achieved financial completion	No								
Cost details of the claim	Financial Year	Total claimable expenditure	Interest During Construction (IDC)	Total claimable expenditure (inc IDC)					
	2012-2013	7,457,755	-21,751	\$7,436,004 - 04154					
	2012-2013	4,641,133	57,801	\$4,698,934 - 03372					
	2012-2013	3,119,348	-64,437	\$3,054,911 - 04155					
	2012-2013	1,845,571	71,682	\$1,917,252 - 04040					
<p>Overall prudency assessment</p> <p>The proposed works will provide enhancement through the replacement of below standard components to meet the requirements of the network. Inconsistencies in the SAP recording made it difficult to ascertain unit rates consistently across sections, however in general the overall costs appeared within a reasonable range. Greater diligence is recommended in the SAP WBS and scoping for these types of projects.</p>									

Project Name: Network Sleeper Upgrade Strategy

Project Number: A 03722

Summary of Prudency Assessment and General Project Information

Type of project	TACA	-
Schedule	4	-
Does the project have direct links to or directly follow from on any other project	Yes.	-
Were sufficient details provided to accurately determine the location of the project within the CQCR	System wide.	1
Was the amount of expenditure accurately and clearly provided (including sufficient breakdown to determine reasonableness of major components against industry benchmark costs)	Yes.	1

Was there sufficient demonstration of prudency of capital expenditure in accordance with Clauses 2 and 3 of Schedule A – refer to Section 1, 2, 3 of this form	Prudency of Cost	✓
	Prudency of Standard	✓
	Prudency of Scope	✓
Overall prudency assessment		
Overall the works are considered prudent in cost, standard and scope.		

Minor Funding request	July 2012
Project Completion Date	June 2013
Has the project achieved financial completion	Close out documentation not sighted

Has the project been considered by the QCA for RAB approval previously	No
Commissioning or evidence of completion sighted	Draft strategy sighted

Financial Year	Total claimable expenditure	Interest During Construction (IDC)	Total claimable expenditure
2012-2013	\$181,683	\$23,289	\$205,072
Previous claims if applicable	n/a		n/a
		TOTAL COSTS	\$205,072

Project Name: 6 Hole Glued Insulation Joint Asset Renewal

Project Number: A 03792

Summary of Prudency Assessment and General Project Information

Type of project	TACA	-
Schedule	4	-
Does the project have direct links to or directly follow from on any other project	No	-
Were sufficient details provided to accurately determine the location of the project within the CQCR	System wide	1
Was the amount of expenditure accurately and clearly provided (including sufficient breakdown to determine reasonableness of major components against industry benchmark costs)	Yes	1

Was there sufficient demonstration of prudency of capital expenditure in accordance with Clauses 2 and 3 of Schedule A – refer to Section 1, 2, 3 of this form	Prudency of Cost	✓
	Prudency of Standard	✓
	Prudency of Scope	✓
Overall prudency assessment		
Overall project is considered prudent in cost, standard and scope.		

Minor Funding request	December 2010 - \$641,200 May 2012 - \$2,725,000	
Project Completion Date	Ongoing	
Has the project achieved financial completion	Close out documentation not sighted	

Has the project been considered by the QCA for RAB approval previously	No
Commissioning or evidence of completion sighted	No

Financial Year	Total claimable expenditure	Interest During Construction (IDC)	Total claimable expenditure (inc IDC)
2012-2013	\$964,153	\$3,295	\$967,447
Previous claims if applicable	2010-2012		\$1,805,362 (excludes IDC)
		TOTAL COSTS	\$2,772,809

Project Name: Newlands – 53 to 60kg Rail Renewal

Project Number: A 03803

Summary of Prudency Assessment and General Project Information

Type of project	TACA	-
Schedule	4	-
Does the project have direct links to or directly follow from on any other project	No	-
Were sufficient details provided to accurately determine the location of the project within the CQCR	Blackwater Line – Goowarra to Dingo.	1
Was the amount of expenditure accurately and clearly provided (including sufficient breakdown to determine reasonableness of major components against industry benchmark costs)	Yes	1

Was there sufficient demonstration of prudency of capital expenditure in accordance with Clauses 2 and 3 of Schedule A – refer to Section 1, 2, 3 of this form	Prudency of Cost	✓
	Prudency of Standard	✓
	Prudency of Scope	✓
Overall prudency assessment		
Overall project is considered prudent in cost, standard and scope.		

Minor Funding request	Financial year 2011-12	
Project Completion Date	June 2013	
Has the project achieved financial completion	Close out documentation not sighted - ongoing	

Has the project been considered by the QCA for RAB approval previously	Yes
Commissioning or evidence of completion sighted	No

Financial Year	Total claimable expenditure	Interest During Construction (IDC)	Total claimable expenditure (inc IDC)
2012-2013	\$850,301	-34,887	\$ 815,414
Previous claims if applicable			\$ 847,865
		TOTAL COSTS	\$1,663,279

Project Name: CQ Coal Formation Strengthening Stage 3

Project Number: A 03856

Summary of Prudency Assessment and General Project Information

Type of project	TACA	-	Was there sufficient demonstration of prudency of capital expenditure in accordance with Clauses 2 and 3 of Schedule A – refer to Section 1, 2, 3 of this form	Prudency of Cost	✓
Schedule	4	-		Prudency of Standard	✓
Does the project have direct links to or directly follow from on any other project	Yes. This is stage 3 of the formation strengthening program which includes four other projects.	1		Prudency of Scope	✓
Were sufficient details provided to accurately determine the location of the project within the QCR	The Project Completion Plan quotes actual km points for LSPI work but only overall lengths for formation reconstruction.	1		Overall prudency assessment	
Was the amount of expenditure accurately and clearly provided (including sufficient breakdown to determine reasonableness of major components against industry benchmark costs)	Expenditure clearly stated but no breakdown of costs sighted to compare against industry benchmarks.	1		Overall project is considered prudent in cost, standard and scope.	
Minor Funding request	Various		Has the project been considered by the QCA for RAB approval previously	Yes	
Project Completion Date	October 2012		Commissioning or evidence of completion sited	No	
Has the project achieved financial completion	Yes				
Cost details of the claim	Financial Year	Total claimable expenditure	Interest During Construction (IDC)	Total claimable expenditure (inc IDC)	
	2012-2013	\$2,113,179	53,562	\$ 2,166,741	
Previous claims if applicable				\$ 5,413,500	
			TOTAL COSTS	\$ 7,580,241	

Project Name: Sleeper replacements - Newlands

Project Number: A 03882

Summary of Prudency Assessment and General Project Information

Type of project	TACA	-
Schedule	4	-
Does the project have direct links to or directly follow from on any other project	Yes – Sleeper Replacement Strategy (refer Assessment sheet 7)	-
Were sufficient details provided to accurately determine the location of the project within the CQCR	Newlands system, between specified mileages	1
Was the amount of expenditure accurately and clearly provided (including sufficient breakdown to determine reasonableness of major components against industry benchmark costs)	Yes	1

Was there sufficient demonstration of prudency of capital expenditure in accordance with Clauses 2 and 3 of Schedule A – refer to Section 1, 2, 3 of this form	Prudency of Cost	✓
	Prudency of Standard	✓
	Prudency of Scope	✓
Overall prudency assessment		
Overall project is considered prudent in cost, standard and scope.		

Project commissioning date	Various claims – sleeper upgrade strategy throughout the systems	
Project Completion Date	June 2013	
Has the project achieved financial completion	No – although works completed	

Has the project been considered by the QCA for RAB approval previously	Yes
Commissioning or evidence of completion sited	List of completed sites

	Financial Year	Total claimable expenditure	Interest During Construction (IDC)	Total claimable expenditure (inc IDC)
Cost details of the claim	2012-2013	\$568,405	-1,915	\$ 566,490
Previous claims if applicable				\$ 1,347,509
			TOTAL COSTS	\$1, 913,999

Project Name: Culvert Upgrades Hatfield to Bolingbroke

Project Number: A 03884

Summary of Prudency Assessment and General Project Information

Type of project	TACA	-
Schedule	4	-
Does the project have direct links to or directly follow from on any other project	No	-
Were sufficient details provided to accurately determine the location of the project within the CQCR	Yes – Newlands line – defined km points	1
Was the amount of expenditure accurately and clearly provided (including sufficient breakdown to determine reasonableness of major components against industry benchmark costs)	Yes	1

Minor Funding Request	June \$467,000; September \$574,000; December 2011 \$43,000
Project Completion Date	November 2012
Has the project achieved financial completion	Yes

Was there sufficient demonstration of prudency of capital expenditure in accordance with Clauses 2 and 3 of Schedule – refer to Section 1, 2, 3 of this form	Prudency of Cost	✓
	Prudency of Standard	✓
	Prudency of Scope	✓
Overall prudency assessment		
The culverts being replaced are original metal pipes installed in approximately 1972. From the pictorial information provided it is evident that these structures are showing signs of loss of structural integrity. It is considered prudent to replace these structure with modern standard structures to minimize the risks of catastrophic failure.		

Has the project been considered by the QCA for RAB approval previously	Yes
Commissioning or evidence of completion sited	Yes, project completion report Nov 2012

Financial Year	Total claimable expenditure	Interest During Construction (IDC)	Total claimable expenditure (inc IDC)
2012-2013	\$160,299	\$4,897	\$165,196
2011-2012			\$580,718
		TOTAL COSTS	\$741,017

Project Name: Upgrade Drain at 1166.890km Durraburra

Project Number: A 03925

Summary of Prudency Assessment and General Project Information

Type of project	TACA	-	Was there sufficient demonstration of prudency of capital expenditure in accordance with Clauses 2 and 3 of Schedule A – refer to Section 1, 2, 3 of this form	Prudency of Cost	✓
Schedule	4	-		Prudency of Standard	✓
Does the project have direct links to or directly follow from on any other project	No	-		Prudency of Scope	✓
Were sufficient details provided to accurately determine the location of the project within the CQCR	Yes	1		Overall prudency assessment	
Was the amount of expenditure accurately and clearly provided (including sufficient breakdown to determine reasonableness of major components against industry benchmark costs)	Yes	1		Overall project is considered prudent in cost, standard and scope.	
Minor Funding request	June 2012		Has the project been considered by the QCA for RAB approval previously Commissioning or evidence of completion sited	No	
Project Completion Date	November 2012			Yes Project completion report	
Has the project achieved financial completion	Yes				
Cost details of the claim	Financial Year	Total claimable expenditure	Interest During Construction (IDC)	Total claimable expenditure (inc IDC)	
	2012-2013	\$220,636	\$12,772	\$ 233,408	
Previous claims if applicable	n/a			n/a	
	TOTAL COSTS			\$ 233,408	

Project Name: Gracemere Overbridge – Capital Contribution

Project Number: A 03929

Summary of Prudency Assessment and General Project Information

Type of project	TACA	-
Schedule	4	-
Does the project have direct links to or directly follow from on any other project	No	-
Were sufficient details provided to accurately determine the location of the project within the CQCR	Yes	1
Was the amount of expenditure accurately and clearly provided (including sufficient breakdown to determine reasonableness of major components against industry benchmark costs)	Yes	1

Was there sufficient demonstration of prudency of capital expenditure in accordance with Clauses 2 and 3 of Schedule A – refer to Section 1, 2, 3 of this form	Prudency of Cost	✓
	Prudency of Standard	✓
	Prudency of Scope	✓
Overall prudency assessment		
Overall project is considered prudent in cost, standard and scope.		

Business case	October 2011
Project Completion Date	December 2012
Has the project achieved financial completion	Yes

Has the project been considered by the QCA for RAB approval previously	No
Commissioning or evidence of completion sited	No

Financial Year	Total claimable expenditure	Interest During Construction (IDC)	Total claimable expenditure (inc IDC)
2012-2013	\$10,000,000	\$362,552	\$10,362,552
Previous claims if applicable	n/a		n/a
		TOTAL COSTS	\$10,362,552

Project Name: Replacement of Damaged Fist Sleepers - Raglan

Project Number: A 03945

Summary of Prudency Assessment and General Project Information

Type of project	TACA	-
Schedule	Schedule 4	-
Does the project have direct links to or directly follow from on any other project	No	-
Were sufficient details provided to accurately determine the location of the project within the CQCR	Yes	1
Was the amount of expenditure accurately and clearly provided (including sufficient breakdown to determine reasonableness of major components against industry benchmark costs)	Yes. The overall expenditure was clearly provided, enabling calculation of a high level unit rate, but the SAP structure of the work would have benefitted from addition of extra lines to enable review of the financial performance of different departments / disciplines.	1

Was there sufficient demonstration of prudency of capital expenditure in accordance with Clauses 2 and 3 of Schedule – refer to Section 1, 2, 3 of this form	Prudency of Cost	✓
	Prudency of Standard	✓
	Prudency of Scope	✓
Overall prudency assessment		
Replacement of damaged 20TAL sleepers with modern units designed to carry existing 26.5TAL traffic is considered prudent and is in line with the standard of adjacent infrastructure and network capacity requirements.		

Minor Funding Request	November 2011 - \$3,405,000
Project Completion Date	Ongoing
Has the project achieved financial completion	No

Has the project been considered by the QCA for RAB approval previously	No
Commissioning or evidence of completion sited	No

Financial Year	Total claimable expenditure	Applicable interest during construction (IDC)	Total claimable expenditure	
Cost details of the claim	2012-2013	\$2,279,135	\$32,066	\$2,311,201
Previous claims if applicable	N/A			n/a

Project Name: Blackwater Track and Formation Renewal

Project Number: A 03959

Summary of Prudency Assessment and General Project Information

Type of project	TACA	-
Schedule	4	-
Does the project have direct links to or directly follows from on any other project	No	-
Were sufficient details provided to accurately determine the location of the project within the CQCR	Yes	1
Was the amount of expenditure accurately and clearly provided (including sufficient breakdown to determine reasonableness of major components against industry benchmark costs)	Yes.	1

Was there sufficient demonstration of prudency of capital expenditure in accordance with Clauses 2 and 3 of Schedule – refer to Section 1, 2, 3 of this form	Prudency of Cost	✓
	Prudency of Standard	✓
	Prudency of Scope	✓
Overall prudency assessment		
Overall project is considered prudent in cost, standard and scope.		

Minor Funding Request	November 2011 - \$8,915,000	
Project Completion Date	Ongoing	
Has the project achieved financial completion	No	

Has the project been considered by the QCA for RAB approval previously	No
Commissioning or evidence of completion sited	Update of program provided

Financial Year	Total claimable expenditure	Interest During Construction (IDC)	Total claimable expenditure
2012-2013	\$1,101,395	\$12,796	\$1,114,191
2011-2012			\$4,280,912
		TOTAL COSTS	\$5,395,103

Project Name: Newlands Bridge and Culvert Assessment

Project Number: A 04002

Summary of Prudency Assessment and General Project Information

Type of project	TACA	-
Schedule	4	-
Does the project have direct links to or directly follow from on any other project	No Yes – A.04052 and A.04145	-
Were sufficient details provided to accurately determine the location of the project within the CQCR	Yes – Newlands System at specified structures	1
Was the amount of expenditure accurately and clearly provided (including sufficient breakdown to determine reasonableness of major components against industry benchmark costs)	Yes	1

Was there sufficient demonstration of prudency of capital expenditure in accordance with Clauses 2 and 3 of Schedule A – refer to Section 1, 2, 3 of this form	Prudency of Cost	✓
	Prudency of Standard	✓
	Prudency of Scope	✓
Overall prudency assessment		
Project is considered prudent in cost, standard and scope.		

Minor Funding request	Engineering assessment for culvert upgrade projects	
Project Completion Date	June 2013	
Has the project achieved financial completion	Yes	

Has the project been considered by the QCA for RAB approval previously	No
Commissioning or evidence of completion sited	Yes – in terms of outcome for upgrade projects

	Financial Year	Total claimable expenditure	Interest During Construction (IDC)	Total claimable expenditure
Cost details of the claim	2012-2013	\$149,926	\$11,657	\$161,583
Previous claims if applicable	n/a			n/a
			TOTAL COSTS	\$161,583

Project Name: Upgrade 4 Culverts - Newlands

Project Number: A 04052

Summary of Prudency Assessment and General Project Information

Type of project	TACA	-
Schedule	4	-
Does the project have direct links to or directly follow from on any other project	Yes – A.04002, A.04145	-
Were sufficient details provided to accurately determine the location of the project within the CQCR	Yes – Newlands line – defined km points	1
Was the amount of expenditure accurately and clearly provided (including sufficient breakdown to determine reasonableness of major components against industry benchmark costs)	Yes	1

Was there sufficient demonstration of prudency of capital expenditure in accordance with Clauses 2 and 3 of Schedule A – refer to Section 1, 2, 3 of this form	Prudency of Cost	✓
	Prudency of Standard	✓
	Prudency of Scope	✓
Overall prudency assessment		
From the information provided project is considered prudent in cost, standard and scope.		

Minor Funding request	March 2012	
Project Completion Date	September 2012	
Has the project achieved financial completion	Yes	

Has the project been considered by the QCA for RAB approval previously	No
Commissioning or evidence of completion sighted	Close out documentation not sighted

	Financial Year	Total claimable expenditure	Interest During Construction (IDC)	Total claimable expenditure
Cost details of the claim	2012-2013	\$1,016,442	\$39,614	\$1,056,056
Previous claims if applicable	n/a			n/a
			TOTAL COSTS	\$1,056,056

Summary of Prudency Assessment and General Project Information

Type of project	TACA	-
Schedule	4	-
Does the project have direct links to or directly follows from on any other project	Yes. This project forms part of a larger program to replace 20TAL fist grip sleepers across the CQ coal system.	1
Were sufficient details provided to accurately determine the location of the project within the CQCR	Yes.	1
Was the amount of expenditure accurately and clearly provided (including sufficient breakdown to determine reasonableness of major components against industry benchmark costs)	Yes.	1

Was there sufficient demonstration of prudency of capital expenditure in accordance with Clauses 2 and 3 of Schedule – refer to Section 1, 2, 3 of this form	Prudency of Cost	✓
	Prudency of Standard	✓
	Prudency of Scope	✓
Overall prudency assessment		
Upgrade of 20TAL sleepers to accommodate modern higher axle load traffic is considered prudent.		

Minor Funding Request	May 2012 - \$6,820,000
Project Completion Date	June 2013
Has the project achieved financial completion	Yes

Has the project been considered by the QCA for RAB approval previously	Yes
Commissioning or evidence of completion sited	Close out documentation not sighted

Financial Year	Total claimable expenditure	Applicable interest during construction (IDC)	Total claimable expenditure	
Cost details of the claim	2012-2013	\$3,318,815	\$37,493	\$3,356,308
Previous claims if applicable	2011-2012			\$3,501,185
			TOTAL COSTS	\$6,857,493

Project Name: Callemondah Yard Turnout Upgrade Project

Project Number: A 04112

Summary of Prudency Assessment and General Project Information

Type of project	TACA	-
Schedule	4	-
Does the project have direct links to or directly follows from on any other project	No.	1
Were sufficient details provided to accurately determine the location of the project within the CQCR	Yes.	1
Was the amount of expenditure accurately and clearly provided (including sufficient breakdown to determine reasonableness of major components against industry benchmark costs)	Yes.	1

Was there sufficient demonstration of prudency of capital expenditure in accordance with Clauses 2 and 3 of Schedule – refer to Section 1, 2, 3 of this form	Prudency of Cost	✓
	Prudency of Standard	✓
	Prudency of Scope	✓
Overall prudency assessment		
Replacement of high risk or life expired turnouts is considered to be prudent.		

Minor Funding Request	June 2012 - \$7,860,991	
Project Completion Date	Ongoing	
Has the project achieved financial completion	No	

Has the project been considered by the QCA for RAB approval	No
Commissioning or evidence of completion sited	Close out documentation not sighted

	Financial Year	Total claimable expenditure	Applicable interest during construction (IDC)	Total claimable expenditure
Cost details of the claim	2012-2013	\$2,947,087	\$12,568	\$2,959,654
Previous claims if applicable	2011-2012			n/a
			TOTAL COSTS	\$2,959,654

Project Name: Concrete Sleeper Upgrade - Newlands

Project Number: A 04113

Summary of Prudency Assessment and General Project Information

Type of project	TACA	-
Schedule	4	-
Does the project have direct links to or directly follow from on any other project	Yes – A.03803	-
Were sufficient details provided to accurately determine the location of the project within the CQCR	Yes – specific km limits	1
Was the amount of expenditure accurately and clearly provided (including sufficient breakdown to determine reasonableness of major components against industry benchmark costs)	Yes	1

Was there sufficient demonstration of prudency of capital expenditure in accordance with Clauses 2 and 3 of Schedule A – refer to Section 1, 2, 3 of this form	Prudency of Cost	✓
	Prudency of Standard	✓
	Prudency of Scope	✓
Overall prudency assessment		
From the information provided the project was considered prudent in costs, standard and scope.		

Minor Funding request	Various – ongoing projects as part of overall sleeper upgrade projects across network	
Project Completion Date	Ongoing	
Has the project achieved financial completion	No	

Has the project been considered by the QCA for RAB approval previously	No
Commissioning or evidence of completion sited	For discreet sites

	Financial Year	Total claimable expenditure	Interest During Construction (IDC)	Total claimable expenditure
Cost details of the claim	2012-2013	\$4,866,499	\$35,185	\$4,901,684
Previous claims if applicable	n/a			n/a
			TOTAL COSTS	\$4,901,684

Project Name: Blackwater & Goonyella Turnout Upgrade 2

Project Number: A 04114

Summary of Prudency Assessment and General Project Information

Type of project	TACA	-
Schedule	4	-
	02273,4112	-
Does the project have direct links to or directly follows from on any other project	Yes	1
Were sufficient details provided to accurately determine the location of the project within the CQCR	Yes	1

Was there sufficient demonstration of prudency of capital expenditure in accordance with Clauses 2 and 3 of Schedule – refer to Section 1, 2, 3 of this form	Prudency of Cost	✓
	Prudency of Standard	✓
	Prudency of Scope	✓
Overall prudency assessment		
Overall the project is considered prudent as the scope involves the necessary replacement of aged life expired operational critical track components in order to upgrade the infrastructure to current standards, minimize whole of life maintenance costs and increase reliability of the network.		

Minor Funding Request	June 2012
Project Completion Date	Ongoing
Has the project achieved financial completion	No

Has the project been considered by the QCA for RAB approval previously	No
Commissioning or evidence of completion sited	No

Financial Year	Total claimable expenditure	Applicable interest during construction (IDC)	Total claimable expenditure	
Cost details of the claim	2012-2013	\$2,744,259	-54,369	\$ 2,689,890
Previous claims if applicable	n/a			n/a
		TOTAL COSTS		\$ 2,689,890

Project Name: Newlands Culvert Upgrade Project

Project Number: A 04145

Summary of Prudency Assessment and General Project Information

Type of project	TACA	-
Schedule	4	-
Does the project have direct links to or directly follow from on any other project	Yes – A.04002, A.04052	-
Were sufficient details provided to accurately determine the location of the project within the CQCR	Yes – Newlands line – defined km points	1
Was the amount of expenditure accurately and clearly provided (including sufficient breakdown to determine reasonableness of major components against industry benchmark costs)	Yes	1

Was there sufficient demonstration of prudency of capital expenditure in accordance with Clauses 2 and 3 of Schedule A – refer to Section 1, 2, 3 of this form	Prudency of Cost	✓
	Prudency of Standard	✓
	Prudency of Scope	✓
Overall prudency assessment		
From information provided project is considered prudent in cost, standard and scope.		

Minor Funding request	Cluster 6 and 7 – December 2012 Cluster 8 and 11 – September 2013	
Project Completion Date	September 2013	
Has the project achieved financial completion	Ongoing	

Has the project been considered by the QCA for RAB approval previously	No
Commissioning or evidence of completion sited	No

Financial Year	Total claimable expenditure	Interest During Construction (IDC)	Total claimable expenditure
2012-2013	\$10,637,624	-51,812	\$10,585,812
Previous claims if applicable	n/a		n/a
		TOTAL COSTS	\$10,585,812

Summary of Prudency Assessment and General Project Information

Type of project	TACA	-
Schedule	Schedule 4	-
Does the project have direct links to or directly follow from on any other project	Yes. This is part of the formation strengthening program which includes four other projects	-
Were sufficient details provided to accurately determine the location of the project within the CQCR	This is a system wide project with work at 500m intervals on all corridors.	1
Was the amount of expenditure accurately and clearly provided (including sufficient breakdown to determine reasonableness of major components against industry benchmark costs)	Yes, but insufficient breakdown in SAP to calculate unit rates for comparison.	1

Was there sufficient demonstration of prudency of capital expenditure in accordance with Clauses 2 and 3 of Schedule – refer to Section 1, 2, 3 of this form	Prudency of Cost	✓
	Prudency of Standard	✓
	Prudency of Scope	✓
Overall prudency assessment		
From the information provided the project is considered prudent in cost, standard and scope.		

Minor Funding Request	April 2012
Project Completion Date	Expected June 2015
Has the project achieved financial completion	No

Has the project been considered by the QCA for RAB approval previously	No
Commissioning or evidence of completion sited	No

Financial Year	Total claimable expenditure	Applicable interest during construction (IDC)	Total claimable expenditure	
Cost details of the claim	2012-2013	\$2,309,519	-18,851	\$ 2,290,668
Previous claims if applicable	N/A			N/A
			TOTAL COSTS	\$ 2,290,668

Project Name: Rolleston Flood Protection Stage 2

Project Number: A 04252

Summary of Prudency Assessment and General Project Information

Type of project	TACA	-
Schedule	Schedule 4	-
Does the project have direct links to or directly follows from on any other project	Yes. This is stage 2 of flood reparation works on the Rolleston branch line due to flooding of the Comet River	-
Were sufficient details provided to accurately determine the location of the project within the CQCR	Yes	1
Was the amount of expenditure accurately and clearly provided (including sufficient breakdown to determine reasonableness of major components against industry benchmark costs)	Yes	1

Was there sufficient demonstration of prudency of capital expenditure in accordance with Clauses 2 and 3 of Schedule – refer to Section 1, 2, 3 of this form	Prudency of Cost	✓
	Prudency of Standard	✓
	Prudency of Scope	✓
Overall prudency assessment		
Overall the works enhanced the flood mitigation protection for some 2km of rail embankment (bringing flood mitigation levels at that point in line with adjacent infrastructure) and facilitated access to the rail corridor in wet conditions. Overall the project is considered prudent in cost, standard and scope.		

Feasibility Investment Approval Request	September 2012 for \$8,980,150
Project Completion Date	May 2013
Has the project achieved financial completion	Yes June 2013

Has the project been considered by the QCA for RAB approval previously	No
Commissioning or evidence of completion sited	Yes

Financial Year	Total claimable expenditure	Applicable interest during construction (IDC)	Total claimable expenditure
2012-2013	\$8,038,676	\$29,321	\$8,067,997
Previous claims if applicable	n/a		n/a
TOTAL COSTS			\$8,067,997

Project Name: 12/13 Formation Strengthening Project

Project Number: A 04283

Summary of Prudency Assessment and General Project Information

Type of project	TACA	-	Was there sufficient demonstration of prudency of capital expenditure in accordance with Clauses 2 and 3 of Schedule – refer to Section 1, 2, 3 of this form	Prudency of Cost	✓
Schedule	Schedule 4	-		Prudency of Standard	✓
Does the project have direct links to or directly follow from on any other project	Yes. This is part of the formation strengthening program which includes four other projects.	-		Prudency of Scope	✓
Were sufficient details provided to accurately determine the location of the project within the CQCR	Yes. MFR shows planned work locations and AUC Transfer sheet supplied following request shows km lengths completed.	1		Overall prudency assessment	
Was the amount of expenditure accurately and clearly provided (including sufficient breakdown to determine reasonableness of major components against industry benchmark costs)	Yes, but insufficient breakdown to calculate unit rates for industry comparison.	1		From the information provided the project is considered prudent in cost, standard and scope.	
Project Commissioning Date	Various – part of formation strengthening strategy across systems		Has the project been considered by the QCA for RAB approval previously Commissioning or evidence of completion sited	No	
Project Completion Date	Ongoing			Yes	
Has the project achieved financial completion	No				
Cost details of the claim	Financial Year	Total claimable expenditure	Applicable interest during construction (IDC)	Total claimable expenditure	
	2012-2013	\$4,535,960	-155,865	\$ 4,380,095	
Previous claims if applicable	N/A			n/a	
	TOTAL COSTS			\$ 4,380,095	

Project Name: Gauge Face Lubrication Asset Renewal

Project Number: A 04313

Summary of Prudency Assessment and General Project Information

Type of project	TACA	-	Was there sufficient demonstration of prudency of capital expenditure in accordance with Clauses 2 and 3 of Schedule A – refer to Section 1, 2, 3 of this form	Prudency of Cost	✓
Schedule	4	-		Prudency of Standard	✓
Does the project have direct links to or directly follow from on any other project	No	-		Prudency of Scope	✓
Were sufficient details provided to accurately determine the location of the project within the CQCR	System wide	1		Overall prudency assessment	
Was the amount of expenditure accurately and clearly provided (including sufficient breakdown to determine reasonableness of major components against industry benchmark costs)	Yes	1		Overall project is considered prudent in cost, standard and scope.	
Business case	Project Ongoing		Has the project been considered by the QCA for RAB approval previously	No	
Project Completion Date	Project ongoing		Commissioning or evidence of completion sited	No	
Has the project achieved financial completion	No				
Cost details of the claim	Financial Year	Total claimable expenditure	Interest During Construction (IDC)	Total claimable expenditure (inc IDC)	
	2012-2013	\$1,982,504	-84,375	\$1,898,129	
Previous claims if applicable	n/a			n/a	
			TOTAL COSTS	\$1,898,129	

Project Name: CQ Coal Transformer Refurbishments

Project Number: A 03465

Summary of Prudency Assessment and General Project Information

Type of project	Electrical	-
Schedule	4	-
Does the project have direct links to or directly follow from on any other project	Yes. Goonyella System, specified transformers	-
Were sufficient details provided to accurately determine the location of the project within the CQCR	Yes	1
Was the amount of expenditure accurately and clearly provided (including sufficient breakdown to determine reasonableness of major components against industry benchmark costs)	Yes	1

Was there sufficient demonstration of prudency of capital expenditure in accordance with Clauses 2 and 3 of Schedule A – refer to Section 1, 2, 3 of this form	Prudency of Cost	✓
	Prudency of Standard	✓
	Prudency of Scope	✓
Overall prudency assessment		
Overall project is considered prudent in cost, standard and scope.		

Project commissioning date	Individual sites at various times throughout the year.	
Project Completion Date	December 2015	
Has the project achieved financial completion	No	

Has the project been considered by the QCA for RAB approval previously	No
Commissioning or evidence of completion sited	Sample factory and site acceptance test reports provided for review

	Financial Year	Total claimable expenditure	Interest During Construction (IDC)	Total claimable expenditure (inc IDC)
Cost details of the claim	2012-2013	\$5,422,687	\$208,524	\$ 5,631,211
Previous claims if applicable	n/a			n/a
			TOTAL COSTS	\$ 5,631,211

Project Name: Replacement of Failed Harmonic Filter at Oonooie

Project Number: A 03845

Summary of Prudency Assessment and General Project Information

Type of project	Electrical	-
Schedule	Schedule 5	-
Does the project have direct links to or directly follows from on any other project	No	-
Were sufficient details provided to accurately determine the location of the project within the CQCR	Yes	1
Was the amount of expenditure accurately and clearly provided (including sufficient breakdown to determine reasonableness of major components against industry benchmark costs)	Yes	1

Was there sufficient demonstration of prudency of capital expenditure in accordance with Clauses 2 and 3 of Schedule – refer to Section 1, 2, 3 of this form	Prudency of Cost	✓
	Prudency of Standard	✓
	Prudency of Scope	✓
Overall prudency assessment		
The replacement of the failed harmonic fixture was urgent work which needed to be completed quickly to ensure reliability of the network. Although the process did not go out to tender an exception was sought in the circumstances and due to the criticality of the work this was considered within the prudency requirements.		

Business Case	June 2011
Project Completion Date	Ongoing
Has the project achieved financial completion	No

Has the project been considered by the QCA for RAB approval previously	Yes
Commissioning or evidence of completion sited	No

Financial Year	Total claimable expenditure	Interest During Construction (IDC)	Total claimable expenditure
2012-2013	\$158,784	-\$4,098	\$ 154,686
2011-2012			\$115,904
		TOTAL COSTS	\$ 270,590

Project Name: Overheads Renewal Rocklands to Callemondah

Project Number: A 03896

Summary of Prudency Assessment and General Project Information

Type of project	Electrical	-
Schedule	Schedule 5	-
Does the project have direct links to or directly follows from on any other project	No	-
Were sufficient details provided to accurately determine the location of the project within the CQCR	Yes	1
Was the amount of expenditure accurately and clearly provided (including sufficient breakdown to determine reasonableness)	Further information was requested and received.	1

Was there sufficient demonstration of prudency of capital expenditure in accordance with Clauses 2 and 3 of Schedule – refer to Section 1, 2, 3 of this form	Prudency of Cost	✓
	Prudency of Standard	✓
	Prudency of Scope	✓
Overall prudency assessment		
The innovations in this project, specifically the PVC nest deterrents are a cost effective solution. Overall the project is considered prudent.		

Project Commissioning Date	February 2012
Project Completion Date	June 2012
Has the project achieved financial completion	Yes

Has the project been considered by the QCA for RAB approval	Yes
Commissioning or evidence of completion sited	Yes

Financial Year	Total claimable expenditure	Interest During Construction (IDC)	Total claimable expenditure	
Cost details of the claim	2012-2013	\$1,226,168	40,385	\$1,266,553
Previous claims if applicable	2011-2012			\$3,271,351
			TOTAL COSTS	\$4,537,904

Project Name: OH Equipment Renewal Blackwater FY13

Project Number: A 04214

Summary of Prudency Assessment and General Project Information

Type of project	Electrical	-	Was there sufficient demonstration of prudency of capital expenditure in accordance with Clauses 2 and 3 of Schedule – refer to Section 1, 2, 3 of this form	Prudency of Cost	✓
Schedule	Schedule 5	-		Prudency of Standard	✓
Does the project have direct links to or directly follows from on any other project	No	-		Prudency of Scope	✓
Were sufficient details provided to accurately determine the location of the project within the CQCR	48.796km on Blackwater system – areas provided (original scope 38km areas provided)	1	Overall prudency assessment		
Was the amount of expenditure accurately and clearly provided (including sufficient breakdown to determine reasonableness of major components against industry benchmark costs)	Overall totals considered generally prudent in terms of comparison with industry expectations, but SAP recording inconsistent	1	Overall project is considered prudent as the renewal of deteriorating and life expired OH components is critical to efficient and reliable network operations and greatly reduces maintenance costs.		
Minor Funding Request	June 2012		Has the project been considered by the QCA for RAB approval previously Commissioning or evidence of completion sited	No	
Project Completion Date	November 2012			Yes	
Has the project achieved financial completion	Yes				
Cost details of the claim	Financial Year	Total claimable expenditure	Interest During Construction (IDC)	Total claimable expenditure	
	2012-2013	\$1,895,576	-7,371	\$1,888,206	
Previous claims if applicable	n/a			n/a	
			TOTAL COSTS	\$1,888,206	

Project Name: Millennium Balloon Loop Upgrade

Project Number: A 04215

Summary of Prudency Assessment and General Project Information

Type of project	Electrical	-
Schedule	Schedule 5	-
Does the project have direct links to or directly follows from on any other project	No, but similar works to 04214	-
Were sufficient details provided to accurately determine the location of the project within the CQCR	65km on Goonyella system – areas provided (original scope)	1
Was the amount of expenditure accurately and clearly provided (including sufficient breakdown to determine reasonableness of major components against industry benchmark costs)	Overall totals considered generally prudent in terms of comparison with industry expectations, but SAP recording inconsistent	1

Minor Funding Request	June 2012
Project Completion Date	June 2013
Has the project achieved financial completion	No

Financial Year	Total claimable expenditure	Interest During Construction (IDC)	Total claimable expenditure
2012-2013	\$3,044,967	-24,390	\$3,020,577
Previous claims if applicable	n/a		n/a
		TOTAL COSTS	\$3,020,577

Was there sufficient demonstration of prudency of capital expenditure in accordance with Clauses 2 and 3 of Schedule – refer to Section 1, 2, 3 of this form	Prudency of Cost	✓
	Prudency of Standard	✓
	Prudency of Scope	✓
Overall prudency assessment		
Overall project is considered prudent as the renewal of deteriorating and life expired OH components is critical to efficient and reliable network operations and greatly reduces maintenance costs. Aurizon Network have implemented greater efficiencies in the scoping and project management of these works going forward, which is felt will increase the overall prudency in terms of value add within these type of projects.		

Has the project been considered by the QCA for RAB approval previously	No
Commissioning or evidence of completion sited	Yes, approx. 70% areas that completed, but others ongoing

Summary of Prudency Assessment and General Project Information

Type of project	S&TSS	-	Was there sufficient demonstration of prudency of capital expenditure in accordance with Clauses 2 and 3 of Schedule – refer to Section 1, 2, 3 of this form	Prudency of Cost	✓
Schedule	Schedule 6	-		Prudency of Standard	✓
Does the project have direct links to or directly follows from on any other project	No	-		Prudency of Scope	✓
Were sufficient details provided to accurately determine the location of the project within the CQCR	Blackwater System	1		Overall prudency assessment	
Was the amount of expenditure accurately and clearly provided (including sufficient breakdown to determine reasonableness of major components against industry benchmark costs)	Yes	1		Train delay data indicated that fault delays on turnouts due to turnout lubricant issues totaled over 4,000 minutes per annum. Overall project is prudent to mitigate the risks of failure of these components and increase operational efficiencies.	
Business Case	January 2009		Has the project been considered by the QCA for RAB approval previously Commissioning or evidence of completion sited	Yes	
Project Completion Date	June 2013			No	
Has the project achieved financial completion	Ongoing				
Cost details of the claim	Financial Year	Total claimable expenditure	Interest During Construction (IDC)	Total claimable expenditure	
Previous claims if applicable	2012-2013	\$524,835	-552	\$ 524,283	
	2011-2012			\$1,757,152	
	TOTAL COSTS			\$2,281,435	

Project Name: Track Circuit and Points Refurbishment

Project Number: A 03831

Summary of Prudency Assessment and General Project Information

Type of project	S & T SS	-
Schedule	Schedule 6	-
Does the project have direct links to or directly follow from on any other project	Yes – A.02117, A.03761, A.03792, A.03807	-
Were sufficient details provided to accurately determine the location of the project within the CQCR	Yes	1
Was the amount of expenditure accurately and clearly provided (including sufficient breakdown to determine reasonableness of major components against industry benchmark costs)	Yes	1

Was there sufficient demonstration of prudency of capital expenditure in accordance with Clauses 2 and 3 of Schedule – refer to Section 1, 2, 3 of this form	Prudency of Cost	✓
	Prudency of Standard	✓
	Prudency of Scope	✓
Overall prudency assessment		
Overall the works enhanced the flood mitigation protection for some 2km rail embankment (bringing flood mitigation levels at that point in line with adjacent infrastructure) and facilitated access to rail corridor in wet conditions. Overall the project is considered prudent in cost, standard and scope		

Project Commissioning Date	February 2012
Project Completion Date	June 2013
Has the project achieved financial completion	Yes

Has the project been considered by the QCA for RAB approval previously	Yes
Commissioning or evidence of completion sited	No

Financial Year	Total claimable expenditure	Applicable interest during construction (IDC)	Total claimable expenditure
2012-2013	\$224,740	\$6,409	\$ 231,149
Previous claims if applicable	N/A		\$6,919,000
		TOTAL COSTS	\$7,150,149

Project Name: Weather Stations in the Blackwater System

Project Number: A 03979

Summary of Prudency Assessment and General Project Information

Type of project	S&TSS	-
Schedule	6	-
Does the project have direct links to or directly follows from on any other project	No	-
Were sufficient details provided to accurately determine the location of the project within the CQCR	Yes – Blackwater System	1
Was the amount of expenditure accurately and clearly provided (including sufficient breakdown to determine reasonableness of major components against industry benchmark costs)	Yes	1

Was there sufficient demonstration of prudency of capital expenditure in accordance with Clauses 2 and 3 of Schedule – refer to Section 1,2 3 of this form	Prudency of Cost	✓
	Prudency of Standard	✓
	Prudency of Scope	✓
Overall prudency assessment		
Overall the project is prudent as it is considered that the solution and submitted costs for the implementation of equipment that provides up to date safety critical information on the state of the network, especially in regards to flood warning data, are prudent.		

Minor Funding Request	October 2011 - \$201,000
Project Completion Date	May 2012
Has the project achieved financial completion	Yes

Has the project been considered by the QCA for RAB approval previously	No
Commissioning or evidence of completion sited	No

Financial Year	Total claimable expenditure	Interest During Construction (IDC)	Total claimable expenditure	
Cost details of the claim	2012-2013	\$180,898	4,176	\$185,074
Previous claims if applicable	n/a			n/a
			TOTAL COSTS	\$185,074

Project Name: Level Crossing Protection System

Project Number: A 04023

Summary of Prudency Assessment and General Project Information

Type of project	S & TSS	-
Schedule	6	-
Does the project have direct links to or directly follow from on any other project	No	-
Were sufficient details provided to accurately determine the location of the project within the CQCR	Yes – 2 specified high risk level crossings	1
Was the amount of expenditure accurately and clearly provided (including sufficient breakdown to determine reasonableness of major components against industry benchmark costs)	Yes	1

Was there sufficient demonstration of prudency of capital expenditure in accordance with Clauses 2 and 3 of Schedule A – refer to Section 1, 2, 3 of this form	Prudency of Cost	✓
	Prudency of Standard	✓
	Prudency of Scope	✓
Overall prudency assessment		
From information provided project is considered prudent in cost, standard and scope.		

Minor Funding Request	November 2011 - \$2,000,000 March 2013 - \$588,000
Project Completion Date	Not known
Has the project achieved financial completion	Yes

Has the project been considered by the QCA for RAB approval previously	Yes
Commissioning or evidence of completion sited	Not sighted

Financial Year	Total claimable expenditure	Interest During Construction (IDC)	Total claimable expenditure (inc IDC)	
Cost details of the claim	2012-2013	\$1,026,703	\$-8,490	\$1,018,214
Previous claims if applicable	n/a			\$1,505,068
			TOTAL COSTS	\$2,523,282

Project Name: Provision of split detection system - Blackwater

Project Number: A 04065

Summary of Prudency Assessment and General Project Information

Type of project	S&TSS	-
Schedule	Schedule 6	-
Does the project have direct links to or directly follows from on any other project	No	-
Were sufficient details provided to accurately determine the location of the project within the CQCR	Yes	1
Was the amount of expenditure accurately and clearly provided (including sufficient breakdown to determine reasonableness of major components against industry benchmark costs)	Some inconsistencies in the reporting however overall totals appear reasonable for scope achieved.	1

Was there sufficient demonstration of prudency of capital expenditure in accordance with Clauses 2 and 3 of Schedule – refer to Section 1,2 and 3 of this form	Prudency of Cost	✓
	Prudency of Standard	✓
	Prudency of Scope	✓
Overall prudency assessment		
Although there appears to be inconsistencies in the SAP reporting this are minor and the overall project costs in terms of scope delivered appears reasonable. From the information assessed CMT considers that overall the project is prudent.		

Minor Funding Request	April 2012 - \$225,000	
Project Completion Date	June 2013	
Has the project achieved financial completion	No	

Has the project been considered by the QCA for RAB approval previously	No
Commissioning or evidence of completion sited	No

Financial Year	Total claimable expenditure	Interest During Construction (IDC)	Total claimable expenditure
2012-2013	\$160,399	-\$462	\$159,937
Previous claims if applicable	n/a		n/a
		TOTAL COSTS	\$159,937

Project Name: BW Model 10 Harmonic Boom Mechanism Replacement

Project Number: A 04066

Summary of Prudency Assessment and General Project Information

Type of project	S&TSS	-	Was there sufficient demonstration of prudency of capital expenditure in accordance with Clauses 2 and 3 of Schedule – refer to Section 1, 2, 3 of this form	Prudency of Cost	✓	
Schedule	Schedule 6	-		Prudency of Standard	✓	
Does the project have direct links to or directly follows from on any other project	No	-		Prudency of Scope	✓	
Were sufficient details provided to accurately determine the location of the project within the CQCR	Yes, locations on the Blackwater System were provided in the PMP Scope of work.	1		Overall prudency assessment		
Was the amount of expenditure accurately and clearly provided (including sufficient breakdown to determine reasonableness of major components against industry benchmark costs)	Yes, SAP report provided	1		Improving the reliability of signaling infrastructure and replacing unsupported and life expired components is considered prudent. Overall the project is assessed as prudent in cost, standard and scope.		

Minor Funding Request	March 2012 - \$260,000	Has the project been considered by the QCA for RAB approval previously	No
Project Completion Date	Ongoing	Commissioning or evidence of completion sited	No
Has the project achieved financial completion	No		

Financial Year	Total claimable expenditure	Applicable interest during construction (IDC)	Total claimable expenditure	
Cost details of the claim	2012-2013	\$115,164	-\$814	\$114,350
Previous claims if applicable	n/a			n/a
			TOTAL COSTS	\$114,350

Project Name: POSS Points Condition Monitors

Project Number: A 04074

Summary of Prudency Assessment and General Project Information

Type of project	S & TSS	-
Schedule	Schedule 6	-
Does the project have direct links to or directly follow from on any other project	Yes A.04296	-
Were sufficient details provided to accurately determine the location of the project within the CQCR	Goonyella System	1
Was the amount of expenditure accurately and clearly provided (including sufficient breakdown to determine reasonableness of major components against industry benchmark costs)	Yes	1

Was there sufficient demonstration of prudency of capital expenditure in accordance with Clauses 2 and 3 of Schedule – refer to Section 1,2, and 3 of this form	Prudency of Cost	✓
	Prudency of Standard	✓
	Prudency of Scope	✓
Overall prudency assessment		
Based on upon the information provided the project is considered prudent in standard, scope and cost.		

Minor Funding Request	April 2012	
Project Completion Date	Project ongoing	
Has the project achieved financial completion	No	

Has the project been considered by the QCA for RAB approval previously	No
Commissioning or evidence of completion sited	No

Financial Year	Total claimable expenditure	Applicable interest during construction (IDC)	Total claimable expenditure	
Cost details of the claim	2012-2013	\$1,167,795	\$-31,939	\$1,135,856
Previous claims if applicable	N/A			n/a
			TOTAL COSTS	\$1,135,856

Project Name: Duaringa Flood Detection System

Project Number: A 04151

Summary of Prudency Assessment and General Project Information

Type of project	S & TSS	-
Schedule	Schedule 6	-
Does the project have direct links to or directly follow from on any other project	No	-
Were sufficient details provided to accurately determine the location of the project within the CQCR	Yes – Blackwater system	1
Was the amount of expenditure accurately and clearly provided (including sufficient breakdown to determine reasonableness of major components against industry benchmark costs)	Yes	1

Was there sufficient demonstration of prudency of capital expenditure in accordance with Clauses 2 and 3 of Schedule A – refer to Section 1, 2 and 3 of this form	Prudency of Cost	✓
	Prudency of Standard	✓
	Prudency of Scope	✓
Overall prudency assessment		
It is considered that the project works and costs to an existing automated flood protection and provide updates of critical safety equipment is prudent. The installation of this equipment will facilitate the re-establishment of operations over the network post a major flood event.		
Overall the project is considered prudent in cost, standard and scope		

Feasibility Investment Approval Request	March 2012 - \$295,000
Project Completion Date	Ongoing
Has the project achieved financial completion	No

Has the project been considered by the QCA for RAB approval previously	No
Commissioning or evidence of completion sited	No

Financial Year	Total claimable expenditure	Applicable interest during construction (IDC)	Total claimable expenditure	
Cost details of the claim	2012-2013	\$185,356	-2,741	\$182,615
Previous claims if applicable	N/A			N/A
			TOTAL COSTS	\$182,615

Project Name: Digital T121 track Circuit Upgrade – Coppabella to Haypoint

Project Number: A 04190

Summary of Prudency Assessment and General Project Information

Type of project	S & TSS	-
Schedule	6	-
Does the project have direct links to or directly follow from on any other project	No	-
Were sufficient details provided to accurately determine the location of the project within the CQCR	Yes	1
Was the amount of expenditure accurately and clearly provided (including sufficient breakdown to determine reasonableness of major components against industry benchmark costs)	Yes	1

Was there sufficient demonstration of prudency of capital expenditure in accordance with Clauses 2 and 3 of Schedule A – refer to Section 1, 2, 3 of this form	Prudency of Cost	✓
	Prudency of Standard	✓
	Prudency of Scope	✓
Overall prudency assessment		
From the information provided the project is considered prudent in cost, standard and scope		

Minor Funding request	May 2012
Project Completion Date	Ongoing
Has the project achieved financial completion	No

Has the project been considered by the QCA for RAB approval previously	No
Commissioning or evidence of completion sited	Ongoing

Financial Year	Total claimable expenditure	Interest During Construction (IDC)	Total claimable expenditure (inc IDC)
2012-2013	\$3,081,519	\$-1,852	\$3,079,667
Previous claims if applicable	n/a		n/a
TOTAL COSTS			\$3,079,667

Project Name: CDS Rail Points Condition Monitoring

Project Number: A 04296

Summary of Prudency Assessment and General Project Information

Type of project	S & TSS	-
Schedule	Schedule 6	-
Does the project have direct links to or directly follow from on any other project	Yes A.04094	-
Were sufficient details provided to accurately determine the location of the project within the CQCR	Goonyella System	1
Was the amount of expenditure accurately and clearly provided (including sufficient breakdown to determine reasonableness of major components against industry benchmark costs)	Yes	1

Was there sufficient demonstration of prudency of capital expenditure in accordance with Clauses 2 and 3 of Schedule A – refer to Section 1, 2 and 3 of this form	Prudency of Cost	✓
	Prudency of Standard	✓
	Prudency of Scope	✓
Overall prudency assessment		
Based on upon the information provided the project is considered prudent in standard, scope and cost.		

Minor Funding Request	March 2013
Project Completion Date	Project ongoing
Has the project achieved financial completion	No

Has the project been considered by the QCA for RAB approval previously	No
Commissioning or evidence of completion sited	No

Financial Year	Total claimable expenditure	Applicable interest during construction (IDC)	Total claimable expenditure	
Cost details of the claim	2012-2013	\$1,136,383	-41,134	\$1,095,249
Previous claims if applicable	N/A			n/a
TOTAL COSTS				\$1,095,249

Project Name: Train Control Disaster Recovery

Project Number: A 03931

Summary of Prudency Assessment and General Project Information

Type of project	Telecoms	-
Schedule	Schedule 7	-
Does the project have direct links to or directly follow from on any other project	Yes. This is stage 2 of flood reparation works on the Rolleston line branch due to flooding of the Comet River	1
Were sufficient details provided to accurately determine the location of the project within the CQCR	Yes. Rockhampton and Mackay control centres, and system wide.	1
Was the amount of expenditure accurately and clearly provided (including sufficient breakdown to determine reasonableness of major components against industry benchmark costs)	Yes, as defined in the Strategy Definition Document of 9 th March 2012.	1

Was there sufficient demonstration of prudency of capital expenditure in accordance with Clauses 2 and 3 of Schedule – refer to Section 1,2, and 3 of this form	Prudency of Cost	✓
	Prudency of Standard	✓
	Prudency of Scope	✓
Overall prudency assessment		
This project provides dual control centre capability at both Rockhampton and Mackay. Normally control will be operated from Rockhampton with the alternative facility becoming live if Rockhampton should be off line. It is possible this duplicate facility may never be required but, given the criticality of continuity of train control for the wider supply chain the provision of this facility is considered to be prudent.		

Minor Funding Request	November 2011 - \$5,300,000 June 2012 – IAR - \$13,500,000
Project Completion Date	Ongoing
Has the project achieved financial completion	No

Has the project been considered by the QCA for RAB approval previously	No
Commissioning or evidence of completion sited	No

Financial Year	Total claimable expenditure	Applicable interest during construction (IDC)	Total claimable expenditure	
Cost details of the claim	2012-2013	\$14,110,629	\$358,362	\$14,468,991
Previous claims if applicable	n/a			n/a
			TOTAL COSTS	\$14,468,991

Project Name: ION Meter Installation Upgrade - Final

Project Number: A 03960

Summary of Prudency Assessment and General Project Information

Type of project	Telecoms	-	Was there sufficient demonstration of prudency of capital expenditure in accordance with Clauses 2 and 3 of Schedule A – refer to Section 1, 2 and 3 of this form?	Prudency of Cost	✓
Schedule	Schedule 7	-		Prudency of Standard	✓
Does the project have direct links to or directly follow from on any other project	No	1		Prudency of Scope	✓
Were sufficient details provided to accurately determine the location of the project within the CQCR	Yes - system wide at specified locations	1		Overall prudency assessment	
Was the amount of expenditure accurately and clearly provided (including sufficient breakdown to determine reasonableness of major components against industry benchmark costs)	Yes	1		Installation of remotely accessed equipment to record parameters of the traction and electrical systems is considered to be prudent.	
Minor Funding Request	Nil		Has the project been considered by the QCA for RAB approval previously	Yes	
Project Completion Date	Ongoing		Commissioning or evidence of completion sited	Sample commissioning documentation made available for review.	
Has the project achieved financial completion	No				
Cost details of the claim	Financial Year	Total claimable expenditure	Applicable interest during construction (IDC)	Total claimable expenditure	
	2012-2013	\$556,205	\$6,663	\$ 562,868	
Previous claims if applicable	2011-2012			\$ 763,660	
			TOTAL COSTS	\$1,326,528	

Project Name: O/F Transmission Network Upgrade Rockhampton to Gladstone

Project Number: A 03978

Summary of Prudency Assessment and General Project Information

Type of project	Telecoms	-	Was there sufficient demonstration of prudency of capital expenditure in accordance with Clauses 2 and 3 of Schedule A – refer to Section 1, 2, and 3 of this form	Prudency of Cost	✓
Schedule	Schedule 7	-		Prudency of Standard	✓
Does the project have direct links to or directly follow from on any other project	No	-		Prudency of Scope	✓
Were sufficient details provided to accurately determine the location of the project within the CQCR	Yes	1		Overall prudency assessment	
Was the amount of expenditure accurately and clearly provided (including sufficient breakdown to determine reasonableness of major components against industry benchmark costs)	Yes	1		From the information provided CMT considers that the project is considered prudent in cost, standard and scope	

Minor Funding Request	December 2011	Has the project been considered by the QCA for RAB approval previously Commissioning or evidence of completion sited	No
Project Completion Date	Ongoing		No
Has the project achieved financial completion	No		

Financial Year	Total claimable expenditure	Applicable interest during construction (IDC)	Total claimable expenditure	
Cost details of the claim	2012-2013	\$ 2,161,065	\$-4,082	\$2,156,983
Previous claims if applicable	N/A			NA
			TOTAL COSTS	\$2,156,983

Project Name: Dual Telemetry Upgrade

Project Number: A 04111

Summary of Prudency Assessment and General Project Information

Type of project	Telecoms	-
Schedule	Schedule 7	-
Does the project have direct links to or directly follow from on any other project	Yes – A.04124	1
Were sufficient details provided to accurately determine the location of the project within the CQCR	Yes – system wide	1
Was the amount of expenditure accurately and clearly provided (including sufficient breakdown to determine reasonableness of major components against industry benchmark costs)	Yes	1

Was there sufficient demonstration of prudency of capital expenditure in accordance with Clauses 2 and 3 of Schedule A– refer to Section 1, 2 and 3 of this form	Prudency of Cost	✓
	Prudency of Standard	✓
	Prudency of Scope	✓
Overall prudency assessment		
Upgrade of obsolete telemetry systems with modern replacement capability is considered to be prudent.		

Minor Funding Request	April 2012 - \$9,080,000
Project Completion Date	Ongoing
Has the project achieved financial completion	No

Has the project been considered by the QCA for RAB approval previously	No
Commissioning or evidence of completion sited	No

Financial Year	Total claimable expenditure	Applicable interest during construction (IDC)	Total claimable expenditure
2012-2013	\$2,616,676	-24,231	\$2,592,446
2011-2012			n/a
TOTAL COSTS			\$2,592,446

Project Name: S1 – S2 Telemetry Upgrade

Project Number: A 04124

Summary of Prudency Assessment and General Project Information

Type of project	Telecoms	-	Was there sufficient demonstration of prudency of capital expenditure in accordance with Clauses 2 and 3 of Schedule A – refer to Section 1, 2 and 3 of this form?	Prudency of Cost	✓
Schedule	Schedule 7	-		Prudency of Standard	✓
Does the project have direct links to or directly follow from on any other project	Yes – A.04111	1		Prudency of Scope	✓
Were sufficient details provided to accurately determine the location of the project within the CQCR	Yes – system wide	1		Overall prudency assessment	
Was the amount of expenditure accurately and clearly provided (including sufficient breakdown to determine reasonableness of major components against industry benchmark costs)	Yes, at overall level, but insufficient breakdown provided to deduce spend at any given location.	1		Upgrade of obsolete single telemetry systems with dual telemetry capability is considered to be prudent.	

Minor Funding Request	April 2012 - \$2,303,000	Has the project been considered by the QCA for RAB approval previously Commissioning or evidence of completion sited	No
Project Completion Date	Ongoing		No
Has the project achieved financial completion	No		

Financial Year	Total claimable expenditure	Applicable interest during construction (IDC)	Total claimable expenditure
2012-2013	\$1,036,452	\$2,990	\$1,039,442
Previous claims if applicable	2011-2012		n/a
TOTAL COSTS			\$1,039,442

Summary of Prudency Assessment and General Project Information

Type of project	Corridor	-
Schedule	8	-
Does the project have direct links to or directly follow from on any other project	Yes – this project is related to coal dust and fouling investigations, A.02262 and A.02416.	1
Were sufficient details provided to accurately determine the location of the project within the CQCR	No. km locations of potential monitoring stations not given but following the site visit it is understood that these may not have been known in the early stages of the project.	2
Was the amount of expenditure accurately and clearly provided (including sufficient breakdown to determine reasonableness of major components against industry benchmark costs)	No. it is understood that competitive tendering was undertaken (in previous years) for some elements of the project work but no evidence of this has been provided.	2

Was there sufficient demonstration of prudency of capital expenditure in accordance with Clauses 2 and 3 of Schedule A – refer to Section 1, 2, 3 of this form	Prudency of Cost	✓
	Prudency of Standard	✓
	Prudency of Scope	✓
Overall prudency assessment		
The project scope was developed to address accelerated ballast deterioration due to spillage of coal and loss of dust during transit along the rail corridor, and to ensure compliance with environmental legislation. The expenditure is therefore considered to be prudent.		

Minor Funding request	No MFR but: Business Case – August 2008 - \$920,000 Business Case – April 2009 - \$1,920,000 Business Case – December 2011 - \$1,600,000
Project Completion Date	Ongoing
Has the project achieved financial completion	No

Has the project been considered by the QCA for RAB approval previously	Yes
Commissioning or evidence of completion sighted	No

Financial Year	Total claimable expenditure	Interest During Construction (IDC)	Total claimable expenditure
2012-2013	\$535,924	-21,406	\$ 514,518
2011-2012			\$2,417,325
TOTAL COSTS			\$2,931,843

Summary of Prudency Assessment and General Project Information

Type of project	Corridor	-
Schedule	8	-
Does the project have direct links to or directly follow from on any other project	Yes – closure of Somerset Road and Malchi Road level crossings is related to completion of A.03929, Gracemere Overbridge.	1
Were sufficient details provided to accurately determine the location of the project within the CQCR	Yes – this is a system wide project with specific level crossings identified.	1
Was the amount of expenditure accurately and clearly provided (including sufficient breakdown to determine reasonableness of major components against industry benchmark costs)	Yes	1

Was there sufficient demonstration of prudency of capital expenditure in accordance with Clauses 2 and 3 of Schedule A – refer to Section 1, 2, 3 of this form	Prudency of Cost	✓
	Prudency of Standard	✓
	Prudency of Scope	✓
Overall prudency assessment		
The various elements of this project combined create a safety improvement at high risk level crossings across the coal network. The expenditure is therefore considered to be prudent.		

Minor Funding request	March 2013 - \$3,017,000
Project Completion Date	Ongoing
Has the project achieved financial completion	No

Has the project been considered by the QCA for RAB approval previously	Yes, but was withdrawn by Aurizon.
Commissioning or evidence of completion sited	No

Financial Year	Total claimable expenditure	Interest During Construction (IDC)	Total claimable expenditure
2012-2013	\$2,679,840	\$264,461	\$2,943,940
Previous claims if applicable	n/a		n/a
		TOTAL COSTS	\$2,943,940

Project Name: Private/QRN Level Crossing Infrastructure

Project Number: A 03709

Summary of Prudency Assessment and General Project Information

Type of project	Corridor	-
Schedule	8	-
Does the project have direct links to or directly follow from on any other project	No	1
Were sufficient details provided to accurately determine the location of the project within the CQCR	Yes – this is a system wide project at discreet level crossing locations.	1
Was the amount of expenditure accurately and clearly provided (including sufficient breakdown to determine reasonableness of major components against industry benchmark costs)	Yes, but the scope was varied, to correct identified deficiencies in the level crossing stock, after initial approval was received.	1

Was there sufficient demonstration of prudency of capital expenditure in accordance with Clauses 2 and 3 of Schedule A – refer to Section 1, 2, 3 of this form	Prudency of Cost	✓
	Prudency of Standard	✓
	Prudency of Scope	✓
Overall prudency assessment		
The various elements of this project enabled Aurizon to meet legal requirements and improve level crossing safety. The expenditure is therefore considered to be prudent.		

Minor Funding request	May 2011 - \$2,330,000 August 2011 - \$1,240,000
Project Completion Date	Ongoing
Has the project achieved financial completion	No

Has the project been considered by the QCA for RAB approval previously	No
Commissioning or evidence of completion sighted	No but final invoice for consultants sighted.

Financial Year	Total claimable expenditure	Interest During Construction (IDC)	Total claimable expenditure	
Cost details of the claim	2012-2013	\$3,420,888	\$179,821	\$3,600,709
Previous claims if applicable	2011-2012			n/a
			TOTAL COSTS	\$3,600,709

Project Name: Crew Change Pads & Storage Locations

Project Number: A 03627, 03676, 03876

Summary of Prudency Assessment and General Project Information

Type of project	Corridor	-	Was there sufficient demonstration of prudency of capital expenditure in accordance with Clauses 2 and 3 of Schedule A – refer to Section 1, 2 and 3 of this form	Prudency of Cost	✓
Schedule	Schedule 8	-		Prudency of Standard	✓
Does the project have direct links to or directly follows from on any other project	Yes these are three out of four projects over the Aurizon Network which deal with the establishment of crew change pads. These projects apply to the Blackwater, Goonyella and Moura systems. The fourth project for Newlands is minor in comparison and has not been included in this review.	-		Prudency of Scope	✓
Were sufficient details provided to accurately determine the location of the project within the CQCR	Yes. The projects assessed on this form apply to Goonyella, Blackwater and Moura Corridor	1	Overall prudency assessment		
Was the amount of expenditure accurately and clearly provided (including sufficient breakdown to determine reasonableness of major components against industry benchmark costs)	Yes	1	The implementation of a safe solution for walking platforms for crew change and safe stowage of trains will increase safety on the network in addition to complying with the requirements of the Access Agreements and Operating Plans between Aurizon and respective operators. As such the solution is considered prudent.		
Minor Funding Request Goonyella	July 2011 \$1,100,000:	May 2012 \$6,355,000	Has the project been considered by the QCA for RAB approval previously	No	
Minor Funding Request Blackwater	March 2012 \$9,422,000	July 2011 \$153,000			
Minor Funding Request Moura	November 2010 \$100,000	May 2012 \$1,721,000			
Project Completion Date	June 2013		Commissioning or evidence of completion sited	No	
Has the project achieved financial completion	No				
Cost details of the claim – Goonyella (3627)	Financial Year	Total claimable expenditure	Applicable interest during construction (IDC)	Total claimable expenditure	
Blackwater (3676)	2012-2013	\$2,146,304	90,688	\$ 2,236,992	
Moura (3876)	2012-2013	\$4,871,903	176,656	\$5,048,559	
	2012-2013	\$732,896	17,927	\$750,823	
			TOTAL COSTS	\$ 8,036,374	

Summary of Prudency Assessment and General Project Information

Type of project	Corridor	-
Schedule	8	-
Does the project have direct links to or directly follow from on any other project	No	1
Were sufficient details provided to accurately determine the location of the project within the CQCR	Yes – the location for this project is a private dwelling.	1
Was the amount of expenditure accurately and clearly provided (including sufficient breakdown to determine reasonableness of major components against industry benchmark costs)	Yes	1

Was there sufficient demonstration of prudency of capital expenditure in accordance with Clauses 2 and 3 of Schedule A – refer to Section 1, 2, 3 of this form	Prudency of Cost	✓
	Prudency of Standard	✓
	Prudency of Scope	✓
Overall prudency assessment		
This work, undertaken on a private dwelling, avoided the need to construct and maintain a length of noise barrier within the operational corridor. The expenditure is therefore considered to be prudent.		

Minor Funding request	June 2011 - \$140,000
Project Completion Date	Believed to be November 2012
Has the project achieved financial completion	Yes

Has the project been considered by the QCA for RAB approval previously	No
Commissioning or evidence of completion sighted	No

Financial Year	Total claimable expenditure	Interest During Construction (IDC)	Total claimable expenditure	
Cost details of the claim	2012-2013	\$101,376	\$3,205	\$104,581
Previous claims if applicable	2011-2012			n/a
TOTAL COSTS				
				\$104,581

Project Name: Access road upgrade Goowarra to Dingo and Umolo

Project Number: A 03879

Summary of Prudency Assessment and General Project Information

Type of project	Corridor	-
Schedule	Schedule 8	-
Does the project have direct links to or directly follows from on any other project	No	-
Were sufficient details provided to accurately determine the location of the project within the CQCR	Yes	1
Was the amount of expenditure accurately and clearly provided (including sufficient breakdown to determine reasonableness of major components against industry benchmark costs)	Additional information was required to satisfy requirements and was submitted in accordance with prudency requirements	1

Was there sufficient demonstration of prudency of capital expenditure in accordance with Clauses 2 and 3 of Schedule A – refer to Section 1, 2 and 3 of this form	Prudency of Cost	✓
	Prudency of Standard	✓
	Prudency of Scope	✓
Overall prudency assessment		
Cost of the works generally in line with industry expectations in railway environments and the upgrade of access a safety critical requirement. Overall assessed as being prudent.		

Minor Funding Request	August 2011 – MFR - \$237,000 July 2012 – BC - \$103,000
Project Completion Date	September 2012
Has the project achieved financial completion	Yes Closed in November 2012

Has the project been considered by the QCA for RAB approval previously	Yes
Commissioning or evidence of completion sited	No

Financial Year	Total claimable expenditure	Applicable interest during construction (IDC)	Total claimable expenditure
2012-2013	\$113,111	-1,968	\$111,143
Previous claims if applicable			\$219,722
TOTAL COSTS			\$330,865

Project Name: Security Fencing - Coppabella and Dingo Yards

Project Number: A 04022

Summary of Prudency Assessment and General Project Information

Type of project	Corridor	-
Schedule	Schedule 8	-
Does the project have direct links to or directly follows from on any other project	No	-
Were sufficient details provided to accurately determine the location of the project within the CQCR	Yes	1
Was the amount of expenditure accurately and clearly provided (including sufficient breakdown to determine reasonableness of major components against industry benchmark costs)	Yes	1

Was there sufficient demonstration of prudency of capital expenditure in accordance with Clauses 2 and 3 of Schedule A – refer to Section 1, 2 and 3 of this form	Prudency of Cost	✓
	Prudency of Standard	✓
	Prudency of Scope	✓
Overall prudency assessment		
Scope did undergo a number of minor changes which although accommodated within the existing funding did initiate some concerns in relation to the original planning and scoping procedure. It is recommended that greater diligence in this initial scoping is taken in the future. However the total cost of the works is considered within a reasonable range for the final scope and the works are critical to provide safe train and public separation. Hence overall the project is considered prudent.		

Minor Funding Request	February 2012 - \$522,000
Project Completion Date	Ongoing
Has the project achieved financial completion	No

Has the project been considered by the QCA for RAB approval previously	No
Commissioning or evidence of completion sited	No

Financial Year	Total claimable expenditure	Applicable interest during construction (IDC)	Total claimable expenditure	
Cost details of the claim	2012-2013	\$406,222	8,067	\$ 414,289
TOTAL COSTS			\$ 414,289	

Project Name: Fencing Upgrade Moura & Blackwater Systems

Project Number: A 04036

Summary of Prudency Assessment and General Project Information

Type of project	Corridor	-
Schedule	8	-
Does the project have direct links to or directly follow from on any other project	No	-
Were sufficient details provided to accurately determine the location of the project within the CQCR	Yes	1
Was the amount of expenditure accurately and clearly provided (including sufficient breakdown to determine reasonableness of major components against industry benchmark costs)	Yes	1

Was there sufficient demonstration of prudency of capital expenditure in accordance with Clauses 2 and 3 of Schedule A – refer to Section 1, 2, 3 of this form	Prudency of Cost	✓
	Prudency of Standard	✓
	Prudency of Scope	✓
Overall prudency assessment		
From the information provided the project is considered prudent in cost, standard and scope		

Minor Funding request	February 2012
Project Completion Date	Ongoing
Has the project achieved financial completion	No

Has the project been considered by the QCA for RAB approval previously	No
Commissioning or evidence of completion sited	Ongoing

Financial Year	Total claimable expenditure	Interest During Construction (IDC)	Total claimable expenditure
2012-2013	\$198,553	6,023	\$ 204,575
Previous claims if applicable	n/a		n/a
TOTAL COSTS			\$ 204,575

Project Name: Upgrade CQ Coal System Fencing (2012/13)

Project Number: A 04044

Summary of Prudency Assessment and General Project Information

Type of project	Corridor	-
Schedule	8	-
Does the project have direct links to or directly follow from on any other project	Yes – fencing project A.04045	1
Were sufficient details provided to accurately determine the location of the project within the CQCR	Yes – system wide.	1
Was the amount of expenditure accurately and clearly provided (including sufficient breakdown to determine reasonableness of major components against industry benchmark costs)	Yes	1

Was there sufficient demonstration of prudency of capital expenditure in accordance with Clauses 2 and 3 of Schedule A – refer to Section 1, 2, 3 of this form	Prudency of Cost	✓
	Prudency of Standard	✓
	Prudency of Scope	✓
Overall prudency assessment		
As the project works ensure compliance with legislation and improve the safety of the corridor the expenditure is considered to be prudent.		

Minor Funding request	March 2012 - \$1,732,000	
Project Completion Date	Ongoing	
Has the project achieved financial completion	No	

Has the project been considered by the QCA for RAB approval previously	No
Commissioning or evidence of completion sighted	No

	Financial Year	Total claimable expenditure	Interest During Construction (IDC)	Total claimable expenditure
Cost details of the claim	2012-2013	\$665,452	\$2,622	\$668,074
Previous claims if applicable	2011-2012			n/a
			TOTAL COSTS	\$668,074

Summary of Prudency Assessment and General Project Information

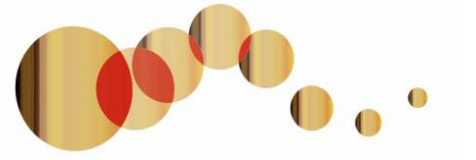
Type of project	Corridor	-
Schedule	8	-
Does the project have direct links to or directly follow from on any other project	Yes – fencing project A.04044	1
Were sufficient details provided to accurately determine the location of the project within the CQCR	Yes – system wide on specified routes.	1
Was the amount of expenditure accurately and clearly provided (including sufficient breakdown to determine reasonableness of major components against industry benchmark costs)	Yes	1

Was there sufficient demonstration of prudency of capital expenditure in accordance with Clauses 2 and 3 of Schedule A – refer to Section 1, 2, 3 of this form	Prudency of Cost	✓
	Prudency of Standard	✓
	Prudency of Scope	✓
Overall prudency assessment		
As the project works ensure compliance with legislation and improve the safety of the corridor the expenditure is considered to be prudent.		

Minor Funding request	February 2012 - \$531,000	
Project Completion Date	Ongoing	
Has the project achieved financial completion	No	

Has the project been considered by the QCA for RAB approval previously	No
Commissioning or evidence of completion sighted	No

Financial Year	Total claimable expenditure	Interest During Construction (IDC)	Total claimable expenditure	
Cost details of the claim	2012-2013	\$396,844	\$12,432	\$409,276
Previous claims if applicable	2011-2012			n/a
	TOTAL COSTS			\$409,276



APPENDIX B

Example of full Assessment Forms

Completed full assessment forms detailing CMT's assessment of individual projects for the Aurizon Network 2012-13 CAPEX can be found in the supplement to this report:

- Aurizon Network Capital Expenditure Review 2012-13 Prudency Assessment Forms

CMT Solutions May 2014



Project Name: ?

Project Number: ?



Summary of Prudency Assessment and General Project Information

Type of project		Was there sufficient demonstration of prudency of capital expenditure in accordance with Clauses 2 and 3 of Schedule A – refer to Section 1, 2, 3 of this form	Prudency of Cost	✓
Schedule			Prudency of Standard	✓
Does the project have direct links to or directly follow from on any other project			Prudency of Scope	✓
Were sufficient details provided to accurately determine the location of the project within the CQCR			Overall prudency assessment	
Was the amount of expenditure accurately and clearly provided (including sufficient breakdown to determine reasonableness of major components against industry benchmark costs)				
Minor Funding request		Has the project been considered by the QCA for RAB approval previously Commissioning or evidence of completion sited		
Project Completion Date				
Has the project achieved financial completion				
Cost details of the claim	Financial Year	Total claimable expenditure	Interest During Construction (IDC)	Total claimable expenditure
Previous claims if applicable				
		TOTAL COSTS		

Project Name: ?

Project Number: ?



Assessment of Prudency in accordance with Clauses 2 and 3 Schedule A.

Table 1 Risk assessment (RA) scoring applied to project assessments

Assessment of information	Risk		
	Project is of high cost (\$10m+) and/or commercial/safety critical with high risks to supply chain if standards/scope/cost are compromised. Project is comprised of components not familiar to Aurizon Network's operations or is outsourced to Alliance or other major contract.	Project is of medium cost (\$5-10m) and comprises of components considered as "business as usual" for Aurizon Network.	Project is low cost (less than \$5m) and of low commercial/safety risk to supply chain.
1. Project fulfils this fully	1	1	1
2. Project fulfils overall prudency requirement but information not supplied or some issues identified.	2	1	1
3. Project fulfils overall prudency requirement but information not supplied and some issues identified.	3	2	1

1. Prudency of Cost

		Comments/Details	RA
Did the project	achieve its major objectives		
Is the project	Within budget		
	Within program		

Project Name: ?



Project Number: ?

The project costs are considered reasonable for scope and standard in relation to:

Project Management

	Approx. percentage from total	Industry projects similar in scale, complexity and type	Prevailing market conditions	Efficient and compliant procurement processes	Comments	RA
Project Management						
Track & Civil/Structural Costs						
Signals and communications						
Overheads						

The project costs are considered reasonable for scope and standard in relation to:

Unit cost rate/km/m/m ²	Industry projects similar in scale, complexity and type	Prevailing market conditions	Efficient and compliant procurement processes	Comment	RA

Capital costs have been managed in an effective manner to optimize and satisfy the requirements for:

Safety during construction

Environmental requirements

Comments/Details	RA

Project Name: ?

Project Number: ?



The minimization of disruption to train operations		
Value for Money of total project costs		
Alignment with supply chain elements		

Overall comment	
-----------------	--

2. Prudence of Scope

		Comments/Details	RA
The project is	below rail infrastructure		
	commissioned in 2012/2013		
	capital expenditure and not maintenance		
	not excessive to reasonable demand		
	creates an asset, or facilitates reduced capital expenditure		
	the asset created is owned by Aurizon Network		
The project is	funded by Aurizon Network		
Justification	Aurizon Network had reasonable grounds to proceed, given the circumstances and information known at the time of the decision		

Project Name: ?

Project Number: ?



		Comments/Details	RA
Specific project Approvals	Customer specific capital expenditure has been approved by the customer concerned		

Overall comment	
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3. Prudency of Standard

		Comments/Details	RA
The project is of	reasonable standard to meet the objective and scope	The work was designed to comply with appropriate QR/Australian standards. Work groups were developed to ensure compliance through ITP/audit reports. Independent inspections were conducted at intervals. All construction was completed to Aurizon Civil Engineering and Construction standards.	1
	consistent with existing standard and configuration of adjacent infrastructure (where the existing infrastructure has been accepted as reasonable) –	The major elements of the work were assessed to be consistent with existing standards and track configurations for the Goonyella lines for required speeds and tonnages.	
	reasonable standard to meet safety and regulatory safety requirements under the Safety regulator and relevant national and state legislation	The work was designed to comply with appropriate QR/Australian standards.	
	consistent with National Codes of Practice/Australian Standard design and construction practices		

Project Name: ?

Project Number: ?



Overall comment	From the information assessed, and from the site inspections conducted, the standard is considered prudent.
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APPENDIX C

Aurizon Network's e-mail in relation to Research & Development Status of Projects



Research & Development (R&D) Benefit – CMT RFI Response

Background

CMT, acting as the QCA's engineering consultant reviewing the 2012/13 Claim have provided a RFI with regard to the R&D costs associated with projects in the 2012/13 CAPEX claim.

Aurizon has prepared this paper as a response to this question and to provide a rationale as to why potential R&D tax offset benefits should not be a consideration in the annual review of Capital Expenditure but rather be considered under other Undertaking mechanisms.

CMT RFI

CMT Provided Aurizon with RFI No. 61 on the 3rd of March 2014. The RFI was as follows

Please confirm which, if any, of the projects included in the claim have designated research and development status for tax purposes

Aurizon Response

Aurizon conducts a review to determine if any of its capital activities could be eligible for a tax off set via an R&D tax concession. This process is as follows:

- Potential R&D projects are identified throughout the financial year and are analysed by Aurizon's external consultants KPMG.
- Once a project has been identified as being eligible to receive the R&D tax concession, the relevant costing analysis is performed and the amount of the R&D claim identified.
- Draft R&D numbers are used in the Group statutory accounts (lodged in August), with Network's contribution being separately identifiable.
- More refined R&D numbers are used in the Group income tax return (lodged 15 Jan 2014), with Network's contribution being separately identifiable.
- The final R&D claim is lodged with AusIndustry in April, if this amount differs from what was lodged in the Group's income tax return, an amendment request is submitted with the ATO.

As at March 2014, whilst the Aurizon R&D claim relating to 2012/13 has been lodged for tax purposes, the final R&D claim with AusIndustry is yet to be lodged. Hence

Based on current estimates, the final value against the 2012/13 claim is a possible \$240,000 tax offset.

Possible tax benefits or offsets are not a consideration of scope development, built standard nor considered in developing & assessing project funding. The timing of finalising any such benefits is also well beyond the

CAPEX claim year to which it relates. As such, any potential tax benefit identified after the fact is not a consideration of the prudence of capital projects in terms of scope, standard or cost and as such should not be a consideration in the review of Capital Expenditure that Aurizon is seeking to have included into the RAB.

The Undertaking does consider tax benefits with relation to capital expenditure as part of the Capital Indicator and Capital Carry Over Account provisions in Schedule A of the Undertaking. This process is summarised below:

- At the commencement of each regulatory period Aurizon forecasts its capital expenditure in the form of the Capital Indicator.
- The Capital Indicator + the value of the RAB at the start of the period is a building block in developing coal reference tariffs.
- During the regulatory period the QCA accepts new CAPEX into the RAB via the annual CAPEX submission process.
- The net difference between the Capital Indicator and the Actual approved CAPEX forms the Capital Carryover Account.
- This account represents the value of CAPEX either over or under recovered within the regulatory period.
- The Capital carry over account is adjusted for depreciation and tax.

Further details can be found in Schedule A, Section 4(c) of the Undertaking.

Conclusion

As possible tax benefits are not a consideration in the development, approval, or delivery of capital activities within Aurizon and there are other existing mechanisms within the Undertaking that account for tax adjustments, any R&D tax offsets against projects in the 2012/13 CAPEX claim should not be a consideration in the review of project prudence.

Prepared

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Endorsed

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