



**Queensland Competition Authority**

**Assessment of QR Networks 2007 – 08 Capital Expenditure**

**Scope, Standards and Cost**

**June 2009**

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## EXECUTIVE SUMMARY

The Queensland Competition Authority (QCA) approved QR Network's 2008 Access Undertaking (Undertaking) for the Central Queensland Coal Region (CQCR) on 23 October 2008. The Undertaking required QR Network to provide details of capital expenditure to be included in the regulatory asset base. QR Network has claimed a capital expenditure amount for the 2007-08 period of \$250.9 million.

Everything Infrastructure (EI) has been engaged by QCA to:

- assess the scope of the asset replacement projects, which have not been pre-approved by customers and which were commissioned in 2007-08;
- review the scope of the customer approved projects commissioned in 2007-08;
- assess the standard of all projects commissioned in 2007-08; and
- assess the reasonableness of costs of all projects commissioned in 2007-08.

The criteria used by EI in reviewing and assessing the scope, standard and costs of the claimed project works were in accordance with the Terms of Reference and schedule FB of the Undertaking.

Based on the information made available, EI made the following observations:

### *Satisfaction of initial criteria*

- all claimed projects, except as listed below, satisfied the initial criteria of being below-rail infrastructure, funded by QR and capital expenditure not maintenance expenditure:
  - Coal systems: SAN replacement – the project replaces an asset that produces external revenue. (amount claimed \$575,623)
- not all claimed projects were fully commissioned and financially complete in 2007-08, including:
  - Coppabella Yard Upgrade (Coppabella to Ingsdon Duplication) (7% of amount claimed of \$26,607,877 still to claim in 08/09); and
  - DBCT 3<sup>rd</sup> Loop (power upgrade component outstanding \$16.5M – installation and commissioning of Electric Feeder Station)

### *Prudence of scope of works*

- the primary documents used to ascertain and verify the assessment of scope were the Business Cases, Project Plans and Project Completion Reports. Where these were provided and fully completed, QR Network was able to unequivocally demonstrate that the assessment criteria for scope of works had been met. In particular, the documentary evidence of the business cases and the requirements for project approval showed that QR Network's processes for project evaluation and selection were being effectively implemented;
- the most common deficiency in the documented project evaluation processes was the lack of demonstrable conceptualising and evaluation of alternatives or options. Whilst most of the projects were part of larger system programs of work, the modelling of alternative strategies to achieve capacity

increases would have been done at the program level and the 2006 Coal Master Plan would have reflected the selected capacity increasing strategies.

- the factual project timing information relating to the critical project dates, such as commencement and commissioning and handover, remained uncertain for most of the projects. The documentation provided (Project Completion Report, Expenditure Claim Summary and Attachment A) often included conflicting information. Whilst the facility was often commissioned and bought into service, the project expenditure had not always been completed and the full benefit of the project not realised. For the purposes of this review it was possible, however, to deduce an approximate final date of completion from the documentation provided in most cases.
- there were numerous documentary gaps and inconsistency in the minor projects, however this was not a major impediment for EI as information was able to be inferred from the extensive project data provided across the whole portfolio of projects.
- There was little detailed evidence presented to demonstrate that external parties or other stakeholders were considered in the capital expenditure process and that any of their concerns or issues were adequately addressed.

#### *Prudency of standard of works*

- compliance with legislative requirements was, in many cases, unsubstantiated. Compliance has only been able to be asserted from general statements provided in the project documents (e.g. Project Plans and Project Completion Reports). Only a few projects provided incomplete sets of either completion or commissioning certificates as evidence of compliance. The fact that the facilities had been bought into operation and had been deemed to be fit for purpose meant that the functional leaders responsible for the achievement of standards must have been satisfied to have allowed the facility to become operable.
- most of the referenced standards were internal QR standards, with minimal, if any, reference to Australian Standards or International Standards. For example, there are other standards, currently not included in the Submission documentation that may be applicable and acceptable to the Safety Regulator.
- it is highly probable, since the commissioned projects have been bought into operations, that the constructed infrastructure was fit for purpose and consistent with existing and adjacent infrastructure;
- it is highly unlikely that each asset would have been over engineered to a higher than necessary standard as the adjoining infrastructure and the equipment already in use throughout the network were effectively constraining the design of the upgraded facilities. The end result after upgrading part of the network, through the nominated projects, was that the whole system had to operate effectively to achieve the capacity increases. In any event, if there were minor exceedences of standards, the maintenance costs would be likely to be reduced over the life of the asset..
- no direct reference or evidence was found to confirm the use of Australian Railway Association's National Code of Practice however QR are represented on the board of the group that oversees this

code of practice for the whole industry so it is reasonable to assume that the principles of the safe working practice applies throughout the entire QR network.

*Reasonable of cost of works*

- most of the major projects included cost information that could be used to determine reasonableness;
- most projects were completed in a suitable time frame at relatively competitive and comparable costs to similar projects across the portfolio and for work of similar nature;
- there was no documentation provided to support QR Network's commitment to safety and the environment throughout construction;
- there was only a cursory consideration given to possible disruptions to services during construction or what the implication there might be in the long term for the whole of life costs;
- only minimal details on the breakdown of the initial capital costs have been provided. There were additional details provided on how the internal and external costs, such as track materials, were procured. Given the pricing pressures at the time in the buoyant market conditions, the sourcing strategy adopted by QR Network was effective as it provided them with the ability to undertake the work despite the availability constraints in many of the supply and services markets;
- in relation to the cost of concrete sleeper supply by the alliance between Austrak and QR, the target outturn costs, excluding premiums and levies, shown in the Alliance agreement of between \$74 and \$88 per sleeper are considered to be reasonable;
- the management of "contingency" within each project was variable as the use of contingent funds was not represented in a standard way across the portfolio of projects and was not specifically addressed in the Project Completion Reports;
- there was an inconsistency in reporting of the final project costs between the costs shown in Project Completion Report, the Expenditure Summary (commentary) and Attachment A of the Submission. These inconsistencies largely stem from the different allocations of interest and QR Corporate rates across the project portfolio.

*Summary*

- all of the asset replacement projects, with minor exceptions, which have not been pre-approved by customers and which were commissioned in 2007-08, generally satisfied the scope of works assessment criteria;
- the customer approved projects commissioned in 2007-08 also generally satisfied the scope of works assessment criteria;
- All the projects commissioned in 2007-08, met the standard of work assessment criteria; and
- the costs of all projects commissioned in 2007-08 were considered to be reasonable for the market conditions prevailing at the time.

To improve the process for analysis of future claims, EI recommends that:

- the quality of documentation, provided to support for future capital expenditure claims, be improved for future claims by calling for, as a minimum for each project:
  - properly executed Business Plans;
  - comprehensive Project Plans; and
  - fully completed and signed off Completion Reports with attached compliance certificates.
- more evidence be provided of QR Network's interactions and dealings with all stakeholders in relation to specific projects; and
- the timing eligibility for each claim be clarified to ensure only fully commissioned and completed projects are claimed.

## 1. INTRODUCTION

The Queensland Competition Authority (QCA) approved QR Network's 2008 Access Undertaking (Undertaking) for the Central Queensland Coal Region (CQCR) on 23 October 2008. The Undertaking required QR Network to provide details of capital expenditure to be included in the regulatory asset base.

QR Network has claimed a capital expenditure amount for the 2007-08 period of \$250.9 million. This claimed amount included twelve capacity enhancement projects totalling \$223.4 million, \$6.4 million of customer approved projects, \$16.1 million of asset replacement projects and \$5.1 million of telecommunications and system wide projects. QR Network has made the claims in a formal submission to Queensland Competition Authority (QCA) titled "QR Network 2007/08 Capital Expenditure Report, October 31st 2008" (QR Network's Submission).

Everything Infrastructure (EI) has been engaged by QCA to:

- assess the scope of the asset replacement projects, which have not been pre-approved by customers and which were commissioned in 2007-08;
- review the scope of the customer approved projects commissioned in 2007-08;
- assess the standard of all projects commissioned in 2007-08; and
- assess the reasonableness of costs of all projects commissioned in 2007-08.

EI's work has been undertaken in accordance with QCA's Terms of Reference dated 13 November 2008.

This report includes:

- an introduction, in section 1, outlining the context, purpose and framework for EI's work;
- a methodology for EI's work, in section 2 demonstrating the approach taken and the sources of information;
- an outline of the findings of EI's work review in section 3 and commentary on key issues arising from the assessment;
- conclusions and draft recommendations, presented in section 4; and
- detailed appendices presenting the analysis of each project against the stated assessment criteria.

## 2. METHODOLOGY AND SOURCES OF INFORMATION

### 2.1. METHODOLOGY OVERVIEW

EI's assessment and review has been undertaken as a "desktop study" of the project information provided to QCA in QR Network's Submission. There have been no site visits or direct contact made with QR Network by EI.

There were 77 separate projects identified in QR Network's Submission, 16 of which represented 90% of the total value claimed. EI focused on the assessment of the major 16 projects, including all of the capacity enhancement projects. Of the remaining 61 projects, a representative sample of projects was assessed.

The criteria used for determining the prudence of scope, standards and cost of each of the reviewed capital expenditure projects included the requirements as set on clause 2.3.2 (c) of Schedule FB of the Undertaking.



## 2.2. SCOPE OF WORKS

In reviewing and assessing the scope of works, EI sought, in accordance with the Terms of Reference, to establish for each reviewed project whether the project:

- was below-rail infrastructure and, if not, what proportion of the works were below-rail;
- was commissioned in 2007-08;
- was capital expenditure in nature and not maintenance; and
- was fully funded by QR and, if not, what proportion of the works were funded by QR Network.

A further assessment, in accordance with schedule FB of the Undertaking, of the prudence of scope of works included consideration of:

- the need for new capital projects to accommodate reasonable demand;
- QR Network's legislative requirements, including workplace health and safety and environmental requirements;
- the appropriateness of QR Network's processes to evaluate and select proposed capital projects, including the extent to which alternatives are evaluated as part of the process; and
- the extent to which capital projects that were undertaken were subjected to the capital evaluation and selection process.

## 2.3. STANDARD OF WORKS

In assessing the prudence of the standard of works EI considered whether:

- the works were consistent in all material respects with the existing standard and configuration of adjacent infrastructure and/or existing infrastructure with similar usage levels, or its modern engineering equivalent, in the CQCR; or
- in all other cases, that QR Network had reasonable grounds for the design of the infrastructure standards with reference to the assessment criteria set out in clause 2.3.3(c) of schedule FB of QR Network's approved undertaking, including, where appropriate:
  - i. current and likely future usage levels;
  - ii. the requirements of the Australasian Rail Association's National Codes of Practice (ARA NCOP);
  - iii. the requirements of other design and construction standards; and
  - iv. QR Network's design standards contained within its Safety Management System (SMS) and which is accepted by the Safety Regulator.

## 2.4. COST OF WORKS

Reasonableness of cost of works refers to both the level of costs and efficiency with which the physical scope of projects has been implemented.

In assessing the reasonableness of costs of works, EI considered:

- the level of such costs relative to the scale, nature, cost and complexity of the project; and
- the circumstances prevailing in the markets for engineering, equipment supply and construction.

In forming our opinion on the reasonableness of these costs, we have regarded the manner in which QR Network has managed the capital works, including but not limited to the manner in which QR Network has balanced the needs of:

- safety during construction and operation;
- compliance with environmental requirements;
- minimising disruption to the operation of train services during construction;
- accommodating reasonable requests of access holders to amend the scope and sequence of works;
- minimising whole of asset life costs;
- minimising total project costs;
- aligning with other elements of the supply chain; and
- meeting contractual timeframes and dealing with external factors.

## **2.5. SOURCES OF INFORMATION**

In making an assessment of whether or not a project met the specific assessment criteria, EI reviewed the project documentation provided by QCA. Demonstrated compliance was evidenced by:

- appropriately signed and dated documentation in general;
- approval notices or funding requests;
- completion or commissioning certificates;
- possible options and alternatives analysis;
- copies of specific plans;
- safety and environment performance reports;
- project schedules;
- details or references to specific standards; and
- costing summaries and estimates.

## **3. REVIEW AND ASSESSMENT SUMMARY**

### **3.1. CAPACITY ENHANCEMENT PROJECTS**

#### **3.1.1. General**

The capacity enhancement category of projects, totalling \$234.1 million, was made up of twelve projects. Each of these projects has been reviewed and assessed against the stated assessment criteria.

The first four projects were enhancement projects as part of the Blackwater Capacity Enhancement Program (BCEP). These included:

- Bluff to Blackwater;
- Windah to Grantleigh;
- Blackwater to Burngrove; and
- Aroona to Duaringa.

The enhancements included main line duplications designed to incrementally increase network capacity in line with forecast growth whilst maintaining obligated sectional running times.

### 3.1.2. Bluff – Blackwater Duplication

In relation to the *scope of works*, the project was fully funded by QR and relates to capital expenditure on below-rail infrastructure commissioned in three stages by June 2007. Minor outstanding items were expected to be completed by September 2007. QR Network also demonstrates reasonable demand for this asset and stated compliance to legislative requirements.

In relation to the *standard of works*, due consideration has been given by QR Network to current and expected usage levels. QR Network states compliance and consistency with existing and adjacent infrastructure and standards, and this has been demonstrated by the provision of commissioning certifications.

The *cost of works* appears commensurate with current market conditions and the size of the project. The majority of the works were completed on time and under the revised budget. QR Network has stated that the work was completed with minimal disruptions to the existing network with consideration for whole of life costs. The current expenditure claim for the 2007-08 period correlates with the proposed outstanding signalling works according to the Project Completion Report. 80% of the increased cost of signalling works provided in the Revised Business Case was due to the “increased cost of the signalling Works Contract”. We note that the signalling works contract was a negotiated contract as part of a contracting strategy adopted to overcome the shortage of signalling contractors and to match existing signal equipment on particular systems. The strategy called for an open book review of the contractor’s pricing. Whilst EI has not reviewed the signalling contractor’s pricing, we assume that the detailed pricing has been reviewed by QR Network in accordance with its approved contracting strategy.

Further details and specific commentary on compliance to the full assessment criteria are shown in Appendix 1.

### 3.1.3. Windah – Grantleigh Duplication

In relation to the *scope of works*, QR Network has stated the project was funded by QR Network and relates to capital expenditure on below-rail infrastructure. They have also demonstrated reasonable demand for this asset and stated compliance to legislative requirements. The exact date of commissioning appeared to be prior to the 2007/08 year in either 2005/06 or 2006/07.

In relation to *standards of works*, QR Network states compliance and consistency with existing and adjacent infrastructure and standards, and the appropriate signoffs for quality and standard were provided as part of QR Network standard completion documentation.

*Cost of works* appears commensurate with current market conditions and the size of the project. The project was completed on time and under the revised budget of \$26 million (12.5% over the original budget of \$23 million). QR has also stated that the work was completed with minimal disruptions. However due consideration and compliance to safety, the environment and whole of life project costs were not demonstrated.

#### 3.1.4. Blackwater to Burngrove Duplication

The documentation provided for this project was detailed and comprehensive. In some instances however, it was still necessary to rely on general statements of compliance to satisfy certain QCA's requirements.

In relation to the *scope of works*, QR Network has stated the project was funded by QR and is compliant with legislative requirements. The documentation demonstrates that it is related to capital expenditure on below-rail infrastructure commissioned in 2007/08 and is based on reasonable demand.

In relation to the *standard of works*, QR Network has considered expected usage levels and states compliance and consistency with existing infrastructure and standards, however only minimal evidence of achievement of the required standard was provided.

*Cost of works* appears commensurate with current market conditions and the size of the project and the project was completed on time and under budget. QR Network also stated general compliance to the necessary requirements of safety and the environment as well as minimising disruption. There was no evidence to confirm that QR Network accommodated reasonable requests of access holders to amend the scope and sequence of works nor minimised the whole of asset life costs for this project.

Further details and specific commentary on compliance to full assessment criteria are shown in Appendix 2.

#### 3.1.5. Aroona to Duaringa Duplication

The documentation provided for this project was detailed and comprehensive. In some instances however, it was still necessary to rely on general statements of compliance to certain QCA's requirements.

In relation to *scope of works*, QR Network has demonstrated the project was funded by QR and relates to capital expenditure on below-rail infrastructure commissioned in September 2007. The documentation also demonstrates reasonable demand and states compliance to legislative requirements

In relation to the *standard of works*, QR Network states compliance and consistency with existing infrastructure and standards, however minimal evidence has been provided to demonstrate this.

The *cost of works* appears commensurate with current market conditions and the size of the project considering the project included 361m of bridges. According to the Completion Report, the project was completed on time and within the revised budget. There was also a record of a value engineering studies that were undertaken to minimise the project cost. QR Network also stated general compliance with the necessary requirements of safety and the environment as well as minimising disruption, however, there was no mention of dealing with external factors.

Further details and specific commentary on compliance to full assessment criteria are shown in Appendix 3.

#### 3.1.6. RG Tanna 3rd Loop

The documentation provided for this project was minimal and reliance on general statements of compliance to QCA requirements has been necessary.

In relation to *scope of works*, QR Network has demonstrated the project was funded by QR and relates to capital expenditure on below-rail infrastructure. The exact date for commissioning has not been provided. The project was initiated from a direct request from CQPA, as such a demonstration of demand has not been provided.

In relation to *standard of works*, QR Network states compliance and consistency with existing and adjacent infrastructure and standards, however this has not been demonstrated.

*Cost of works* appears commensurate with current market conditions and the size of the project. No evidence of consideration to whole of life costs or safety and the environment has been provided. The project was completed a month late and well under budget, however no details were found to satisfactorily explain the final cost outcome. It is likely that the budget amount was overly conservative.

### **3.1.7. Yan Yan Passing Loop**

The documentation provided for this project was detailed and comprehensive. In some instances however, it was still necessary to rely on general statements of compliance to certain QCA's requirements.

In relation to *scope of works*, QR Network has demonstrated the project was funded by QR and relates to capital expenditure on below-rail infrastructure commissioned in 2007/08. The documentation also demonstrates reasonable demand and states compliance to legislative requirements

In relation to *standard of works*, QR Network has considered expected usage and states compliance and consistency with existing infrastructure and standards and have provided completion certificates signed by suitably qualified personnel.

*Cost of works* appears high, probably due to the short length (2.1km) and the additional works to reroute the connection to the Kestral Line, although commensurate with current market conditions and the size of the project. The project was completed on time (minor items outstanding) and under budget. QR Network also stated general compliance with the necessary requirements of safety and the environment.

Further details and specific commentary on compliance to full assessment criteria are shown in Appendix 4.

### **3.1.8. Winchester Passing Loop**

The documentation provided for this project was minimal and reliance on general statements of compliance to QCA requirements has been necessary.

In relation to *scope of works*, QR Network has stated the project was funded by QR and was agreed by the Goonyella Customer Group. The works relates to capital expenditure of a passing loop which is below-rail infrastructure. The works were commissioned prior to the 06/07 period and the claimed amount represents only minor works not completed at the time the loop was commissioned in December 2005.

In relation to the *standard of works*, statements that consideration has been given to current and expected usage levels were provided. QR Network states compliance and consistency with existing and adjacent infrastructure and standards, however this has not been demonstrated.

Cost of works appears commensurate with current market conditions and the size of the project. QR has stated that the work was completed with minimal disruptions to the existing network with some consideration for safety and the environment. The project came in well under budget however, completion occurred 8 months after commissioning.

### **3.1.9. Connors Range Signalling**

The documentation provided for this project was incomplete and heavy reliance on general statements of compliance to certain QCA's requirements has been necessary.

In relation to the *scope of works*, QR Network has stated the project was funded by QR and relates to capital expenditure on below-rail infrastructure commissioned in 2007/08. The documentation also demonstrates reasonable demand for the upgraded asset and discusses the consideration of safety and the environment.

In relation to the *standard of works*, QR Network has considered expected usage and states compliance and consistency with existing infrastructure and standards.

The *cost of works* appears commensurate with market conditions at the time and the size and complexity of the project. The project was completed on time (minor items outstanding) and under budget. QR Network also stated general compliance with the necessary requirements of safety and the environment.

### **3.1.10. Coppabella Yard Upgrade (Coppabella to Ingsdon Duplication)**

As the project is not yet completed not all the documentation was available. In assessing the project, heavy reliance on general statements of compliance to certain QCA's requirements has been necessary.

In relation to the *scope of works*, QR Network has stated the project was funded by QR and relates to capital expenditure on below-rail infrastructure. The project did not reach financial close in 2008 so the claim is only a partial claim. The documentation also demonstrates reasonable demand for the asset and discusses the consideration of safety and the environment.

In relation to the *standard of works*, QR Network has considered expected usage and demonstrates compliance and consistency with existing infrastructure and standards is being achieved.

The *cost of works appears* reasonable as the project was located in a constrained site with operating trains. There was no performance related evidence provided to demonstrate safety or environmental compliance or whether there was any disruption to the operation of train services during construction. There was information provided to show that project costs were minimised by revisions to the signalling and OHW scope.

Further details and specific commentary on compliance to full assessment criteria are shown in Appendix 5.

### **3.1.11. Goonyella System: Back-up Transformer (Oonooie)**

The documentation provided for this project detailed the installation of a new 30/40MVA transformer in an existing substation in the Goonyella System. In some instances however, it was still necessary to rely on general statements of compliance to certain QCA's requirements.

In relation to *scope of works*, this was essentially a procurement activity. QR Network demonstrated the project was funded by QR and relates to capital expenditure on below-rail infrastructure commissioned in 2007/08. The documentation also demonstrated the possible losses that may result from a failure of the existing transformer.

In relation to *standards*, QR Network has considered expected usage and states compliance and consistency with existing infrastructure and standards.

The cost of works appear commensurate with current market conditions and the size of the project. The transformer was delivered late (due to circumstances outside of QR Networks control) and slightly over budget.

Further details and specific commentary on compliance to full assessment criteria are shown in Appendix 6.

### **3.1.12. DBCT – 3rd Loop**

In relation to *scope*, QR Network has demonstrated the project was funded by QR, relates to capital expenditure on below-rail infrastructure based on reasonable demand. The majority of works were completed in November 2007. Minor outstanding works are expected to be completed in 2009.

With regards to *standards*, QR has demonstrated consideration to current and future usage levels and compliance and consistency with existing and adjacent infrastructure and construction standards.

At \$97.8 million this project is by far the largest in this group of projects. The length of track is nominally 14 kms but it is difficult to assess the scale of cost on a purely unit-of-length basis. The main cost driver appears to be the civil works at a approximately \$41 million. This work was undertaken as an external contract with two parties competitively tendering the work. The contract award summary for the civil contract was reviewed by EI and appears reasonable. The other railway costs – track, OHW and signalling – were all within bands of typical reasonable costs when compared with other work of this nature being undertaken elsewhere in the QR network. We are of the opinion that the contracting strategy for the signalling contractor was reasonable given the short supply of signalling contractors across the country.

Further details and specific commentary on compliance to full assessment criteria are shown in Appendix 7.

### 3.1.13. Moura Passing Loops

The documentation provided for this project was minimal and as such, compliance to QCA requirements can only be assumed through the acceptance of general statements contained in the documentation. It appears that this project submission is relying heavily on documentation previously provided to QCA during the last review period.

In relation to *project scope*, QR Network has stated the project was funded by QR and relates to capital expenditure on below-rail infrastructure. The project is yet to be completed, however some level of commissioning has occurred in June 2007. They have also stated reasonable demand for this asset and compliance to legislative requirements.

In relation to *standard of works*, statements that consideration has been given to current and expected usage levels were provided. QR Network states compliance and consistency with existing and adjacent infrastructure and standards, as demonstrated by the statement in the Project Completion Report that all work has been undertaken in accordance with the civil, track, signalling and overhead standards.

The *cost of works* is commensurate with other similar projects given the geographical extent of the works and the fragmented nature. The project was completed ahead of time and within an augmented budget. QR Network has provided no evidence of consideration or compliance to the requirements of the environment, minimising disruptions to services, stakeholders or whole of life costs.

Further details and specific commentary on compliance to full assessment criteria are shown in Appendix 8.

## 3.2. CUSTOMER SPECIFIC PROJECTS

### 3.2.1. General

The customer specific category of projects, totalling \$6.4 million, was made up of four projects. Each of these projects has been reviewed and assessed against the stated assessment criteria.

### 3.2.2. Millennium Coal Balloon Loop

The documentation provided for this project was minimal and as such, compliance to QCA requirements can only be assumed through the acceptance of general statements contained in the documentation. It appears that this project submission is relying heavily on documentation previously provided to QCA during the last review period.

With regards to *project scope*, QR Network has stated the project was funded by QR and relates to capital expenditure on below-rail infrastructure commissioned in July 2006. They have also demonstrated reasonable demand for this asset and compliance to legislative requirements.

With regards to *standards of works*, QR Network has demonstrated that consideration has been given to current and expected usage levels as well as compliance and consistency with existing and adjacent infrastructure and standards.

The project *cost* was at the lower edge of a band of typical contemporary costs for similar work. QR Network has provided no evidence of consideration or compliance to the requirements of the environment, minimising disruptions to services, stakeholders or whole of life costs.

### **3.2.3. Carborough Downs Spur and Balloon Loop**

The documentation provided for this project was minimal and as such, compliance to QCA requirements can only be assumed through the acceptance of general statements contained in the documentation. It appears that this project submission is relying heavily on documentation previously provided to QCA during the last review period. It may be necessary for QCA to review any previously submitted details to substantiate compliance to its requirements.

With regards to *project scope*, QR Network has stated the project was eventually funded by QR and relates to capital expenditure on below-rail infrastructure commissioned in 2006-07. They have also stated reasonable demand for this asset and compliance to legislative requirements.

With regards to *standards*, QR Network has stated that consideration has been given to current and expected usage levels (although essentially customer specific) as well as compliance and consistency with existing and adjacent infrastructure and standards.

The actual *cost* of this project is difficult to determine from the documents provided, however it was completed on time according to the original schedule. It would appear that QR Network has not considered the requirements of the environment or whole of life costs.

### **3.2.4. Isaac Plains Spur and Balloon Loop**

The documentation provided for this project was minimal and as such, compliance to QCA requirements can only be assumed through the acceptance of general statements contained in the documentation. It appears that this project submission is relying heavily on documentation previously provided to QCA during the last review period.

With regards to *project scope*, QR Network has stated the project was eventually funded by QR and relates to capital expenditure on below-rail infrastructure commissioned in 2006-07. They have also stated reasonable demand for this asset and compliance to legislative requirements.

With regards to *standards*, QR Network has stated that consideration has been given to current and expected usage levels (although essentially customer specific) as well as compliance and consistency with existing and adjacent infrastructure and standards.



The actual cost of this project is difficult to determine from the documents provided, however it was completed on time according to the original schedule. It would appear that QR Network has not considered adequately the requirements of the environment, stakeholders or whole of life costs.

### **3.2.5. Sonoma Balloon Loop**

The documentation provided contains conflicting information with regards to the actual completion of the project. It would appear the project is not yet complete and if this is the case, not all the documentation is available. In assessing the project heavy reliance on general statements of compliance to certain QCA requirements has been necessary.

With regards to project *scope*, QR Network has stated the project was eventually funded by QR and relates to capital expenditure on below-rail infrastructure. They have also stated reasonable demand for this asset and compliance to legislative requirements.

With regards to *standards*, QR Network has stated that consideration has been given to current and expected usage levels (although essentially customer specific) and demonstrated compliance and consistency with existing and adjacent infrastructure and standards.

The cost documentation provided is contradictory. On page 1 of the Submission it is stated that the project is not complete. On page 4 the Submission states that the expenditure as at 30/6/08 was \$4.4 million, of a budget of \$14.5 million. On page 4 the project information shows it being successfully commissioned in June 2008. Assuming the project has been successfully commissioned, the amount claimed appears reasonable.

## **3.3. ASSET REPLACEMENT PROJECTS**

### **3.3.1. General**

The asset replacement category of projects, totalling \$16.1 million, was made up of twenty two projects. Five of these projects have been selected as representative samples of the whole category and have been reviewed and assessed against the stated assessment criteria.

### **3.3.2. Calliope River: Bridge Upgrade**

As the project is not yet completed it is understandable that not all the documentation is available. In assessing the project, heavy reliance on general statements of compliance to certain QCA's requirements has been necessary.

In relation to project *scope*, QR Network has stated the project was funded by QR and relates to capital expenditure on below-rail infrastructure based on reasonable demand and expected to be complete in 2008-09. No evidence has been provided to demonstrate consideration to legislative requirements including safety and the environment.

In relation to *standards*, QR Network has considered expected usage but failed to provide any evidence of compliance to required standards or consistency with existing infrastructure.

Although the project is not complete at the time of compilation of the Submission it can be said that the estimated cost is reasonable given the scope of work. However no evidence to demonstrate consideration to safety or the environment has been provided.

### **3.3.3. Goonyella System: Rail Upgrade**

The documentation provided for this project was minimal and as such, compliance to QCA requirements can only be assumed through the acceptance of general statements contained in the documentation. It appears that this project

submission is relying heavily on documentation previously provided to QCA during the last review period. It may be necessary for QCA to review any previously submitted details to substantiate compliance to its requirements.

With regards to project *scope*, QR Network has demonstrated that the project was funded by QR, relates to capital expenditure on below-rail infrastructure and scheduled for completion sometime on 2008-09. QR Network has also stated reasonable demand for this asset, but has provided no evidence of consideration or compliance to legislative requirements.

With regards to *standards*, QR Network has stated that consideration has been given to current and expected usage levels as well as compliance and consistency (although no evidence) with existing and adjacent infrastructure and standards.

The *cost* is difficult to assess without access to the previous submission that we assume has been provided to QCA however at the scale of the cost being claimed, the cost is comparable for similar work on other projects and it appears reasonable.

#### **3.3.4. Norwich Park: Recondition Balloon Loop**

As the project is not yet completed it is understandable that not all the documentation is available. In assessing the project, heavy reliance on general statements of compliance to certain QCA's requirements has been necessary.

In relation to project *scope*, QR Network has stated the project was funded by QR, relates to capital expenditure on below-rail infrastructure based on reasonable demand and was commissioned in 2007-08 (financial close 2008-09). No evidence has been provided to demonstrate consideration to legislative requirements including safety and the environment.

In relation to *standards*, QR Network has considered expected usage and stated compliance to required standards and existing infrastructure.

While the budget is apparently \$5.2 million it appears the achieved cost is \$3.001 million (this information conflicts with what is contained in the Expenditure Claim summary and Attachment A). This is a reasonable cost for the scope of works set out in the draft Completion Report. QR Network provided no evidence of consideration for safety, the environment, and stakeholders, whole of life cost or minimising total project costs.

#### **3.3.5. Newlands Balloon Loop Upgrade**

The documentation provided for this project was incomplete and reliance on general statements of compliance to certain QCA's requirements has been necessary.

In relation to project *scope*, QR Network has demonstrated the project was funded by QR, relates to capital expenditure on below-rail infrastructure and was commissioned in 2007/08. The documentation also demonstrates consideration and compliance to legislation including safety and the environment.

In relation to standards, QR Network has demonstrated compliance and consistency with existing infrastructure and standards.

Cost appears commensurate with current market conditions and the size of the project. The project was completed on time and under budget.

#### **3.3.6. Coal Systems: Formation Strengthening**

As the project is not yet completed it is understandable that not all the documentation is available. In assessing the project, heavy reliance on general statements of compliance to certain QCA's requirements has been necessary.

In relation to project *scope*, QR Network has demonstrated the project is funded by QR, relates to capital expenditure on below-rail infrastructure and is ongoing work due for final completion in 2011. QR Network has stated that consideration will be given to legislative requirements including safety and the environment.

In relation to *standards*, QR Network has not provided sufficient evidence of consideration and compliance to standards and adjacent existing infrastructure.

The project is formation strengthening to be carried out over a period of 5 years. The budget is \$20.54 million. Due to the many factors that can affect such works, including weather and rail traffic it is difficult to assess whether the scale of cost matches the global scope, but it is felt that the budgeted annual amounts are of the right order. No evidence has been provided to demonstrate consideration to safety and the environment during construction, disruption to services or whole of life costs.

### **3.4. TELECOMMUNICATIONS AND SYSTEMS WIDE PROJECTS**

#### **3.4.1. General**

The telecommunications and systems wide category of projects, totalling \$5.1 million, was made up of thirty nine projects. As there was limited information provided to support these projects, two projects only have been selected to test the whole category. These two projects have been reviewed and assessed against the stated assessment criteria.

#### **3.4.2. Rockhampton to Burngrove: Omnibus Upgrade**

The documentation provided for this project was minimal and as such, compliance to QCA requirements can only be assumed through the acceptance of general statements contained in the documentation. It appears that this project submission is relying heavily on documentation previously provided to QCA during the last review period.

In relation to project *scope*, QR Network has stated the project was funded by QR and relates to capital expenditure on below-rail infrastructure. They have also demonstrated reasonable need for this asset replacement and stated compliance to legislative requirements.

In relation to *standards*, the nature of the work is such that it must inherently be consistent and compliant to the existing system.

The achieved *cost* is commensurate with the scope of the works. QR Network was unable to demonstrate consideration or compliance to the safety, the environment, minimising disruption or whole of life costs.

#### **3.4.3. Coal Systems: SAN Replacement**

As the project is not yet completed, not all the documentation is available. As a result of this lack of documentation, many areas of QCA requirements have not been able to be assessed or heavy reliance on general statements of compliance has been necessary.

In relation to project *scope*, QR Network has demonstrated the project has been funded by QR however the project generates its own revenue through the leasing of bandwidth from the SAN nodes so it may not be suitable to become fully part of the Regulatory Asset Base. The work relates to capital expenditure on below-rail infrastructure based on reasonable demand. No evidence has been provided to demonstrate consideration to legislative requirements including

safety and the environment, however the need to meet these requirements is inherent in the nature of the equipment being replaced.

In relation to *standards*, QR Network has considered expected usage but failed to provide any evidence of compliance to required standards or consistency with existing infrastructure. We note, however, the need to meet the existing requirements is inherent in the nature of the equipment being replaced.

The information provided does not permit a detailed assessment of the costs relative to scope however the amount claimed appears reasonable for the replacement of existing equipment.

#### 3.4.4. LED Signal Replacement – Commercial Systems

The project is being progressively commissioned as each incandescent signal is being replaced.

In relation to project scope, QR Network has demonstrated the project has been funded by QR and the work relates to capital expenditure on below-rail infrastructure based on a justifiable increase in safe working conditions. No evidence has been provided to demonstrate consideration to legislative requirements including safety and the environment, however the need to meet these requirements is inherent in the nature of the equipment being replaced.

In relation to *standards*, QR Network has claimed compliance with their own standards and consistency with other similar infrastructure being upgraded across the State.

In relation to *costs*, 93% of the claimed amount was for purchasing of the LED materials in advance of installation. We also note that there has been no change to the original budget set in 2004 despite there being scope changes and extremely tight market conditions, particularly for signalling contractors.

## 4. CONCLUSIONS AND RECOMMENDATIONS

### 4.1. CONCLUSIONS

Based on the information made available to EI, we conclude:

#### *Satisfaction of initial criteria*

- all claimed projects, except as listed below, satisfied the initial criteria of being below-rail infrastructure, funded by QR and capital expenditure not maintenance expenditure:
  - Coal systems: SAN replacement – the project replaces an asset that produces external revenue. (amount claimed \$575,623)
- not all claimed projects were fully commissioned and financially complete in 2007-08, including:
  - Coppabella Yard Upgrade (Coppabella to Ingsdon Duplication) (7% of amount claimed of \$26,607,877 still to claim in 08/09); and
  - DBCT 3<sup>rd</sup> Loop (power upgrade component outstanding \$16.5M – installation and commissioning of Electric Feeder Station)

#### *Prudence of scope of works*

- the primary documents used to ascertain and verify the assessment of scope were the Business Cases, Project Plans and Project Completion Reports. Where these were provided and fully

completed, QR Network was able to unequivocally demonstrate that the assessment criteria for scope of works had been met. In particular, the documentary evidence of the business cases and the requirements for project approval showed that QR Network's processes for project evaluation and selection were being effectively implemented;

- the most common deficiency in the documented project evaluation processes was the lack of demonstrable conceptualising and evaluation of alternatives or options. Whilst most of the projects were part of larger system programs of work, the modelling of alternative strategies to achieve capacity increases would have been done at the program level and the 2006 Coal Master Plan would have reflected the selected capacity increasing strategies.
- the factual project timing information relating to the critical project dates, such as commencement and commissioning and handover, remained uncertain for most of the projects. The documentation provided (Project Completion Report, Expenditure Claim Summary and Attachment A) often included conflicting information. Whilst the facility was often commissioned and bought into service, the project expenditure had not always been completed and the full benefit of the project not realised. For the purposes of this review it was possible, however, to deduce an approximate final date of completion from the documentation provided in most cases.
- there were numerous documentary gaps and inconsistency in the minor projects, however this was not a major impediment for EI as information was able to be inferred from the extensive project data provided across the whole portfolio of projects.
- There was little detailed evidence presented to demonstrate that external parties or other stakeholders were considered in the capital expenditure process and that any of their concerns or issues were adequately addressed.

#### *Prudence of standard of works*

- compliance with legislative requirements was, in many cases, unsubstantiated. Compliance has only been able to be asserted from general statements provided in the project documents (e.g. Project Plans and Project Completion Reports). Only a few projects provided incomplete sets of either completion or commissioning certificates as evidence of compliance. The fact that the facilities had been bought into operation and had been deemed to be fit for purpose meant that the functional leaders responsible for the achievement of standards must have been satisfied to have allowed the facility to become operable.
- most of the referenced standards were internal QR standards, with minimal, if any, reference to Australian Standards or International Standards. For example, there are other standards, currently not included in the Submission documentation that may be applicable and acceptable to the Safety Regulator.
- it is highly probable, since the commissioned projects have been bought into operations, that the constructed infrastructure was fit for purpose and consistent with existing and adjacent infrastructure;
- it is highly unlikely that each asset would have been over engineered to a higher than necessary standard as the adjoining infrastructure and the equipment already in use throughout the network were

effectively constraining the design of the upgraded facilities. The end result after upgrading part of the network, through the nominated projects, was that the whole system had to operate effectively to achieve the capacity increases. In any event, if there were minor exceedences of standards, the maintenance costs would be likely to be reduced over the life of the asset.

- no direct reference or evidence was found to confirm the use of Australian Railway Association's National Code of Practice however QR are represented on the board of the group that oversees this code of practice for the whole industry so it is reasonable to assume that the principles of the safe working practice applies throughout the entire QR network.

#### *Reasonable of cost of works*

- most of the major projects included cost information that could be used to determine reasonableness;
- most projects were completed in a suitable time frame at relatively competitive and comparable costs to similar projects across the portfolio and for work of similar nature;
- additional project funding was obtained without documented explanation for any cost over runs or underlying issues;
- there was no documentation provided to support QR Network's commitment to safety and the environment throughout construction;
- there was only a cursory consideration given to possible disruptions to services during construction or what the implication there might be in the long term for the whole of life costs;
- only minimal details on the breakdown of the initial capital costs have been provided. There were additional details provided on how the internal and external costs, such as track materials, were procured. Given the pricing pressures at the time in the buoyant market conditions, the sourcing strategy adopted by QR Network was effective as it provided them with the ability to undertake the work despite the availability constraints in many of the supply and services markets;
- the management of "contingency" within each project was variable as the use of contingent funds was not represented in a standard way across the portfolio of projects and was not specifically addressed in the Project Completion Reports;
- there was an inconsistency in reporting of the final project costs between the costs shown in Project Completion Report, the Expenditure Summary (commentary) and Attachment A of the Submission. These inconsistencies largely stem from the different allocations of interest and QR Corporate rates across the project portfolio.

#### *Summary*

- all of the asset replacement projects, with minor exceptions, which have not been pre-approved by customers and which were commissioned in 2007-08, generally satisfied the scope of works assessment criteria;
- the customer approved projects commissioned in 2007-08 also generally satisfied the scope of works assessment criteria;

- All the projects commissioned in 2007-08, met the standard of work assessment criteria; and
- the costs of all projects commissioned in 2007-08 were considered to be reasonable for the market conditions prevailing at the time.

#### 4.2. RECOMMENDATIONS

EI recommends that:

- the quality of documentation, provided to support for future capital expenditure claims, be improved for future claims by calling for, as a minimum for each project:
  - properly executed Business Plans;
  - comprehensive Project Plans; and
  - fully completed and signed off Completion Reports with attached compliance certificates.
- more evidence be provided of QR Network's interactions and dealings with all stakeholders in relation to specific projects; and
- the timing eligibility for each claim be clarified to ensure only fully commissioned and completed projects are claimed.

## Appendix 1 Bluff – Blackwater Duplication

The purpose of the project is to duplicate 15.5 km of main line track including civil structures formation, track, overheads and signalling adjacent to the existing infrastructure between Bluff and Blackwater on the Blackwater System.

### Duration of Project

The Project Completion Report states the duration of this project was from approximately March 2006 to June 2007, however the details provided in Attachment A of the Submission indicate a completion date of January 2008.

### Documentation Provided

1. Expenditure Claim Summary (2006-07)
2. Revised Business Case
3. Project Plan – Un-signed and un-dated partially complete plan without all Appendices.
4. Project Completion Report – Un-signed report

### Commentary

#### 1. Scope

Criteria	Observations	Supporting documentation
1a. Were the works below-rail infrastructure and, if not, what proportion of the works are below-rail?	All elements of the project, including track and associated signalling and overhead are below-rail infrastructure.	Project Plan and project Completion Report
1b. Were the works commissioned in 2007-2008?	Final commissioning of the project occurred in three stages completed in June 2007. Minor items expected to be completed by September 2007.	Completion Report
1c. Were the works capital expenditure and not maintenance?	All works relate to capital expenditure as they related to increases in capacity of the line.	General documentation
1d. Were the works fully funded by QR Network and, if not, what proportion of the works were funded by QR Network?	The works were fully funded by QR.	Revised Business Case and Project Plan
1e. Was there a need for the project to accommodate reasonable demand?	This duplication contributes to an increase in tonnage from 40 mtpa 2003/2004 to over 63 mtpa (2008/2009).	Revised Business Case and the Project Plan
1f. Were QR Networks legislative requirements, including workplace health and safety and environmental requirements satisfied?	The Project Plan includes a standard risk analysis appropriate to OH&S and environmental issues and reference to the need for Environmental and OH&S Plans. The Project Completion report states that work was completed in accordance with the appropriate Project and Safety Management Plans.	Project Plan and Completion Report
1g. Were QR Network's processes to evaluate and select proposed capital projects, including the extent to which alternatives are evaluated as part of the process, appropriate?	The QR Network processes were appropriate. A value management session was held to examine scope options. A positive result was achieved for the project.	Revised Business Case and Project Plan
1h. To what extent were the capital projects that were	Investment in the project was evaluated as shown in the Investment Appraisal Summary. The project was	Revised Business Case



undertaken subject to the capital evaluation and selection process.	selected following modelling undertaken for the Blackwater System Enhancement Program.	2006 Coal Master Plan
<b>2 Standards</b>		
<b>Criteria</b>	<b>Observations</b>	<b>Evidence</b>
2a. Were the works consistent in all material respects with the existing standard and configuration of adjacent infrastructure and/or existing infrastructure with similar usage levels, or its modern engineering equivalent, in the CQCR	The signoff process at the commissioning stage required a signoff that the standards had been achieved from each of the functional areas, civil, track, signalling, telecommunications and overhead. Completion of the signoff process supports QR Network's claim that the works met the appropriate standards.	Completion Report
2b. Does the project consider current and likely future usage levels	The project has been modelled in conjunction with other related projects and has been scoped to meet the projected usage levels on the Blackwater System as shown in the 2006 Coal Master Plan.	2006 Coal Master Plan
2c. Does the project consider the requirements of the ARA NCOP.	No direct reference was found in QR Network's Submission to consideration of the Australasian Railway Association's National Code of Practice. We note that QR Network take rail safety seriously on all its projects. The Group General Manager of QR is on the board of ARA's Rail Industry Safety and Standards Board that sets the standards across the rail industry.	General practice
2d. Has the project considered the requirements of the design and construction standards	The Project Plan implies that the requirements to meet all QR policies and procedures as well as relevant industry and Australian Standards (in particular AS for signalling) have been considered. We note from the lessons learnt included in the Project Completion Report that the design and construction interface can be improved.	Project Plan and Completion Report
2e. Does the project meet the requirements of the QR Network's design standards contained in the SMS and acceptable to the Safety Regulator	The Project Completion Report confirms that all work has been completed in accordance with the appropriate standards and a number of completion certificates have been obtained.	Project Completion Report
<b>3. Costs</b>		
<b>Criteria</b>	<b>Comments</b>	<b>Evidence</b>
3a. Does the level of project costs relate to the scale, nature and complexity of the project	The level of cost relative to the nature, scope and complexity of the project is commensurate with a project of this nature and compares favourably with other similar projects.	Project Plan and Knowledge of Consultancy
3b. What are the circumstances prevailing in the markets for engineering, equipment supply and construction	At the time the project was undertaken the market for the skills, materials and equipment required was extremely tight and significant escalation of the underlying indices took place during the project period.	Revised Business Case and Knowledge of Assessor
3c. Has safety during construction and operation been considered?	This is standard practice for QR Network. One of the criteria for acceptance and handover of the final project deliverable was the satisfactory safety validation and certifications. Whilst no certificates were sighted for this	Project Completion Report

	review, there were a number of clear statements by QR Network confirming the work had completed in accordance with the Safety Management Plan.	
3d. Were the works in compliance with environmental requirements?	We are unable to comment on this aspect on the basis of the reports available to us. The Completion Report is silent on environmental aspects.	None
3e. Did the works minimise disruption to the operation of train services during construction?	The Completion Report states that the infrastructure works have not caused delay to the haulage of coal train operations and the commissioning completion. There were resourcing issues that delayed the construction however no evidence was presented indicating extended track possession times.	Project Completion Report
3f. Did the project accommodate reasonable requests of access holders to amend the scope and sequence of works?	The project was approved by the Blackwater Customer group following the release of the 2006 Coal Master Plan.	Project A01424 summary
3g. Were the whole of asset life costs minimised?	There were isolated references to whole of life issues. Reference was made to an increase in operating expenditure as part of the projected financial outcomes for the project. The residual design life of most of the components are standard across the network so there is limited ability to optimised whole of life costs.	Revised Business Case
3h. Were total project costs minimised?	The value management sessions demonstrate that project cost minimisation was a major project objective. The Project Completion Report indicates that there was some rework required due to various issues but none were extraordinary for this type of work.	Project Completion Report
3i. Was there alignment with other elements of the supply chain?	Other elements of the supply chain appear to have been considered during the planning phase for the Blackwater System program of upgrade works.	Project Plan
3j. Did the project meet contractual timeframes and deal with external factors?	Most milestones were met and final commissioning was achieved one month early. The increase in cost from the original budget showed that the impact of the external factors such as a labour shortage.	Project Completion Report

## Appendix 2 Blackwater to Burngrove Duplication

The project is the duplication of approximately 9 km of mainline track, including all civil, track, overhead and signalling equipment adjacent to the existing infrastructure within the Blackwater System between Blackwater and Burngrove.

### Duration of Project

The Project Completion Report indicates the duration of this project was from approximately early 2005 to December 2007. This is consistent with the Project Plan and Attachment A of the Submission.

### Documentation Provided

1. Capital Expenditure Claim Summary
2. Business Case – Un-signed
3. User Requirements Brief – Un-signed
4. Project Plan –Signed and with some minor Appendices missing
5. Commission and Completion Certificates – Some but not all
6. Project Completion Report – Un-signed

The documentation provided appears sufficient to determine the status and or completion of the project, however there is some reliance on general statements of compliance as opposed to documented evidence.

### Commentary

#### 1. Scope

Criteria	Comments	Evidence
1a. was it below-rail infrastructure and, if not, what proportion of the works are below-rail	All elements of the Business Case, User Requirements Brief and the Project Plan appear to be below-rail infrastructure.	Documentation
1b. was commissioned in 2007-2008	Final commissioning of the project occurred in December 2007	Documentation
1c. is capital expenditure and not maintenance	All works relate to capital expenditure	Documentation
1d. was fully funded by QR Network and, if not, what proportion of the works were funded by QR Network	The Project Plan states that “seed funding” has come from QR Network and that total project funding is expected from the State.	Statement
1e. the need for new capital projects to accommodate reasonable demands	According to the Business Case provided, this project (in conjunction with others in the Blackwater system) will allow an increase in tonnage from 45 mtpa to 64.5 mtpa (2007/2008) to over 80 mtpa (2008/2009). This appears to be a reasonable need and demand	Documentation
1f. QR Networks legislative requirements, including workplace health and safety and environmental requirements	The Project Plan contains risk analysis with appropriate consideration of OH&S and environmental issues. The Project Plan also contains reference to the need for Environmental and OH&S Plans, however evidence of the plans has not been provided. The Project Completion report indicates that work was completed in accordance with the appropriate Project and Safety Management Plans.	Statement
1g. the appropriateness of QR Network’s processes to evaluate and select proposed capital projects,	Although the project Business Case does contain some alternative options analysis and this may be supported in detail by records held by QR Network, the detail contained within the Business case does not include	Statement

	including the extent to which alternatives are evaluated as part of the process	details of the modelling options that QR state they undertook.	
1h.	the extent to which capital projects that were undertaken were subject to the capital evaluation and selection process	Although mostly un-signed copies of project documents have been received, it would appear that appropriate management consideration has been documented.	Documentation
<b>3 Standards</b>			
	<b>Criteria</b>	<b>Comments</b>	<b>Evidence</b>
2a.	the works are consistent in all material respects with the existing standard and configuration of adjacent infrastructure and/or existing infrastructure with similar usage levels, or its modern engineering equivalent, in the CQCR	The Project Completion Report states that all work has been undertaken in accordance with QR's civil, track, signalling, telecommunications and overhead standards and as such is consistent with adjacent and existing infrastructure.	Documentation
2b.	considers current and likely future usage levels	The project has been modelled in conjunction with other related projects and appears to adequately consider the current and future projected usage levels on the Blackwater System.	Documentation (minimal)
2c.	considers the requirements of the ARA NCOP	No evidence has been provided demonstrating compliance to ARA NCOP	None
2d.	considers the requirements of the design and construction standards	The Project Plan states the requirements to meet all QR policies and procedures as well as relevant industry and Australian Standards (in particular AS for signalling).	Documentation
2e.	meets the requirements of the QR Network's design standards contained in the SMS and acceptable to the Safety Regulator	The User Requirements Brief references the need to complete the work according to QR Standards. The Project Completion Report states that all work has been completed in accordance with these standards and the necessary safety certificates were obtained (not all have been provided).	Documentation
<b>3. Costs</b>			
	<b>Criteria</b>	<b>Comments</b>	<b>Evidence</b>
3a.	the level of such costs relative to the scale, nature, cost and complexity of the project	We note that this section of duplication was more expensive at \$4.8 million per km, on a \$/km basis, than other similar work carried out by QR in the same area and in the same time period. The reason for this is apparently due to the high cost of signalling and OHW works and the fact that this is a relatively short section. The costs on a unit length basis are still within a band that is typical of such work, and compare with other similar works.	Documentation, Knowledge of Assessor
3b.	the circumstances prevailing in the markets for engineering, equipment supply and construction	At the time the project was undertaken the market for the skills, materials and equipment required was very tight and significant escalation of the underlying indices took place during the project period.	Documentation, Knowledge of Assessor
3c.	safety during construction	The Project Completion Report states general	Statement

	and operation	compliance with respective quality and safety plans.	
3d.	compliance with environmental requirements	The Project Completion Report states general compliance with respective quality and safety plans.	Statement
3e.	minimising disruption to the operation of train services during construction	The Completion Report states that "...this did not cause significant delay to the haulage of coal..." but this is not supported by evidence to substantiate this.	Statement
3f.	accommodating reasonable requests of access holders to amend the scope and sequence of works	We are unable to comment as there is no coverage of this aspect in the Completion Report..	None
3g.	minimise whole of asset life costs	We are unable to comment as there is no coverage of this aspect in the Completion Report.	None
3h.	minimising total project costs	The project was well under budget on completion. No explanation is provided for this underrun but it is apparent that civil works and signalling had relatively large savings from the original estimates.	Documentation
3i.	aligning other elements of the supply chain	The project extends the dual track section of the main line between Blackwater and Gladstone and is aligned with other elements of the supply chain.	Documentation
3j.	meeting contractual timeframes and dealing with external factors	The project was commissioned on time in December 2007	Documentation

### Appendix 3 Aroona to Duaringa Duplication

The project is the duplication of approximately 6.5 km of mainline track, including all civil, track, overhead and signalling equipment adjacent to the existing infrastructure within the Blackwater System between Aroona and Duaringa.

#### Duration of Project

The Project Completion Report indicates the duration of this project was from approximately early 2005 to September 2007. This is consistent with the Project Plan and Attachment A of the Submission.

#### Documentation Provided

1. Capital Expenditure Claim Summary
2. Business Case – Partially approved
3. User Requirements Brief – Un-signed
4. Project Plan –Signed and with some minor Appendices missing
5. Commission and Completion Certificates – Some but not all
6. Project Completion Report – Un-signed

The documentation provided appears sufficient to determine the status and or completion of the project, however there is some reliance on general statements of compliance as opposed to documented evidence.

#### Commentary

##### 1. Scope

Requirements	Comments	Evidence
1a. was it below-rail infrastructure and, if not, what proportion of the works are below-rail	All elements of the Business Case, User Requirements Brief and the Project Plan appear to be below-rail infrastructure.	Documentation
1b. was commissioned in 2007-2008	Final commissioning of the project occurred in September 2007	Documentation
1c. is capital expenditure and not maintenance	All works relate to capital expenditure	Documentation
1d. was fully funded by QR Network and, if not, what proportion of the works were funded by QR Network	The Project Plan provides evidence of project approval and expenditure by the QR Board.	Documentation
1e. the need for new capital projects to accommodate reasonable demands	According to the Business Case provided, this project (in conjunction with others in the Blackwater system) will allow an increase in tonnage over the next 5 years from 42 mtpa (2004/2005) to well over 64 mtpa (2009/2010). This appears to be a reasonable need and demand.	Documentation
1f. QR Networks legislative requirements, including workplace health and safety and environmental requirements	The Project Plan contains risk analysis with appropriate consideration of OH&S and environmental issues. The Project Plan also contains reference to the need for Environmental and OH&S Plans, however evidence of the plans has not been provided. The Project Completion report indicates that work was completed in accordance with the appropriate Project and Safety Management Plans.	Statement
1g. the appropriateness of QR Network's processes to evaluate and select proposed capital projects, including the extent to which	There was limited detail provided on the evaluation of the specific project however the project was part of a larger program of works to increase capacity along the Blackwater system.	Statement

alternatives are evaluated as part of the process		
1h. the extent to which capital projects that were undertaken were subject to the capital evaluation and selection process	The project did go through the Business Case process and appropriate management consideration has been documented.	Documentation
<b>2 Standards</b>		
<b>Requirements</b>	<b>Comments</b>	<b>Evidence</b>
2a. the works are consistent in all material respects with the existing standard and configuration of adjacent infrastructure and/or existing infrastructure with similar usage levels, or its modern engineering equivalent, in the CQCR	The Project Completion Report states that all work has been undertaken in accordance QR's civil, track, signalling, telecommunications and overhead standards and as such is consistent with adjacent and existing infrastructure.	Documentation
2b. considers current and likely future usage levels	The project has been modelled in conjunction with other related projects and appears to adequately consider the current and future projected usage levels on the Blackwater System.	Documentation (minimal)
2c. considers the requirements of the ARA NCOP	No evidence has been provided demonstrating compliance to ARA NCOP	None
2d. considers the requirements of the design and construction standards	The Project Plan states the requirements to meet all QR policies and procedures as well as relevant industry and Australian Standards (in particular AS for signalling).	Documentation
2e. meets the requirements of the QR Network's design standards contained in the SMS and acceptable to the Safety Regulator	The User Requirements Brief references the need to complete the work according to QR Standards. The Project Completion Report states that all work has been completed in accordance with these standards and the necessary safety certificates were obtained (not all have been provided).	Documentation
<b>3. Costs</b>		
<b>Requirements</b>	<b>Comments</b>	<b>Evidence</b>
3a. the level of such costs relative to the scale, nature, cost and complexity of the project	The cost of this duplication is higher at \$4.8 million per km than the average of all the similar projects included in this submission due to the inclusion of 361m of bridges, 5% of the total length. Otherwise the costs are reasonable.	Documentation, Knowledge of Assessor
3b. the circumstances prevailing in the markets for engineering, equipment supply and construction	At the time the project was undertaken the market for the skills, materials and equipment required was very tight and significant escalation of the underlying indices took place during the project period.	Documentation, Knowledge of Assessor
3c. safety during construction and operation	The Project Plan refers to a Safety Management Plan (SMP) which deals with system safety. The SMP is not included in the documentation supporting the submission. A Worksite Health and Safety (WH&S) procedure is also referred to but no details of the procedure or the performance are provided.	Statement
3d. compliance with environmental requirements	One of the project objectives was to complete the works "with minimum harm to the environment". The User	Statement

	Requirements Brief (URB) requires the completion of an Environmental Planning Study by an independent consultant, however there is no evidence that this study was carried out.	
3e. minimising disruption to the operation of train services during construction	One of the objectives stated in the URB was to complete the works with minimum disruption to existing rail operations and services, however there is no documentation to substantiate that this occurred.	Statement
3f. accommodating reasonable requests of access holders to amend the scope and sequence of works	The Completion Report states that the work was completed to the satisfaction of the client (QR) but there is no documentation relating to access holders	Statement
3g. minimise whole of asset life costs	Value engineering (VE) workshops were carried out that resulted in deletions and amendments to the scope, producing cost savings. There is no specific reference to whole-of-life costs.	Statement
3h. minimising total project costs	See (f) above. There was a substantial underrun in total project cost compared to budget.	Documentation
3i. aligning other elements of the supply chain	The duplication is one in a series on the Blackwater main line which combined provides an increase in line capacity, and so aligns with the supply chain.	Documentation
3j. meeting contractual timeframes and dealing with external factors	The project was completed on time. External factors were not mentioned in the reports.	Documentation



## Appendix 4 Yan Yan Passing Loop

The purpose of the project was to construct a 2.1 km passing loop including all civil, track overheads and signalling infrastructure at Yan Yan on the Gregory Branch of the Blackwater System.

### Duration of Project

The Project Completion Report contains conflicting information on the duration of the project. The Report indicates commencement in approximately July 2006, but completion in either October 2007 or February 2008 (with some items to be completed by July 2008). Both the Project Plan and Attachment A of the submission indicate completion in October 2007.

### Documentation Provided

1. Capital Expenditure Claim Summary
2. Business Case – Un-signed
3. User Requirements Brief – Un-signed
4. Project Plan –Signed
5. Project Completion Report – with signed certificates

The documentation provided appears sufficient to determine the status and or completion of the project, however there is some reliance on general statements of compliance as opposed to documented evidence.

### Commentary

#### 1. Scope

Requirements	Comments	Evidence
1a. was it below-rail infrastructure and, if not, what proportion of the works are below-rail	All elements of the Business Case, User Requirements Brief and the Project Plan appear to be below-rail infrastructure.	Documentation
1b. was commissioned in 2007-2008	Project Completion Report indicates both October 2007 and February 2008 (some items July 2008) for completion. Attachment A states completion October 2007. The exact completion date is difficult to determine with the information provided, however it appears completion occurred in the 2007-08 period.	Statement
1c. is capital expenditure and not maintenance	All works relate to capital expenditure	Documentation
1d. was fully funded by QR Network and, if not, what proportion of the works were funded by QR Network	The Project Plan provides evidence of project approval and expenditure by the QR Board.	Documentation
1e. the need for new capital projects to accommodate reasonable demands	According to the Business Case provided, this project will allow an increase in tonnage on the North Blackwater Branch at Yan Yan to up to 30.9 mtpa by the year 2009/2010 (up from current limitations of 19 mtpa). This appears to be a reasonable need and demand.	Documentation
1f. QR Networks legislative requirements, including workplace health and safety and environmental requirements	The Project Plan contains risk analysis with appropriate consideration of OH&S and environmental issues. The Project Plan also contains reference to the need for Environmental and OH&S Plans, however evidence of the plans has not been provided. The Project Plan does contain a detailed Change Management Plan. The	Statement

	Project Completion report indicates that work was completed in accordance with the appropriate Project and Safety Management Plans.	
1g. the appropriateness of QR Network's processes to evaluate and select proposed capital projects, including the extent to which alternatives are evaluated as part of the process	The Business Case does explore other possible options including from doing nothing and an alternative location for the loop at McKenzie. Modelling of the Blackwater system and a review of the travel logs has revealed that the passing loop at Yan Yan does provide the opportunity for the greatest increase in line capacity.	Documentation
1h. the extent to which capital projects that were undertaken were subject to the capital evaluation and selection process	Appropriate management consideration has been documented (signed copies of the Business Case and User Requirements Brief were not provided)	Documentation
<b>2 Standards</b>		
<b>Requirements</b>	<b>Comments</b>	<b>Evidence</b>
2a. the works are consistent in all material respects with the existing standard and configuration of adjacent infrastructure and/or existing infrastructure with similar usage levels, or its modern engineering equivalent, in the CQCR	The Project Completion Report states that all work has been undertaken in accordance with QR's civil, track, signalling, telecommunications and overhead standards. Where adjacent and existing infrastructure has limited the full compliance with the QR standards, the works were designed to match these limitations and used acceptable practices approved by experienced senior engineers.	Statement
2b. considers current and likely future usage levels	The purpose of the project is to increase capacity of the North Blackwater Branch and via the use of Planimate has adequately considered the current and future projected usage levels.	Documentation
2c. considers the requirements of the ARA NCOP	No specific evidence has been provided demonstrating compliance to ARA NCOP	None
2d. considers the requirements of the design and construction standards	The Project Plan states the requirements to meet all QR policies and procedures as well as relevant industry and Australian Standards (in particular AS for signalling).	Statement
2e. meets the requirements of the QR Network's design standards contained in the SMS and acceptable to the Safety Regulator	The User Requirements Brief references the need to complete the work according to QR Standards. The Project Completion Report states that all work has been completed in accordance with these standards and the authorised certificates were provided.	Documentation
<b>3. Costs</b>		
<b>Requirements</b>	<b>Comments</b>	<b>Evidence</b>
3a. the level of such costs relative to the scale, nature, cost and complexity of the project	The cost of this duplication per unit length (\$5.66 million per km) is at the top of the band of costs of similar works achieved at the same time, however the short length (2.1 kms), and the additional works to reroute the connection to the Kestrel Line, have contributed to the high unit cost.	Documentation, Knowledge of Assessor
3b. the circumstances prevailing in the markets for engineering, equipment	At the time the project was undertaken the market for the skills, materials and equipment required was very tight and significant escalation of the underlying indices	Documentation, Knowledge of Assessor

supply and construction	took place during the project period.	
3c. safety during construction and operation	The URB calls up a Safety Management Plan (SMP) and the Completion Report states that the project was completed in accordance with the SMP. The SMP typically deals with system safety rather than OH&S (or WH&S). There is no information on the safety performance on the project. The Project Completion Report states general compliance with respective quality and safety plans.	Statement
3d. compliance with environmental requirements	The URB states that "The Safety and Environmental Division will be made aware of the project proposal and will comment accordingly" but there is no further information. The Project Completion Report states general compliance with respective quality and safety plans.	Statement
3e. minimising disruption to the operation of train services during construction	No information has been provided to enable us to comment on this aspect.	None
3f. accommodating reasonable requests of access holders to amend the scope and sequence of works	No information has been provided to enable us to comment on this aspect. It was noted that the list of key stakeholders did not include any representative of access holders.	None
3g. minimise whole of asset life costs	There is no information provided to indicate whether whole-of-life costs have been considered. However the fact that standard materials and components have been used throughout would tend to support that this has been considered in a wider forum.	Statement
3h. minimising total project costs	There was a deliberate effort made to minimise project costs in the execution of the signalling works and the initial walk-out. The project was completed 8.5% under budget.	Documentation
3i. aligning other elements of the supply chain	The project aligns with other projects in the supply chain resulting in increased capacity of the RG Tanna and Barney Point ports.	Documentation
3j. meeting contractual timeframes and dealing with external factors	The project appears to have been commissioned on time although some works remained to be completed at the time of final commissioning.	Documentation

## Appendix 5 Coppabella Yard Upgrade (Coppabella to Ingsdon Duplication)

The purpose of the project is to upgrade approximately 6.3 km of track and to extend and signal three additional roads in Coppabella Yard (3.8 kms).

### Duration of Project

The Draft Project Completion Report indicates an approximate duration of June 2006 to December 2008 and as such this will only be a partial claim, with a follow-up claim to be made during 2008-09. According to Attachment A of the Submission, this claim is for costs incurred up until March 2008.

### Documentation Provided

1. Capital Expenditure Claim Summary
2. Business Case – Un-signed
3. Project Plan (including an abridged User requirements Brief)– Un-signed but with responsibilities assigned
4. Commission and Completion Certificates – some but not all
5. Draft Project Completion Report

As the project is not yet completed not all the documentation is available. In assessing the project, heavy reliance on general statements of compliance to certain QCA's requirements has been necessary.

### Commentary

#### 1. Scope

Requirements	Comments	Evidence
1a. was it below-rail infrastructure and, if not, what proportion of the works are below-rail	All elements of the Business Case and Project Plan (and Client's Requirements Brief) appear to be below-rail infrastructure.	Documentation
1b. was commissioned in 2007-2008	The project did not reach financial completion in 2008 and as such this is only a partial claim for the work completed to date. (Draft Project Completion Report received). Final commissioning expected in December 2008.	Documentation
1c. is capital expenditure and not maintenance	All works relate to capital expenditure	Documentation
1d. was fully funded by QR Network and, if not, what proportion of the works were funded by QR Network	The (unsigned) Revised Investment Project Approval from the QR Board indicates that funding will be from 'Network Access "Future Approvals"'.	Documentation
1e. the need for new capital projects to accommodate reasonable demands	According to the Business Case provided, this project will allow an increase in tonnage West of Coppabella from 85.8 mtpa to 116.9 mtpa during 2010/2011. This appears to be a reasonable need and demand.	Documentation
1f. QR Networks legislative requirements, including workplace health and safety and environmental requirements	The Project Plan contains risk analysis and other documentation to indicate that appropriate consideration to OH&S and environmental issues was undertaken. The Project Plan and appendices also contains reference to the need for Environmental and OH&S Plans, however evidence of the plans has not been provided. The Project Plan does contain a detailed Change Management Plan. The Project Completion Report is only provided in draft format and does not currently confirm whether the necessary	Statement

	requirements are being met.	
1g. the appropriateness of QR Network's processes to evaluate and select proposed capital projects, including the extent to which alternatives are evaluated as part of the process	The Business Case does explore two other possible options however modelling of the Goonyella System indicates the proposed option provides the greatest increase in line and system capacity.	Documentation
1h. the extent to which capital projects that were undertaken were subject to the capital evaluation and selection process	Up to this point in the project it appears that appropriate management consideration has been documented (signed copies of the Business Case and User Requirements Brief were not provided)	Documentation
<b>2 Standards</b>		
<b>Requirements</b>	<b>Comments</b>	<b>Evidence</b>
2a. the works are consistent in all material respects with the existing standard and configuration of adjacent infrastructure and/or existing infrastructure with similar usage levels, or its modern engineering equivalent, in the CQCR	The Project Plan states the need to meet these requirements, however without the Project Completion Report this is not verifiable. Completion Certificates have been provided which indicates that all work to date has been completed according to the necessary standards.	Documentation
2b. considers current and likely future usage levels	The project has been modelled in conjunction with other related projects and appears to adequately consider the current and future projected usage levels on the Goonyella System.	Documentation
2c. considers the requirements of the ARA NCOP	No evidence has been provided demonstrating compliance to ARA NCOP.	None
2d. considers the requirements of the design and construction standards	The Project Plan states the requirements to meet all QR policies and procedures as well as relevant industry and Australian Standards (in particular AS for signalling).	Documentation
2e. meets the requirements of the QR Network's design standards contained in the SMS and acceptable to the Safety Regulator	The Project Plan makes reference to the need to complete the work according to QR Standards and relevant industry and Australian Standards. Completion Certificates have been provided which indicates that all work to date has been completed according to the necessary standards (only Draft Project Completion Report provided).	Documentation
<b>3. Costs</b>		
<b>Requirements</b>	<b>Comments</b>	<b>Evidence</b>
3a. the level of such costs relative to the scale, nature, cost and complexity of the project	Given that the project was located in a constrained site with operating trains the final cost appears to be reasonable. The bulk of the cost was signalling with civil and track works a relatively minor component.	Documentation, Knowledge of Assessor
3b. the circumstances prevailing in the markets for engineering, equipment supply and construction	At the time the project was undertaken the market for the skills, materials and equipment required was very tight and significant escalation of the underlying indices took place during the project period.	Documentation, Knowledge of Assessor

3c. safety during construction and operation	Other than the customary statement in the project objectives there is no information to describe performance during the construction.	Statement (minimal)
3d. compliance with environmental requirements	Other than the customary statement in the project objectives there is no information to describe performance during the construction.	Statement (minimal)
3e. minimising disruption to the operation of train services during construction	No information is provided.	None
3f. accommodating reasonable requests of access holders to amend the scope and sequence of works	No information is provided.	None
3g. minimise whole of asset life costs	There is no indication that this has been taken into account.	None
3h. minimising total project costs	The project costs were minimised by revisions of scope in signalling and OHW particularly.	Documentation
3i. aligning other elements of the supply chain	The project aligns with other elements of the supply chain in supporting an increase in tonnage capacity west of Coppabella.	Documentation
3j. meeting contractual timeframes and dealing with external factors	The project was commissioned for diesel-hauled trains a month late in December 2007. Final completion occurred the following year.	Documentation

## Appendix 6 Goonyella System: Back-up Transformer (Oonooie)

The project is to install a new 30/40MVA ONAF transformer on a suitable pad within an existing substation in the Goonyella System.

### Duration of Project

The Project Completion Report indicates the duration of this project was from approximately March 2006 to December 2007. This completion date is consistent with the details provided in Attachment A of the Submission.

### Documentation Provided

1. Capital Expenditure Claim Summary
2. Notice of New Investment project Approval and Justification Paper (Business Case)
3. Project Plan (abridged version for a procurement project)– signed
4. Project Completion Report - Unsigned

As this is essentially a procurement activity, the documentation provided appears sufficient to determine the status and or completion of the project. However a delivery notice and commissioning and completion certificates would be useful to create a complete paper trail.

### Commentary

## 1. Scope

Requirements	Comments	Evidence
1a. was it below-rail infrastructure and, if not, what proportion of the works are below-rail	All elements of the Project Plan and Project Completion Report appear to be below-rail infrastructure.	Documentation
1b. was commissioned in 2007-2008	The delivery of the backup transformer occurred in January 2007	Statement
1c. is capital expenditure and not maintenance	All works relate to capital expenditure	Documentation
1d. was fully funded by QR Network and, if not, what proportion of the works were funded by QR Network	Funding has been provided by the Network Access "Future Approvals"	Documentation
1e. the need for new capital projects to accommodate reasonable demands	The associated Investment Project Approval discusses the possible losses due to the failure of a Transformer. As a result the purchase of a backup transformer to avoid these losses appears to be a reasonable need.	Documentation
1f. QR Networks legislative requirements, including workplace health and safety and environmental requirements	The Project Plan states the requirement that all work is to be undertaken in accordance QR's standards and legislative environmental and safety requirements.	Statement
1g. the appropriateness of QR Network's processes to evaluate and select proposed capital projects, including the extent to which alternatives are evaluated as part of the process	The associated Investment Project Approval adequately discusses the possible losses due to the failure of a Transformer. No other options have been considered, a formal Business Case was not provided.	Documentation
1h. the extent to which capital	Minimal documentation is available for the project,	Documentation

projects that were undertaken were subject to the capital evaluation and selection process	however some details on evaluation have been provided within the Expenditure Claim and Investment Project Approval notice.	
<b>2 Standards</b>		
<b>Requirements</b>	<b>Comments</b>	<b>Evidence</b>
2a. the works are consistent in all material respects with the existing standard and configuration of adjacent infrastructure and/or existing infrastructure with similar usage levels, or its modern engineering equivalent, in the CQCR	The Project Completion Report states that all work has been undertaken in accordance QR's standards.	Statement
2b. considers current and likely future usage levels	The purchase of the transformer as a backup unit adequately demonstrates consideration has been taken to ensure current and future usage levels are maintained.	Documentation
2c. considers the requirements of the ARA NCOP	No evidence has been provided demonstrating compliance to ARA NCOP	None
2d. considers the requirements of the design and construction standards	The transformer is a commercially available item which according to the Project Completion Report meets the required standards.	Documentation
2e. meets the requirements of the QR Network's design standards contained in the SMS and acceptable to the Safety Regulator	The Project Plan states these requirements, however compliance is not mentioned within the Project Completion Report.	Statement
<b>3. Costs</b>		
<b>Requirements</b>	<b>Comments</b>	<b>Evidence</b>
3a. the level of such costs relative to the scale, nature, cost and complexity of the project	The bulk of the project cost was the purchase, by contract, of the 30 MVA transformer itself. This is considered to be reasonable. The other costs were not significant.	Documentation, Knowledge of Assessor
3b. the circumstances prevailing in the markets for engineering, equipment supply and construction	At the time the project was undertaken the market for the skills, materials and equipment required was very tight and significant escalation of the underlying indices took place during the project period.	Documentation, Knowledge of Assessor
3c. safety during construction and operation	No information was provided.	None (not really expected)
3d. compliance with environmental requirements	No information was provided.	None (not really expected)
3e. minimising disruption to the operation of train services during construction	No specific information was provided, but the nature of the project was such that disruption to train services would be very unlikely.	None (not really expected)
3f. accommodating reasonable requests of access holders to amend the scope and sequence of works	No information is provided. As this was the provision of a spare for a standard type of transformer in widespread use in the CQCR this is not significant.	None (not really expected)
3g. minimise whole of asset life	No specific information was available, but as the	None



costs	transformer is a spare of a standard item of equipment this aspect might have been considered in another forum.	
3h. minimising total project costs	About 92% of the final cost was the purchase of the transformer, which was purchased by competitive tender. The remainder was costs of civil works and project management. It appears that costs were controlled to be within budget.	Documentation
3i. aligning other elements of the supply chain	The transformer provides a “warm” system spare that can be utilised throughout the CQCR in the event of a failure. In this sense it aligns with other elements of the supply chain.	Documentation
3j. meeting contractual timeframes and dealing with external factors	Although other aspects of the scope were completed on schedule the transformer itself was delivered 11 months late due to a manufacturing malfunction outside the control of QR Network.	Documentation

## Appendix 7 DBCT – 3<sup>rd</sup> Loop

The purpose of the project is to provide a third balloon loop to the newly constructed unloading pit at Dalrymple Bay Coal Terminal and to construct additional holding roads to allow for more efficient sequencing of trains through the unloaders.

### Duration of Project

The Project Completion Report indicates that the majority of works were complete in November 2007, with the final power upgrade to be complete by 2009. It has been assumed from the Expenditure Claim summary that this claim is for expenses up to November 2007 and QCA should expect further claims in 2009.

### Documentation Provided

1. Capital Expenditure Claim Summary
2. Business Case – Un-signed and only for the cost increase from \$83.4m to \$109.6m
3. Project Plan (including an abridged User requirements Brief)– Un-signed and with most appendices missing
4. Commission and Completion Certificates – some but not all
5. Project Completion Report

As the project is not yet completed, not all the documentation is available. However from the documentation provided (which appears insufficient for a project of this size) it is difficult to ascertain the project's exact current status and level of completion.

### Commentary

#### 1. Scope

Requirements	Comments	Evidence
1a. was it below-rail infrastructure and, if not, what proportion of the works are below-rail	All elements of the Business Case and the Project Plan appear to be below-rail infrastructure.	Documentation
1b. was commissioned in 2007-2008	The project did not reach financial close in 2008 and as such this may only be a partial claim for the work completed to date. Final commissioning expected at the end 2009.	Documentation
1c. is capital expenditure and not maintenance	All works relate to capital expenditure	Documentation
1d. was fully funded by QR Network and, if not, what proportion of the works were funded by QR Network	The Project Completion Report states that the additional costs have been approved by the Shareholding Ministers. The Project Plan states initial funding from Network Access. No other documentation or details has been provided.	Documentation (minimal)
1e. the need for new capital projects to accommodate reasonable demands	The Revised Business Case and the Project Plan indicate an expected increase in port capacity and in turn line capacity to well over 100 mtpa for the Goonyella System through 2010/2011 and beyond. This represents a significant increase and as such appears to be a reasonable need and demand.	Documentation
1f. QR Networks legislative requirements, including workplace health and safety and environmental requirements	The Project Completion report states that work was completed in accordance with the appropriate Project and Safety Management Plans. Many commissioning and completion certificates have been provided.	Documentation

1g. the appropriateness of QR Network's processes to evaluate and select proposed capital projects, including the extent to which alternatives are evaluated as part of the process	The documentation provided is essentially for the increase in capital expenditure, therefore no evidence is provided regarding option analysis for the original project. The Revised Business Case and Project Plan do explore in some detail several options considered with regards to increased expenditure.	None
1h. the extent to which capital projects that were undertaken were subject to the capital evaluation and selection process	Although limited documentation has been provided for this project, it would appear that appropriate management consideration was in place.	Documentation
<b>2 Standards</b>		
<b>Requirements</b>	<b>Comments</b>	<b>Evidence</b>
2a. the works are consistent in all material respects with the existing standard and configuration of adjacent infrastructure and/or existing infrastructure with similar usage levels, or its modern engineering equivalent, in the CQCR	The Project Plan states to need to comply with these standards and requirements however no evidence of compliance has been provided.	Documentation
2b. considers current and likely future usage levels	The project will increase the rail capabilities at Dalrymple Bay up to 140 mtpa, which is in line with the planned port expansion currently underway.	Documentation
2c. considers the requirements of the ARA NCOP	No evidence has been provided demonstrating compliance to ARA NCOP	None
2d. considers the requirements of the design and construction standards	The Project Plan states the requirements to meet all QR policies and procedures as well as relevant industry and Australian Standards, however no mention of any specific standards is provided. Many commissioning and completion certificates have been provided.	Documentation
2e. meets the requirements of the QR Network's design standards contained in the SMS and acceptable to the Safety Regulator	Many commissioning and completion certificates have been provided.	Documentation
<b>3. Costs</b>		
<b>Requirements</b>	<b>Comments</b>	<b>Evidence</b>
3a. the level of such costs relative to the scale, nature, cost and complexity of the project	At \$97.8 million this project is by far the largest in this group of projects. The length of track is nominally 14 kms but it is difficult to assess the scale of cost on a purely unit-of-length basis. The main cost driver was the civil works approximately \$41 million. The other railway costs – track, OHW and signalling – are all within a band of typical costs.	Documentation, Knowledge of Assessor
3b. the circumstances prevailing in the markets for engineering, equipment supply and construction	At the time the project was undertaken the market for the skills, materials and equipment required was very tight and significant escalation of the underlying indices took place during the project period.	Documentation, Knowledge of Assessor
3c. safety during construction	The Completion Report mentions satisfactory safety	Statement

	and operation	validations. No documentation is presented.	
3d.	compliance with environmental requirements	The Completion Report states that the project was completed within environmental requirements; the requirements are not documented.	Statement
3e.	minimising disruption to the operation of train services during construction	The Completion Report states that rail haulage was not significantly impacted.	Statement
3f.	accommodating reasonable requests of access holders to amend the scope and sequence of works	The Completion Report is silent on this. Access holders are not listed in the Key Stakeholders.	None
3g.	minimise whole of asset life costs	There is no specific mention of this in the Reports, but we note that the project was undertaken using normal construction procedures and standard components and materials which may have been analysed for whole-of-life costs separately in a generic way.	None
3h.	minimising total project costs	There were significant cost overruns largely due to the approval delays and the unexpected market conditions that resulted in additional budget being approved. The Completion Report records several observations on both the design and construction indicating that a more thorough investigation prior to setting the original budget might have resulted in savings.	Documentation
3i.	aligning other elements of the supply chain	As the project is part of an upgrade of the coal chain capacity it is aligned with other elements of the system.	Documentation
3j.	meeting contractual timeframes and dealing with external factors	The Completion Report states that the project was completed on time and the record shows that it was commissioned a month later than planned despite the approval delay problems.	Documentation

## Appendix 8 Moura Passing Loops

The project is the extension of 7 passing loops, including all civil, track, overhead and signalling between Stowe and Belldean and the construction of a new trade-billing weighbridge for the Moura System.

### Duration of Project

The Project Completion Report contains conflicting information, stating that final commissioning occurred in June 2007, but the project remains incomplete without any indication of expected completion date. Without an Expenditure Claim Summary it can only be assumed that this will only be a partial claim, with a follow-up claim to be made in future years. According to Attachment A of the Submission, this claim is for costs incurred up until June 2007.

### Documentation Provided

1. Expenditure Claim Summary (2006-07)
2. Business Case
3. Project Plan - Unsigned and with most appendices missing
4. Request to Transfer Project Funds
5. Request to Waive Contracting Procedures
6. Project Completion Report – an unsigned report was provided

### Commentary

#### 1. Scope

Requirements	Comments	Evidence
1a. was it below-rail infrastructure and, if not, what proportion of the works are below-rail	All elements of the Project Plan appear to be below-rail infrastructure.	Documentation
1b. was commissioned in 2007-2008	The Project Completion Report contains conflicting information, stating that final commissioning occurred in June 2007, but the project remains incomplete without any indication of expected completion date.	Statement
1c. is capital expenditure and not maintenance	All works relate to capital expenditure	Documentation
1d. was fully funded by QR Network and, if not, what proportion of the works were funded by QR Network	No evidence of project approval has been provided, however the Project Completion Report states that by February 2006 all funding had been approved by the QR Board.	Statement
1e. the need for new capital projects to accommodate reasonable demands	According to the Project Plan and Project Completion Report this project will allow an increase in tonnage, in line with customer's expectation from 7.5 mtpa to 12.25 mtpa by September 2007. This appears to be a reasonable need and demand.	Documentation
1f. QR Networks legislative requirements, including workplace health and safety and environmental requirements	The Project Plan contains risk analysis with appropriate consideration of OH&S and environmental issues. The Project Plan also contains reference to the need for Environmental and OH&S Plans, however evidence of the plans has not been provided. The Project	Statement

	Completion report indicates that work was completed in accordance with the appropriate Project and Safety Management Plans.	
1g. the appropriateness of QR Network's processes to evaluate and select proposed capital projects, including the extent to which alternatives are evaluated as part of the process	The Project Plan indicates that other options were considered, however any evidence of detailed analysis has not been provided.	Statement
1h. the extent to which capital projects that were undertaken were subject to the capital evaluation and selection process	Limited documentation has been provided for this project. The Documentation that has been provided is concerned with the additional investment requirements, as such is not possible to comment on the level of capital evaluation and selection process the original project was subject to.	None
<b>2 Standards</b>		
<b>Requirements</b>	<b>Comments</b>	<b>Evidence</b>
2a. the works are consistent in all material respects with the existing standard and configuration of adjacent infrastructure and/or existing infrastructure with similar usage levels, or its modern engineering equivalent, in the CQCR	The Project Completion Report states that all work has been undertaken in accordance QR's civil, track, signalling, telecommunications and overhead standards and as such is consistent with adjacent and existing infrastructure.	Statement
2b. considers current and likely future usage levels	The project appears to have been designed and implemented in line with the current and future requirements of the immediate customer.	Documentation (minimal)
2c. considers the requirements of the ARA NCOP	No evidence has been provided demonstrating compliance to ARA NCOP	None
2d. considers the requirements of the design and construction standards	The Project Plan states the requirements to meet all QR policies and procedures as well as relevant industry and Australian Standards. It also makes reference to the required specifications in Appendix C which is not provided.	Statement
2e. meets the requirements of the QR Network's design standards contained in the SMS and acceptable to the Safety Regulator	No commissioning or completion certificates have been provided. No statements of compliance within the Project Completion Report have been provided.	None
<b>3. Costs</b>		
<b>Requirements</b>	<b>Comments</b>	<b>Evidence</b>
3a. the level of such costs relative to the scale, nature, cost and complexity of the project	Although no breakdown per loop is shown in the documents, averaging the total over seven loops indicates an amount of about \$4.3 million per loop. This is in line with other projects of a similar type completed at the time.	Documentation, Knowledge of Assessor
3b. the circumstances prevailing in the markets for engineering, equipment	At the time the project was undertaken the market for the skills, materials and equipment required was very tight and significant escalation of the underlying indices	Documentation, Knowledge of Assessor

	supply and construction	took place during the project period.	
3c.	safety during construction and operation	Safety is not mentioned in the Completion Report, and the long list of project personnel includes a “safe working analyst” but not a safety officer. Safety was not listed in the project objectives.	Statement
3d.	compliance with environmental requirements	The Completion report is silent on the issue of environment requirements or performance, and no member of the project staff had responsibility for this aspect.	None
3e.	minimising disruption to the operation of train services during construction	The Completion Report lacks the formulaic statement in almost all other reports to the effect that the work was completed without significant impact on rail haulage.	None
3f.	accommodating reasonable requests of access holders to amend the scope and sequence of works	Access holders are not listed in the key stakeholders and are not mentioned in the Completion Report.	None
3g.	minimise whole of asset life costs	There is no specific mention of this in the Reports, but we note that the project was undertaken using normal construction procedures and standard components and materials which may have been analysed for whole-of-life costs separately in a generic way.	None
3h.	minimising total project costs	The original budget was increased twice, and the scope was varied to include a UPS upgrade. The comments relating to the change in scope suggest that this was not the most efficient method of carrying out the works.	Documentation
3i.	aligning other elements of the supply chain	The loop extensions align with an aim to increase the hauling capacity of the Moura line. There is no rationale presented for inclusion of the UPS works in the project.	Documentation
3j.	meeting contractual timeframes and dealing with external factors	The project was completed ahead of schedule. Management of external factors is not covered in the Completion Report but it is apparent that management of internal factors left much to be desired.	Documentation

## Appendix 9 Millennium Coal Balloon Loop

The purpose of the project is to construct a 4.9 km single balloon loop, including all associated track and signalling infrastructure on the Peak Downs line for the Millennium Mine.

### Duration of Project

The Commissioning Implementation Agreement confirms that commissioning took place in July 2006.

### Documentation Provided

1. Partial Project Plan – the appendices only of the Project Plan have been provided
2. Commissioning Implementation Agreement.

### Commentary

#### 1. Scope

Requirements	Comments	Evidence
1a. was it below-rail infrastructure and, if not, what proportion of the works are below-rail	All elements of the Project Plan and project Completion Report appear to be below-rail infrastructure.	Documentation
1b. was commissioned in 2007-2008	The attached commissioning and safety certificates indicates July 2006. Attachment A states June 2006.	Documentation
1c. is capital expenditure and not maintenance	All works relate to capital expenditure.	Documentation
1d. was fully funded by QR Network and, if not, what proportion of the works were funded by QR Network	Appendix A of Project Plan indicates the QR Board approved the funding subject to finalisation of the outstanding agreements between Millennium Coal and QR.	Documentation
1e. the need for new capital projects to accommodate reasonable demands	The Risk Management Plan in Appendix N of the Project Plan indicates this project will increase coal haulage by 4.5 mtpa by 2008. This appears to be a reasonable need and demand.	Documentation
1f. QR Networks legislative requirements, including workplace health and safety and environmental requirements	The signed Safety Certificates provided indicate that all requirements under the QR Safety Management Plan and related industry standards have been met. Insufficient details have been provided with regards to the environmental requirements.	Documentation
1g. the appropriateness of QR Network's processes to evaluate and select proposed capital projects, including the extent to which alternatives are evaluated as part of the process	Unable to determine from the documentation provided	None
1h. the extend to which capital projects that were undertaken were subject to the capital evaluation and selection process	Unable to determine from the documentation provided	None

#### 2 Standards

Requirements	Comments	Evidence
2a. the works are consistent in	The signed Safety Certificates provided demonstrate	Documentation



	all material respects with the existing standard and configuration of adjacent infrastructure and/or existing infrastructure with similar usage levels, or its modern engineering equivalent, in the CQCR	that all requirements under the QR Safety Management Plan and related industry standards have been met.	
2b.	considers current and likely future usage levels	The Risk Management Plan in Appendix N of the Project Plan indicates this project will increase coal haulage by 4.5 mtpa by 2008.	Documentation
2c.	considers the requirements of the ARA NCOP	No evidence has been provided demonstrating compliance to ARA NCOP.	None
2d.	considers the requirements of the design and construction standards	The signed Safety Certificates provided demonstrate that all requirements under the QR Safety Management Plan and related industry design and construction standards have been met.	Documentation
2e.	meets the requirements of the QR Network's design standards contained in the SMS and acceptable to the Safety Regulator	The signed Safety Certificates provided demonstrate that all requirements under the QR Safety Management Plan and related industry standards have been met.	Documentation
<b>3. Costs</b>			
	<b>Requirements</b>	<b>Comments</b>	
3a.	the level of such costs relative to the scale, nature, cost and complexity of the project	The cost of the spur and loop appear to be at the lower edge of a band of typical costs of similar work at the same time.	Documentation, Knowledge of Assessor
3b.	the circumstances prevailing in the markets for engineering, equipment supply and construction	At the time the project was undertaken the market for the skills, materials and equipment required was very tight and significant escalation of the underlying indices took place during the project period.	Documentation, Knowledge of Assessor
3c.	safety during construction and operation	No Completion Report was presented and therefore it is not possible to comment on worksite safety. However eleven safety certificates are presented in the Commissioning Agreement which clearly demonstrates system safety has been managed.	Documentation
3d.	compliance with environmental requirements	The Project Plan does not make reference to any environmental matter. It is worth noting that in the extensive organisation chart, up to Board level, and the list of responsibilities on the project there is no one responsible for environmental matters.	None
3e.	minimising disruption to the operation of train services during construction	As there is no Completion Report or other documents it is not possible to comment.	None
3f.	accommodating reasonable requests of access holders to amend the scope and sequence of works	The Project Plan does not list any access holders as stakeholders. We are unable to comment without a Completion Report.	None
3g.	minimise whole of asset life costs	There is no specific mention of this in the Reports, but we note that the project was undertaken using normal construction procedures and standard components and materials which may have been analysed for whole-of-	None

	life costs separately in a generic way.	
3h. minimising total project costs	The Project Plan shows a committed to date figure of \$1.689 million of a budget of \$10.20 million. No documentation has been presented to confirm that costs have been minimised.	Documentation
3i. aligning other elements of the supply chain	The spur and balloon loop were constructed for a specific customer, to bring that mine into the supply chain.	Documentation
3j. meeting contractual timeframes and dealing with external factors	We note that the schedule in the Project Plan called for commissioning by 30/9/05 whereas the Commissioning Agreement was signed off in July 2006 and the Safety Certificates were generally signed between July and September 2006.	Documentation

## Appendix 10 Carborough Downs Spur and Balloon Loop

The purpose of the project is to construct a 4.7 km balloon loop, including all associated track and signalling infrastructure between Coppabella and Wotonga on the Goonyella System.

### Duration of Project

The Project Completion Report indicates that completion of the project occurred in December 2006.

### Documentation Provided

1. Project Plan – Un-signed and un-dated partially complete plan was provided which is missing some of the Appendices.
2. Draft Project Completion Report – Un-signed draft report was provided.

### Commentary

#### 1. Scope

Requirements	Comments	Evidence
1a. was it below-rail infrastructure and, if not, what proportion of the works are below-rail	All elements of the Project Plan and project Completion Report appear to be below-rail infrastructure.	Documentation
1b. was commissioned in 2007-2008	From the documentation provided, the project has been commissioning in the second half of 2006.	Statement
1c. is capital expenditure and not maintenance	All works relate to capital expenditure.	Documentation
1d. was fully funded by QR Network and, if not, what proportion of the works were funded by QR Network	The Project Plan states that CDJV will undertake the design and construction of the project and at completion, QR will acquire all components of the spur and balloon loop, no further information is provided on exact method of funding.	Statement
1e. the need for new capital projects to accommodate reasonable demands	This is a new mine which will produce and initial output of 4.5 mtpa.	Documentation
1f. QR Networks legislative requirements, including workplace health and safety and environmental requirements	The Project Plan references the need to meet QR and legislative safety requirements and standards, however evidence of the plans and compliance to them has not been provided. Insufficient details have been provided with regards to the environmental requirements.	Statement
1g. the appropriateness of QR Network's processes to evaluate and select proposed capital projects, including the extent to which alternatives are evaluated as part of the process	According to the Project Plan, CDJV considered a number of options in the design of the loop, however no documentation or analysis of these options has been provided.	Statement
1h. the extend to which capital projects that were undertaken were subject to the capital evaluation and selection process	Unable to determine from the documentation provided	None

#### 2 Standards

Requirements	Comments	Evidence
2a. the works are consistent in	The Project Completion Report states that all work has	Statement

	all material respects with the existing standard and configuration of adjacent infrastructure and/or existing infrastructure with similar usage levels, or its modern engineering equivalent, in the CQCR	been completed to the client's satisfaction and in accordance with QR's quality and safety systems standards and procedures. No completion or commissioning certificates have been provided.	
2b.	considers current and likely future usage levels	The project is for a new mine and has been undertaken according to customer specific requirements.	Statement
2c.	considers the requirements of the ARA NCOP	No evidence has been provided demonstrating compliance to ARA NCOP.	None
2d.	considers the requirements of the design and construction standards	The Project Completion Report states that all work has been completed to the client's satisfaction and in accordance with QR's quality and safety systems standards and procedures. No completion or commissioning certificates have been provided.	Statement
2e.	meets the requirements of the QR Network's design standards contained in the SMS and acceptable to the Safety Regulator	The Project Completion Report states that all work has been completed to the client's satisfaction and in accordance with QR's quality and safety systems standards and procedures. No completion or commissioning certificates have been provided.	Statement
<b>3. Costs</b>			
	<b>Requirements</b>	<b>Comments</b>	<b>Evidence</b>
3a.	the level of such costs relative to the scale, nature, cost and complexity of the project	There has been minimum costing information provided.	None
3b.	the circumstances prevailing in the markets for engineering, equipment supply and construction	At the time the project was undertaken the market for the skills, materials and equipment required was very tight and significant escalation of the underlying indices took place during the project period.	Documentation, Knowledge of Assessor
3c.	safety during construction and operation	The Completion Report states that a configuration management system functioned during construction to ensure safety of changes, and that safety certificates were obtained. No safety specific documentation has been provided.	Statement
3d.	compliance with environmental requirements	The reports do not cover this matter.	None
3e.	minimising disruption to the operation of train services during construction	Rail haulage was said to be not significantly affected during construction.	Statement
3f.	accommodating reasonable requests of access holders to amend the scope and sequence of works	The Completion Report states that a manager was appointed to coordinate the disciplines, one of those mentioned being mine management. However access holders were not mentioned.	Statement
3g.	minimise whole of asset life costs	There was no mention of whole of life cost considerations in the Completion Report but was most likely addressed in the Project Plan as part of the UT2 submission.	None
3h.	minimising total project costs	Comments in the Completion Report draft suggest that some cost saving measures were not implemented due to lack of availability of used materials.	Statement

3i. aligning other elements of the supply chain	The project was the construction of a new spur and balloon loop. This aligns with the other elements of the supply chain.	Documentation
3j. meeting contractual timeframes and dealing with external factors	The project was commissioned on 8/12/06 against a required date of January 2007.	Documentation

## Appendix 11 Isaac Plains Spur and Balloon Loop

The purpose of the project is to construct a 4.8 km balloon loop, including all associated track and signalling infrastructure between Coppabella and Wotonga on the Goonyella System.

### Duration of Project

The Project Completion Report indicates that completion of the project occurred in December 2006.

### Documentation Provided

1. Project Plan – Un-signed and un-dated partially complete plan was provided which is missing some of the Appendices.
2. Draft Project Completion Report – Un-signed draft report was provided.

### Commentary

#### 1. Scope

Requirements	Comments	Evidence
1a. was it below-rail infrastructure and, if not, what proportion of the works are below-rail	All elements of the Project Plan and project Completion Report appear to be below-rail infrastructure.	Documentation
1b. was commissioned in 2007-2008	From the documentation provided, the project has been commissioning in the second half of 2006.	Statement
1c. is capital expenditure and not maintenance	All works relate to capital expenditure.	Documentation
1d. was fully funded by QR Network and, if not, what proportion of the works were funded by QR Network	The Project Plan states that IPJV will undertake the design and construction of the project and at completion, QR will acquire all components of the spur and balloon loop, no further information is provided on exact method of funding.	Statement
1e. the need for new capital projects to accommodate reasonable demands	This is a new mine which will produce and initial output of 1.5 mtpa.	Documentation
1f. QR Networks legislative requirements, including workplace health and safety and environmental requirements	The Project Plan references the need to meet QR and legislative safety requirements and standards, however evidence of the plans and compliance to them has not been provided. Insufficient details have been provided with regards to the environmental requirements.	Statement
1g. the appropriateness of QR Network's processes to evaluate and select proposed capital projects, including the extent to which alternatives are evaluated as part of the process	According to the Project Plan, IPJV considered a number of options in the design of the loop, however no documentation or analysis of these options has been provided.	Statement
1h. the extend to which capital projects that were undertaken were subject to the capital evaluation and selection process	Unable to determine from the documentation provided	None

#### 2 Standards

Requirements	Comments	Evidence
2a. the works are consistent in	The Project Completion Report states that all work has	Statement

	all material respects with the existing standard and configuration of adjacent infrastructure and/or existing infrastructure with similar usage levels, or its modern engineering equivalent, in the CQCR	been completed to the client's satisfaction and in accordance with QR's quality and safety systems standards and procedures. No completion or commissioning certificates have been provided.	
2b.	considers current and likely future usage levels	The project is for a new mine and has been undertaken according to customer specific requirements.	Statement
2c.	considers the requirements of the ARA NCOP	No evidence has been provided demonstrating compliance to ARA NCOP.	None
2d.	considers the requirements of the design and construction standards	The Project Completion Report states that all work has been completed to the client's satisfaction and in accordance with QR's quality and safety systems standards and procedures. No completion or commissioning certificates have been provided.	Statement
2e.	meets the requirements of the QR Network's design standards contained in the SMS and acceptable to the Safety Regulator	The Project Completion Report states that all work has been completed to the client's satisfaction and in accordance with QR's quality and safety systems standards and procedures. No completion or commissioning certificates have been provided.	Statement
<b>3. Costs</b>			
	<b>Requirements</b>	<b>Comments</b>	
3a.	the level of such costs relative to the scale, nature, cost and complexity of the project	The Project Plan is very comprehensive but the Project Completion Report is a draft in which costs remain unreported.	None
3b.	the circumstances prevailing in the markets for engineering, equipment supply and construction	At the time the project was undertaken the market for the skills, materials and equipment required was very tight and significant escalation of the underlying indices took place during the project period.	Documentation, Knowledge of Assessor
3c.	safety during construction and operation	A safety workshop was conducted during the project as a means of enhancing system safety. There is no mention of workplace safety during construction.	Statement
3d.	compliance with environmental requirements	Both the Project Plan and the Completion Report are silent on the matter of environmental matters.	None
3e.	minimising disruption to the operation of train services during construction	The Completion Report states that rail haulage was not significantly impacted.	Statement
3f.	accommodating reasonable requests of access holders to amend the scope and sequence of works	There is no information on this in either report. Access holders are not included in the list of stakeholders.	None
3g.	minimise whole of asset life costs	It is not possible to comment on this as it is not covered in either of the reports available to us. This might have been addressed in the UT2 submission.	None
3h.	minimising total project costs	The Completion Report provides very little information on costs and it is difficult to identify the final cost.	None
3i.	aligning other elements of the supply chain	The work was construction of a new balloon loop on the Goonyella system. It aligns with other elements of the supply chain.	Documentation

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3j.	meeting contractual timeframes and dealing with external factors	The project was fully commissioned on 8/12/06 ahead of the required date of January 2007.	Documentation
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## Appendix 12 Sonoma Balloon Loop

The purpose of the project is to construct a 3.8 km spur and balloon loop, including all associated track and signalling infrastructure south of Collinsville on the Goonyella System.

### Duration of Project

According to the Expenditure Claim Summary this project was commissioned in June 2008. The Expenditure Claim Summary also states that additional claims will be made in future years for the completion of project civil construction, signalling, siding construction and level crossing upgrades. This project is yet to be completed.

### Documentation Provided

1. Expenditure Claim Summary
2. Business Case
3. Project Plan – Un-signed and un-dated with some Appendices missing
4. Commissioning Handover Document.

### Commentary

#### 1. Scope

Requirements	Comments	Evidence
1a. was it below-rail infrastructure and, if not, what proportion of the works are below-rail	All elements of the Business Case and Project Plan appear to be below-rail infrastructure.	Documentation
1b. was commissioned in 2007-2008	The project did not reach financial close in 2008 (although Expenditure Claim summary is conflicting in this statement) and as such this is only a partial claim for the work completed to date. Final commissioning expected during 2008-09.	Documentation
1c. is capital expenditure and not maintenance	All works relate to capital expenditure.	Documentation
1d. was fully funded by QR Network and, if not, what proportion of the works were funded by QR Network	The Business Case states that QR and QCoal will undertake the design, construction and civil works of the project and at completion, QR will acquire all components of the spur and balloon loop. Attached A of the Project Plan indicates that Project Approval and funding was provided by the QR Board.	Statements
1e. the need for new capital projects to accommodate reasonable demands	This is a new mine which will produce and initial output of 2.5 mtpa.	Documentation
1f. QR Networks legislative requirements, including workplace health and safety and environmental requirements	The Project Plan references the need to meet QR and legislative safety requirements and standards, however evidence of the plans and compliance to them has not been provided. Insufficient details have been provided with regards to the environmental requirements.	Statement
1g. the appropriateness of QR Network's processes to evaluate and select proposed capital projects, including the extent to which alternatives are evaluated as part of the process	According to the Project Plan, Sonoma Mine Management considered a number of options in the design of the loop, however no documentation or analysis of these options has been provided.	Statement
1h. the extend to which capital projects that were	Up to this point in the project it appears that appropriate management consideration has been documented. It	Documentation

undertaken were subject to the capital evaluation and selection process	should also be noted that this is a customer specific project.	
<b>2 Standards</b>		
<b>Requirements</b>	<b>Comments</b>	<b>Evidence</b>
2a. the works are consistent in all material respects with the existing standard and configuration of adjacent infrastructure and/or existing infrastructure with similar usage levels, or its modern engineering equivalent, in the CQCR	According to the Commissioning Certificates received to date all work has been completed to the client's satisfaction and in accordance with QR's quality and safety systems standards and procedures.	Documentation
2b. considers current and likely future usage levels	The project is for a new mine and has been undertaken according to customer specific requirements.	Statement
2c. considers the requirements of the ARA NCOP	No evidence has been provided demonstrating compliance to ARA NCOP.	None
2d. considers the requirements of the design and construction standards	According to the Commissioning Certificates received to date all work has been completed to the client's satisfaction and in accordance with QR's quality and safety systems standards and procedures.	Documentation
2e. meets the requirements of the QR Network's design standards contained in the SMS and acceptable to the Safety Regulator	According to the Commissioning Certificates received to date all work has been completed to the client's satisfaction and in accordance with QR's quality and safety systems standards and procedures.	Documentation
<b>3. Costs</b>		
<b>Requirements</b>	<b>Comments</b>	
3a. the level of such costs relative to the scale, nature, cost and complexity of the project	On page 1 of the Submission it is stated that the project is not complete. On page 4 the Submission states that the expenditure as at 30/6/08 was \$4.4 million, of a budget of \$14.5 million. On page 4 the project is said to be successfully commissioned in June 2008.	Documentation
3b. the circumstances prevailing in the markets for engineering, equipment supply and construction	At the time the project was undertaken the market for the skills, materials and equipment required was very tight and significant escalation of the underlying indices took place during the project period.	Documentation, Knowledge of Assessor
3c. safety during construction and operation	The reports are silent other than a comment in the project objectives that the project was to be constructed in a safe manner. It is notable that in a 57-page Project Plan there is no section on safety, nor is a safety manager nominated in the organisation chart.	None
3d. compliance with environmental requirements	The reports are silent other than a comment in the project objectives that the project was to be constructed without harm to the environment. It is notable that in a 57-page Project Plan there is no section on environment, nor is an environment manager nominated in the organisation chart.	None
3e. minimising disruption to the operation of train services during construction	This information is not available in the reports provided.	None

3f.	accommodating reasonable requests of access holders to amend the scope and sequence of works	There is no information in the reports provided.	None
3g.	minimise whole of asset life costs	This is not addressed in the reports provided, but as the project utilised conventional materials and methods it could be said that this was addressed.	None
3h.	minimising total project costs	The project was not completed at the time of submission so the total cost is not available.	None
3i.	aligning other elements of the supply chain	As the project was construction of a spur and balloon loop it aligns with other elements of the supply chain.	Documentation
3j.	meeting contractual timeframes and dealing with external factors	The project was commissioned in June 2008, which agreed with the Project Plan, however there has been no confirmation that the project is actually complete. The reports are silent on the matter of external factors.	Documentation

### Appendix 13 Calliope River: Bridge Upgrade

The purpose of the project was to remove existing damaged concrete piers, repair the same and install cathodic protection to 5 piers.

#### Duration of Project

According to the Expenditure Claim Summary the majority of works was completed by June 2008, however a further claim will be made during the 2008-09 period.

#### Documentation Provided

1. Expenditure Claim Summary
2. Business Case
3. Record of Estimate Review
4. Project Plan (abridged version) – Un-signed.

#### Commentary

#### 1. Scope

Requirements	Comments	Evidence
1a. was it below-rail infrastructure and, if not, what proportion of the works are below-rail	All elements of the Business Case and Project Plan appear to be below-rail infrastructure.	Documentation
1b. was commissioned in 2007-2008	The project did not reach financial close in 2008 and as such this is only a partial claim for the work completed to date. Final commissioning expected during 2008-09.	Documentation
1c. is capital expenditure and not maintenance	All works relate to capital expenditure.	Documentation
1d. was fully funded by QR Network and, if not, what proportion of the works were funded by QR Network	The Business Case provides a recommendation that the CFO/COO of QR approve the capital expenditure. No other documentation has been provided.	Statement
1e. the need for new capital projects to accommodate reasonable demands	This work is being undertaken to ensure current demands and service levels can be maintained.	Statement
1f. QR Networks legislative requirements, including workplace health and safety and environmental requirements	No documentation or evidence has been provided	None
1g. the appropriateness of QR Network's processes to evaluate and select proposed capital projects, including the extent to which alternatives are evaluated as part of the process	According to the Business Case no other options were considered. According to the Expenditure Claim Summary the construction of a completely new bridge was considered, however no analysis has been provided.	Statement
1h. the extent to which capital projects that were undertaken were subject to the capital evaluation and selection process	Limited documentation has been provided for this project, but for the nature of the project, the level of evaluation was satisfactory.	Documentation (minimal)

#### 2 Standards

Requirements	Comments	Evidence
2a. the works are consistent in all material respects with the existing standard and configuration of adjacent infrastructure and/or existing infrastructure with similar usage levels, or its modern engineering equivalent, in the CQCR	Insufficient documentation or evidence has been provided	None
2b. considers current and likely future usage levels	This work is being undertaken to ensure current demands and service levels can be maintained.	Statement
2c. considers the requirements of the ARA NCOP	No evidence has been provided demonstrating compliance to ARA NCOP.	None
2d. considers the requirements of the design and construction standards	Insufficient documentation or evidence has been provided	None
2e. meets the requirements of the QR Network's design standards contained in the SMS and acceptable to the Safety Regulator	Insufficient documentation or evidence has been provided	None
<b>3. Costs</b>		
Requirements	Comments	Evidence
3a. the level of such costs relative to the scale, nature, cost and complexity of the project	Although the project is not complete at the time of compilation of the Submission the estimated cost is reasonable given the scope of work.	Documentation, Knowledge of Assessor
3b. the circumstances prevailing in the markets for engineering, equipment supply and construction	At the time the project was undertaken the market for the skills, materials and equipment required was very tight and significant escalation of the underlying indices took place during the project period.	Documentation, Knowledge of Assessor
3c. safety during construction and operation	This is not addressed in the documentation provided.	None
3d. compliance with environmental requirements	This is not addressed in the documentation provided.	None
3e. minimising disruption to the operation of train services during construction	This is not addressed in the documentation provided, however one would not expect the works to impact on train operations.	None
3f. accommodating reasonable requests of access holders to amend the scope and sequence of works	This is not addressed in the documentation provided.	None
3g. minimise whole of asset life costs	There is no specific mention of this in the Reports, but we note that the project was undertaken using normal construction procedures and standard components and materials which may have been analysed for whole-of-life costs separately in a generic way.	None
3h. minimising total project costs	The Estimate Review certifies that the expenditure is the minimum to achieve the objectives.	Documentation
3i. aligning other elements of	The project aligns with other elements of the supply	Documentation

	the supply chain	chain.	
3j.	meeting contractual timeframes and dealing with external factors	The project was on-going at the time of the Submission and no information was provided forecasting completion dates or consideration of external factors.	Documentation

## Appendix 14 Goonyella System: Rail Upgrade

The purpose of this project is to upgrade 18.6 km of track between Coppabella and the destination terminals of Dalrymple Bay and Hay Point, and 17.8 kms of track between Coppabella and Gregory Junction from 53 kg/m to 60kg/m rail.

### Duration of Project

According to the Expenditure Claim Summary this is an ongoing project with the majority of works expected to be completed in future years. As such this is a partial claim and further claims will be made during the 2008-09 period.

### Documentation Provided

1. Expenditure Claim Summary
2. Project Approval Notices
3. Project Plan (abridged version) – Unsigned No completion report or cost information was reviewed.

### Commentary

#### 1. Scope

Requirements	Comments	Evidence
1a. was it below-rail infrastructure and, if not, what proportion of the works are below-rail	All elements of the Project Plan appear to be below-rail infrastructure.	Documentation
1b. was commissioned in 2007-2008	The project did not reach financial close in 2008 and as such this is only a partial claim for the work completed to date. Final commissioning expected during 2008-09.	Documentation
1c. is capital expenditure and not maintenance	All works relate to capital expenditure.	Documentation
1d. was fully funded by QR Network and, if not, what proportion of the works were funded by QR Network	The attached Project Approval notices indicate that funding will be from the Network Access "Future Approvals".	Documentation
1e. the need for new capital projects to accommodate reasonable demands	The project Plan indicates an expected increase in haulage tonnages on this particular line. To ensure reliable and safe operation this appears reasonable.	Documentation
1f. QR Networks legislative requirements, including workplace health and safety and environmental requirements	No documentation or evidence has been provided	None
1g. the appropriateness of QR Network's processes to evaluate and select proposed capital projects, including the extent to which alternatives are evaluated as part of the process	According to the Expenditure Claim Summary, 2 other options were considered (do nothing and utilise 50 kg/m rail), however no detailed analysis has been provided.	Statement
1h. the extent to which capital projects that were undertaken were subject to the capital evaluation and selection process	Limited documentation has been provided to assess the processes used for this project.	Documentation

<b>2 Standards</b>		
<b>Requirements</b>	<b>Comments</b>	<b>Evidence</b>
2a. the works are consistent in all material respects with the existing standard and configuration of adjacent infrastructure and/or existing infrastructure with similar usage levels, or its modern engineering equivalent, in the CQCR	QR Network asserts that this upgrade will bring this section of track inline with the current standards and configurations.	Statement
2b. considers current and likely future usage levels	The Project Plan indicates an expected increase in haulage tonnages on this particular line and the need to ensure reliable and safe operation.	Documentation
2c. considers the requirements of the ARA NCOP	No evidence has been provided demonstrating compliance to ARA NCOP.	None
2d. considers the requirements of the design and construction standards	60 kg/m rail is considered standard for the expected axle loads	Statement
2e. meets the requirements of the QR Network's design standards contained in the SMS and acceptable to the Safety Regulator	60 kg/m rail is considered standard for the expected of axle loads and is used extensively throughout the QR system.	Statement
<b>3. Costs</b>		
<b>Requirements</b>	<b>Comments</b>	<b>Evidence</b>
3a. the level of such costs relative to the scale, nature, cost and complexity of the project	Please see comments under Documentation Provided above.	None
3b. the circumstances prevailing in the markets for engineering, equipment supply and construction	Please see comments under Documentation Provided above.	None
3c. safety during construction and operation	Please see comments under Documentation Provided above.	None
3d. compliance with environmental requirements	Please see comments under Documentation Provided above.	None
3e. minimising disruption to the operation of train services during construction	Please see comments under Documentation Provided above.	None
3f. accommodating reasonable requests of access holders to amend the scope and sequence of works	Please see comments under Documentation Provided above.	None
3g. minimise whole of asset life costs	Please see comments under Documentation Provided above.	None
3h. minimising total project costs	Please see comments under Documentation Provided above.	None
3i. aligning other elements of the supply chain	Please see comments under Documentation Provided above.	None



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3j. meeting contractual timeframes and dealing with external factors	Please see comments under Documentation Provided above.	None
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### Appendix 15 Norwich Park Mine – Recondition Balloon Loop

The purpose of the project was to upgrade 5.3 kms of track and associated works on the Norwich Park Balloon Loop.

#### Duration of Project

According to the Expenditure Claim Summary the majority of works was completed by April 2008, however a further claim will be made during the 2008-09 period. This conflicts with the Project Completion Report, which indicates the project was completed in June 2008.

#### Documentation Provided

1. Expenditure Claim Summary
2. Business Case
3. Project Approval Notices
4. Project Completion Report (abridged and incomplete)

#### Commentary

##### 1. Scope

Requirements	Comments	Evidence
1a. was it below-rail infrastructure and, if not, what proportion of the works are below-rail	All elements of the Business Case and Project Plan appear to be below-rail infrastructure.	Documentation
1b. was commissioned in 2007-2008	The project reached operational close, but not financial close in 2008 and as such this is only a partial claim for the work completed to date.	Documentation
1c. is capital expenditure and not maintenance	All works relate to capital expenditure.	Documentation
1d. was fully funded by QR Network and, if not, what proportion of the works were funded by QR Network	The attached Project Approval notices indicate that funding will be from the Network Access "Future Approvals".	Documentation
1e. the need for new capital projects to accommodate reasonable demands	This work is being undertaken to ensure current demands and service levels can be maintained reliably and safely.	Documentation
1f. QR Networks legislative requirements, including workplace health and safety and environmental requirements	No documentation or evidence has been provided	None
1g. the appropriateness of QR Network's processes to evaluate and select proposed capital projects, including the extent to which alternatives are evaluated as part of the process	According to the Expenditure Claim Summary and Business Case, the option to re-sleeper using timber was considered. Some minor analysis was presented to demonstrate this.	Documentation (minimal)
1h. the extent to which capital projects that were undertaken were subject to the capital evaluation and selection process	Limited documentation has been provided for this project, as such it is difficult to determine if the level of evaluation was satisfactory.	Documentation

<b>2 Standards</b>		
<b>Requirements</b>	<b>Comments</b>	<b>Evidence</b>
2a. the works are consistent in all material respects with the existing standard and configuration of adjacent infrastructure and/or existing infrastructure with similar usage levels, or its modern engineering equivalent, in the CQCR	QR asserts in the Expenditure Claim Summary, that this upgrade will bring this section of track inline with the current standards and configurations for this level of track usage.	Statement
2b. considers current and likely future usage levels	QR asserts in the Expenditure Claim Summary, that this upgrade will bring this section of track inline with the current standards and configurations for this level of track usage.	Statement
2c. considers the requirements of the ARA NCOP	No evidence has been provided demonstrating compliance to ARA NCOP.	None
2d. considers the requirements of the design and construction standards	Upgrading to concrete sleepers is consistent with other similar section of track on this system with this level of usage.	None. Knowledge of Assessor
2e. meets the requirements of the QR Network's design standards contained in the SMS and acceptable to the Safety Regulator	Upgrading to concrete sleepers is consistent with other similar sections of track on this system with this level of usage.	None. Knowledge of Assessor
<b>3. Costs</b>		
<b>Requirements</b>	<b>Comments</b>	<b>Evidence</b>
3a. the level of such costs relative to the scale, nature, cost and complexity of the project	While the budget is apparently \$5.2 million it appears the achieved cost is \$3.001 million. This is a reasonable cost for the scope of works set out in the draft Completion Report.	Documentation, Knowledge of Assessor
3b. the circumstances prevailing in the markets for engineering, equipment supply and construction	At the time the project was undertaken the market for the skills, materials and equipment required was very tight and significant escalation of the underlying indices took place during the project period.	Documentation, Knowledge of Assessor
3c. safety during construction and operation	We note that the Completion report refers to certificates that certify validation of system safety.	Statements
3d. compliance with environmental requirements	The report is silent on this aspect.	None
3e. minimising disruption to the operation of train services during construction	The report is silent on this aspect.	None
3f. accommodating reasonable requests of access holders to amend the scope and sequence of works	The report is silent on this aspect.	None
3g. minimise whole of asset life costs	The report is silent on this aspect.	None
3h. minimising total project costs	The report is silent on this aspect.	None
3i. aligning other elements of the supply chain	The project is upgrading of a coal loading loop and is therefore aligned with other elements of the supply	Documentation

	chain.	
3j. meeting contractual timeframes and dealing with external factors	The Draft Project Completion Report states the project was commissioned in June 2008 (conflicts with Expenditure Claim Summary), which is some 2 months behind schedule.	Documentation

## Appendix 16 Newlands Balloon Loop Upgrade

The purpose of the project was to replace the collapsed metal corrugated culvert with a concrete equivalent , together with associated drainage works.

### Duration of Project

According to the Project Handover and Completion Report the project commenced in August 07 and was commissioned November 2007.

### Documentation Provided

1. Expenditure Claim Summary
2. Project Plan
3. Project Handover and Completion Report

### Commentary

#### 1. Scope

Requirements	Comments	Evidence
1a. was it below-rail infrastructure and, if not, what proportion of the works are below-rail	All elements of the Business Case and the Project Handover Completion Report appear to be below-rail infrastructure	Documentation
1b. was commissioned in 2007-2008	According to the Project Handover and Completion Report, the project was commissioned in November 2007	Documentation
1c. is capital expenditure and not maintenance	All works related to capital expenditure	Documentation
1d. was fully funded by QR Network and, if not, what proportion of the works were funded by QR Network	Expenditure Claim Summary states funding from QR.	Statement
1e. the need for new capital projects to accommodate reasonable demands	This was for the replacement of existing infrastructure and as such to meet current and future demands.	None (not really required)
1f. QR Networks legislative requirements, including workplace health and safety and environmental requirements	The Project Handover and Completion Report demonstrates compliance to requirements.	Documentation
1g. the appropriateness of QR Network's processes to evaluate and select proposed capital projects, including the extent to which alternatives are evaluated as part of the process	No documentation or evidence has been provided with regards to options or alternatives analysis. However given the scope of work, this is not really expected.	None (not really required)
1h. the extend to which capital projects that were undertaken were subject to the capital evaluation and selection process	Although the availability of project documentation is limited it appears that appropriate management consideration has occurred.	Documentation

#### 2 Standards

Requirements	Comments	Evidence
2a. the works are consistent in all material respects with the existing standard and configuration of adjacent infrastructure and/or existing infrastructure with similar usage levels, or its modern engineering equivalent, in the CQCR	The Project Handover and Completion Report demonstrates compliance to requirements.	Documentation
2b. considers current and likely future usage levels	This was for the replacement of existing infrastructure and as such to meet current and future usage.	None (not really required)
2c. considers the requirements of the ARA NCOP	No evidence has been provided demonstrating compliance to ARA NCOP	None
2d. considers the requirements of the design and construction standards	The Project Handover and Completion Report demonstrates compliance to requirements. Completion certificates provided.	Documentation
2e. meets the requirements of the QR Network's design standards contained in the SMS and acceptable to the Safety Regulator	The Project Handover and Completion Report demonstrates compliance to requirements. Completion certificates provided.	Documentation
<b>3. Costs</b>		
Requirements	Comments	Evidence
3a. the level of such costs relative to the scale, nature, cost and complexity of the project	The general level of cost is compatible with the type, scale, complexity and location of the work.	Documentation, Knowledge of Assessor
3b. the circumstances prevailing in the markets for engineering, equipment supply and construction	At the time the project was undertaken the market for the skills, materials and equipment required was very tight and significant escalation of the underlying indices took place during the project period.	Documentation, Knowledge of Assessor
3c. safety during construction and operation	While the reports are silent on the matter of workplace safety they do mention safety certificates as being issued for system safety.	Statement
3d. compliance with environmental requirements	The reports are silent on this aspect.	None
3e. minimising disruption to the operation of train services during construction	This is not stated however the Submission states that the work was carried out in consultation with the mine owners.	Statement
3f. accommodating reasonable requests of access holders to amend the scope and sequence of works	The reports are silent on this aspect.	None
3g. minimise whole of asset life costs	This is not addressed in the reports.	None
3h. minimising total project costs	The project was a simple replacement of a culvert, although in a high embankment, and was completed under budget. Whether costs were minimised is not addressed.	Documentation
3i. aligning other elements of	The project aligns with other elements of the supply	Documentation

the supply chain	chain	
3j. meeting contractual timeframes and dealing with external factors	The project was completed on time. There were minimal external factors to be addressed.	Documentation

### Appendix 17 Coal System: Formation Strengthening

The purpose of the project is to undertake formation strengthening (combination of reconstruction and lime slurry injection) of the track on priority basis total approximately 30 kms in length.

#### Duration of Project

It would appear commencement of the project was in 2006-07 with completion expected in 2011. As such this is a partial claim only for the work completed up to then end of 2007-08. Future claims are expected for this project.

#### Documentation Provided

1. Expenditure Claim Summary
2. Business Case
3. Email (thread) involving Drew Hellyer, Edward Lai, Kay Going and Shripad Pingle.
4. PBC Decision Minute – Funding Approval
5. Project Plan – Abridged version

#### Commentary

##### 1. Scope

Requirements	Comments	Evidence
1a. was it below-rail infrastructure and, if not, what proportion of the works are below-rail	All elements of the Business Case and Project Plan appear to be below-rail infrastructure.	Documentation
1b. was commissioned in 2007-2008	This is an ongoing project and as such this is only for a partial claim of works completed up to end of 2007-08. Further claims will be submitted.	Documentation
1c. is capital expenditure and not maintenance	The project works have been deemed capital works on the basis that; the lime slurry injection is a once off application that can not be maintained once applied; and that some of the works involve reconstruction of the track.	Documentation
1d. was fully funded by QR Network and, if not, what proportion of the works were funded by QR Network	The PBC Decision Minute indicates funding approval by the CEO of QR.	Documentation
1e. the need for new capital projects to accommodate reasonable demands	This was for the strengthening of existing infrastructure and as such to meet current and future demands.	Documentation
1f. QR Networks legislative requirements, including workplace health and safety and environmental requirements	The Business Case contains a standard risk analysis appropriate to OH&S and environmental issues and the need for appropriate plans. Evidence of the plans has not been provided.	Statement
1g. the appropriateness of QR Network's processes to evaluate and select proposed capital projects, including the extent to which alternatives are evaluated as part of the process	Apart from the option of doing nothing, no other option or alternative has been presented. The analysis presented for this option, although correct, appears cursory only, with no major details provided.	Statement
1h. the extend to which capital	Although the availability of project documentation is	Documentation



projects that were undertaken were subject to the capital evaluation and selection process	limited at this early stage, it appears that appropriate management consideration has occurred.	
<b>2 Standards</b>		
<b>Requirements</b>	<b>Comments</b>	<b>Evidence</b>
2a. the works are consistent in all material respects with the existing standard and configuration of adjacent infrastructure and/or existing infrastructure with similar usage levels, or its modern engineering equivalent, in the CQCR	Apart from the Expenditure Claim Summary, the documentation provided is silent on this aspect.	None
2b. considers current and likely future usage levels	This was for the strengthening of existing infrastructure and as such to meet current and future demands.	Documentation
2c. considers the requirements of the ARA NCOP	No evidence has been provided demonstrating compliance to ARA NCOP	None
2d. considers the requirements of the design and construction standards	Apart from the Expenditure Claim Summary, the documentation provided is silent on this aspect.	None
2e. meets the requirements of the QR Network's design standards contained in the SMS and acceptable to the Safety Regulator	The Business Case contains a standard risk analysis appropriate to OH&S and environmental issues and the need for appropriate plans. Evidence of the plans or compliance to SMS or regulatory requirements has not been provided.	Statement
<b>3. Costs</b>		
<b>Requirements</b>	<b>Comments</b>	<b>Evidence</b>
3a. the level of such costs relative to the scale, nature, cost and complexity of the project	The project is formation strengthening to be carried out over a period of 5 years. The budget is \$20.54 million. Due to the many factors that can affect such works, including weather and rail traffic it is difficult to assess whether the scale of cost matches the global scope, but it is felt that the budgeted annual amounts are of the right order.	Documentation, Knowledge of Assessor
3b. the circumstances prevailing in the markets for engineering, equipment supply and construction	At the time the project was undertaken the market for the skills, materials and equipment required was very tight and significant escalation of the underlying indices took place during the project period.	Documentation, Knowledge of Assessor
3c. safety during construction and operation	The reports are silent on this.	None
3d. compliance with environmental requirements	The reports are silent on this.	None
3e. minimising disruption to the operation of train services during construction	This is not addressed in the reports.	None
3f. accommodating reasonable requests of access holders to amend the scope and sequence of works	No mention is made of access holders in the available reports	None
3g. minimise whole of asset life	This is not addressed in the reports.	None

costs		
3h. minimising total project costs	The work is on-going.	NA
3i. aligning other elements of the supply chain	The project aligns with other elements of the supply chain.	Documentation
3j. meeting contractual timeframes and dealing with external factors	The work is yet to be completed.	Documentation

## Appendix 18 Rockhampton to Burngrove: Omnibus Upgrade

The purpose of the project is to replace the existing NEC omnibus equipment with a modern robust wayside system.

### Duration of Project

This project commencement in 2004-05 and was commissioned in 2007-08.

### Documentation Provided

1. Expenditure Claim Summary
2. Project Submission

### Commentary

#### 1. Scope

Requirements	Comments	Evidence
1a. was it below-rail infrastructure and, if not, what proportion of the works are below-rail	All elements of the Project Submission appear to be below-rail infrastructure.	Documentation (minimal)
1b. was commissioned in 2007-2008	The Expenditure Claim summary indicates final commissioning occurred in 2006-07 and that this claim is for the final project costs.	Statement
1c. is capital expenditure and not maintenance	All works relate to capital expenditure	Documentation
1d. was fully funded by QR Network and, if not, what proportion of the works were funded by QR Network	The Expenditure Claim summary indicates approval by QR for funding in August 2004. This appears consistent with the Project Submission	Statement
1e. the need for new capital projects to accommodate reasonable demands	The capital project is to replace a 21 year old system with modern robust system. This demand seems reasonable.	Statement
1f. QR Networks legislative requirements, including workplace health and safety and environmental requirements	The Project Submission state the need to carry out the works in accordance with safety Management Systems and regard to the environment. No evidence of compliance has been provided.	Statement
1g. the appropriateness of QR Network's processes to evaluate and select proposed capital projects, including the extent to which alternatives are evaluated as part of the process	No alternatives or options have been visited, however given the nature of the project, this is not really expected.	None (not really expected)
1h. the extent to which capital projects that were undertaken were subject to the capital evaluation and selection process	Although the availability of project documentation is limited, it appears that appropriate management consideration has occurred.	Documentation
2 Standards		
Requirements	Comments	Evidence
2a. the works are consistent in all material respects with the	The nature of the work is such that it must inherently be consistent and compliant to the exiting system	Statement

	existing standard and configuration of adjacent infrastructure and/or existing infrastructure with similar usage levels, or its modern engineering equivalent, in the CQCR	otherwise the entire system will not work (the Project Submission states that the equipment is based on that already used on the QR System). However it would be still appropriate that completion and commissioning certificates be supplied.	
2b.	considers current and likely future usage levels	This was for the replacement existing infrastructure and as such to meet current and future demands.	None
2c.	considers the requirements of the ARA NCOP	No evidence has been provided demonstrating compliance to ARA NCOP	None
2d.	considers the requirements of the design and construction standards	The nature of the work is such that it must inherently be consistent and compliant to the existing system otherwise the entire system will not work (the Project Submission states that the equipment is based on that already used on the QR System). However it would be still appropriate that completion and commissioning certificates be supplied.	Statement
2e.	meets the requirements of the QR Network's design standards contained in the SMS and acceptable to the Safety Regulator	The Project Submission state the need to carry out the works in accordance with safety Management Systems and regard to the environment. No evidence of compliance has been provided.	Statement
<b>3. Costs</b>			
	<b>Requirements</b>	<b>Comments</b>	<b>Evidence</b>
3a.	the level of such costs relative to the scale, nature, cost and complexity of the project	The project was to replace existing equipment within communication huts while retaining the fibre-optic cable network. The achieved cost is commensurate with the scope of the works.	Documentation, Knowledge of Assessor
3b.	the circumstances prevailing in the markets for engineering, equipment supply and construction	At the time the project was undertaken the market for the skills, materials and equipment required was very tight and significant escalation of the underlying indices took place during the project period.	Documentation, Knowledge of Assessor
3c.	safety during construction and operation	The reports state that the work was carried out in accordance with QR safety standards. No compliance evidence provided.	Statement
3d.	compliance with environmental requirements	The Project Submission indicates that all works should be carried with consideration to the environment. No compliance evidence provided.	Statement
3e.	minimising disruption to the operation of train services during construction	The reports are silent on this.	None
3f.	accommodating reasonable requests of access holders to amend the scope and sequence of works	There is no mention of access holders in the reports provided.	None
3g.	minimise whole of asset life costs	As this is a partial replacement of an outdated system it could be assumed that whole-of-life costs are minimised.	None
3h.	minimising total project costs	The bulk of the expenditure occurred in the UT2 period.	None
3i.	aligning other elements of the supply chain	The project aligns with other elements of the supply chain.	Documentation

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3j.	meeting contractual timeframes and dealing with external factors	The project was completed on time.	Documentation
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## Appendix 19 Coal Systems: SAN Replacement

The purpose of this project is to replace the aged and failing SAN telecommunication components with updated technology.

### Duration of Project

According to the Funding Request, this project commenced in March 2007 and was expected to close within 6 months (August 2007). According to the Expenditure Claim summary the project is not yet complete.

### Documentation Provided

1. Expenditure Claim Summary
2. Funding Request

### Commentary

#### 1. Scope

Requirements	Comments	Evidence
1a. was it below-rail infrastructure and, if not, what proportion of the works are below-rail	All elements of the Expenditure Claim Summary and the Funding Request appear to be below-rail infrastructure.	Documentation
1b. was commissioned in 2007-2008	This is an ongoing project and as such this is only a partial claim for work completed up to the end of 2007-08.	Documentation
1c. is capital expenditure and not maintenance	All works relate to capital expenditure (replacement program for existing infrastructure)	Documentation
1d. was fully funded by QR Network and, if not, what proportion of the works were funded by QR Network	Project funding has been provided by QR	Documentation
1e. the need for new capital projects to accommodate reasonable demands	This was for the replacement existing infrastructure and as such to meet current and future demands.	None
1f. QR Networks legislative requirements, including workplace health and safety and environmental requirements	The documentation provided is silent on this requirements, however the nature of the replacement equipment is ensure continued operational safety	None
1g. the appropriateness of QR Network's processes to evaluate and select proposed capital projects, including the extent to which alternatives are evaluated as part of the process	No other options or alternative have been provided.	None
1h. the extend to which capital projects that were undertaken were subject to the capital evaluation and selection process	Limited documentation has been provided for this project, as such it is not possible to determine if the level of evaluation was satisfactory.	Documentation (minimal)

#### 2 Standards

Requirements	Comments	Evidence
2a. the works are consistent in all material respects with the existing standard and configuration of adjacent infrastructure and/or existing infrastructure with similar usage levels, or its modern engineering equivalent, in the CQCR	The expenditure Claim Summary states that work has been carried out to the required standard and usage levels, however no evidence has been provided.	Statement
2b. considers current and likely future usage levels	The expenditure Claim Summary states that work has been carried out to the required standard and usage levels, however no evidence has been provided. This was for the replacement existing infrastructure and as such to meet current and future demands.	Statement
2c. considers the requirements of the ARA NCOP	No evidence has been provided demonstrating compliance to ARA NCOP	None
2d. considers the requirements of the design and construction standards	The expenditure Claim Summary states that work has been carried out to the required standard and usage levels, however no evidence has been provided.	Statement
2e. meets the requirements of the QR Network's design standards contained in the SMS and acceptable to the Safety Regulator	The expenditure Claim Summary states that work has been carried out to the required standard and usage levels, however no evidence has been provided.	Statement
<b>3. Costs</b>		
Requirements	Comments	Evidence
3a. the level of such costs relative to the scale, nature, cost and complexity of the project	The information provided does not permit an assessment of the scale of cost relative to scope. If the work is undertaken by competitive tender there is some visibility of the market for such equipment and services.	Documentation, Knowledge of Assessor
3b. the circumstances prevailing in the markets for engineering, equipment supply and construction	At the time the project was undertaken the market for the skills, materials and equipment required was very tight and significant escalation of the underlying indices took place during the project period	Documentation, Knowledge of Assessor
3c. safety during construction and operation	This is not covered in the reports provided.	None
3d. compliance with environmental requirements	This is not covered in the reports provided.	None
3e. minimising disruption to the operation of train services during construction	This is not covered in the reports provided.	None
3f. accommodating reasonable requests of access holders to amend the scope and sequence of works	This is not covered in the reports provided.	None
3g. minimise whole of asset life costs	This is not covered in the reports provided.	None
3h. minimising total project costs	This is not covered in the reports provided.	None
3i. aligning other elements of the supply chain	This project aligns with other elements of the supply chain.	Documentation

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3j. meeting contractual timeframes and dealing with external factors	The project is on-going however completion was originally expected in August 2007.	Documentation
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## Appendix 20 LED Signal Replacement – Commercial Networks

The purpose of this project is to systematically upgrade all mainline and ground shunt incandescent signals on the commercial systems to Light Emitting Diode (LED) signals.

### Duration of Project

The project was approved in January 2004 with a planned commencement date of July 2004 and a completion date of June 2007. The project has not proceeded in accordance with the original plan and as at the end of the 07/08 period there is 25% of the original budget remaining.

### Documentation Provided

1. Capital expenditure claim
2. Response to additional information request April 2009
3. Project Submission 2004
4. Project Plan (unsigned) dated June 2005
5. Email Ryan/Hellyer dated 10 Oct 2007 re A01048 LED Signal Replacement

### Commentary

#### 2. Scope

Requirements	Comments	Evidence
1i. was it below-rail infrastructure and, if not, what proportion of the works are below-rail	All elements of the Expenditure Claim Summary and the Funding Request appear to be below-rail infrastructure.	Documentation
1j. was commissioned in 2007-2008	Only 7% of the amount claimed was installed during the 07/08 year. The remaining amount was for the procurement of LED signal materials that had not yet been installed.	Documentation
1k. is capital expenditure and not maintenance	All works relate to capital expenditure as they replaced existing infrastructure	Documentation
1l. was fully funded by QR Network and, if not, what proportion of the works were funded by QR Network	Project funding appears to have been provided by QR only.	Documentation
1m. the need for new capital projects to accommodate reasonable demands	This project was for the replacement of existing infrastructure to improve overall reliability of the line and to reduce the requirement for restrictions due to signal failure.	Documentation
1n. QR Networks legislative requirements, including workplace health and safety and environmental requirements	The documentation provided is silent on this requirements, however the nature of the replacement equipment is ensure safe working conditions	None
1o. the appropriateness of QR Network's processes to evaluate and select proposed capital projects, including the extent to which alternatives are evaluated as part of the process	The processes used to evaluate and select the project were appropriate	Project Submission and Project Plan

1p. the extent to which capital projects that were undertaken were subject to the capital evaluation and selection process	The documentation demonstrated the application of evaluation and selection processes.	Documentation
<b>3 Standards</b>		
Requirements	Comments	Evidence
2f. the works are consistent in all material respects with the existing standard and configuration of adjacent infrastructure and/or existing infrastructure with similar usage levels, or its modern engineering equivalent, in the CQCR	The expenditure Claim Summary states that work is consistent with the LED State Wide Upgrade.	Statement
2g. considers current and likely future usage levels	The project increased the safe working conditions of the line by increasing signal visibility.	Statement
2h. considers the requirements of the ARA NCOP	No evidence has been provided demonstrating compliance to ARA NCOP	None
2i. considers the requirements of the design and construction standards	The expenditure Claim Summary states that work has been carried out in accordance with QR Networks documented policies and procedures for signal design and construction, however no evidence has been provided to support this statement.	Statement
2j. meets the requirements of the QR Network's design standards contained in the SMS and acceptable to the Safety Regulator	The expenditure Claim Summary states that work has been carried out to the required standard and usage levels, however no evidence has been provided. As the signals are essential for the safe working condition of the line, it is reasonable to assume that the new LED signals that have been installed and are in use meet the design standards.	Statement
<b>4. Costs</b>		
Requirements	Comments	Evidence
3k. the level of such costs relative to the scale, nature, cost and complexity of the project	The original budget split appears reasonable with direct costs representing approximately 93% of the total. The scope has changed since the project began with Mt. Isa and Newlands no longer in the scope. There has been no adjustment in the budget to reflect this. The level of the costs claimed for 07/08 appears reasonable subject to acceptance that purchased materials are claimable.	Documentation, Knowledge of Assessor
3l. the circumstances prevailing in the markets for engineering, equipment supply and construction	At the time the project was undertaken the market for the skills, materials and equipment required was very tight and significant escalation of the underlying indices took place during the project period. The delay to the project reflects the difficulty in obtaining the installation skills for the project.	Documentation, Knowledge of Assessor
3m. safety during construction and operation	This is not covered in the reports provided.	None
3n. compliance with environmental requirements	This is not covered in the reports provided.	None
3o. minimising disruption to the operation of train services	This is not covered in the reports provided.	None

	during construction		
3p.	accommodating reasonable requests of access holders to amend the scope and sequence of works	This is not covered in the reports provided.	None
3q.	minimise whole of asset life costs	The whole of life costs have been considered in this project as the LED signal lives are longer than the current signal lamps.	Documentation
3r.	minimising total project costs	This has not been demonstrated, however whilst there has been no adjustment for scope changes there has also not been any adjustment for price increases.	Knowledge of Assessor
3s.	aligning other elements of the supply chain	This project aligns with other elements of the supply chain.	Documentation
3t.	meeting contractual timeframes and dealing with external factors	The project is on-going however completion was originally expected in 2007.	Documentation