

**Queensland Competition
Authority**

Report for Assessment of QR
Capital Projects 2006-07

Review of Scope

May 2008



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1. Executive Summary

This report is a commentary on the prudence of the scope of QR's capital projects commissioned in 2006-07 which QR seeking to have included in its Regulatory Asset Base. The report is based on the information provided by QR to the Queensland Competition Authority (QCA).

'Scope' in this report refers to the physical extent of the capital project and its elements. The prudence of scope has been assessed in accordance with the criteria outlined in QR's Access Undertaking.

Notwithstanding particular project elements that could not be confirmed during this review, the scopes of the projects presented by QR are considered to be in accordance with the relevant criteria. The elements that require further confirmation on some but not all of the projects include the exact date of commissioning, the extent to which alternatives had been considered and evaluated, and project funding arrangements (ie details of third party contributions if any).



2. Purpose

The following assessment examines the prudence of the scope of capital projects commissioned by QR in 2006-07. The purpose of this assessment is to verify that the project scopes are reasonable, provide the required functionality, contain no omission or redundancy and provide infrastructure that is fit for purpose.

In assessing the prudence of the work scope it was checked that the works:

- (a) are below-rail infrastructure;
- (b) were commissioned in 2006-07 (unless the expenditure related to future capital works);
- (c) are of a capital nature and not maintenance work; and
- (d) were fully funded by QR and, where this was not the case, the proportion which was funded by QR.

Consideration was also given to the criteria outlined in clause 2.3.2(c) of Schedule FB in QR's Access Undertaking including where appropriate:

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

We have looked for evidence that the works meet these criteria.



3. Scope Commentary

As part of its 2006-07 capex submission, QR has made available supporting documentation on the projects listed below in Table 1. The scope assessment relates to all of QR's projects submitted in the 2006-07 capex submission however a sample has been considered in further detail as outlined in the following scope commentary. The commentary focuses on the projects shown highlighted which consist of 6 major coal projects (representing around \$157m of the \$177m claimed) plus 7 minor projects. The minor projects have been selected as a representative sample of the three categories of projects, namely asset replacement, system-wide and telecommunications projects. The basis for their selection is capital value.

Table 1 Summary of 2006-07 QR Capex Submission



Project Name	Category	06/07 Claim (\$m)
CUSTOMER SPECIFIC PROJECTS		
Carborough Downs Spur Line	Coal	24.0
Isaac Plains Spur Line	Coal	24.5
Millennium Coal	Coal	0.4
Minerva Coal development	Coal	16.3
ASSET REPLACEMENT PROJECTS		
Autotransformer replacement - coal network	Coal	24.2
ATM Router Replacement - Statewide	Telecom	0.2
Blackwater autotransformers	Coal	0.001
Blackwater System: Rotor rail Switch rollers Trial	Coal	0.3
Blackwater System: TEML Axle counter Upgrade	Coal	0.2
Boundary Hill: Loadout & Weighbridge re-rail	Coal	0.1
Callemondah Pan Cam	Coal	0.1
Coal System Turnout Upgrade Project - Stage 1	Coal	2.5
Connors Range slip detection	Coal	0.1
Coppabella - Moranbah: Optical Fibre Omnibus Upgrade	Telecom	0.2
Culvert replacement	Coal	0.3
Formation strengthen - Blackwater (stage 1)	Coal	0.4



Project Name	Category	06/07 Claim (\$m)
German Creek Balloon Loop	Coal	0.1
Goonyella DC convector cards	Coal	0.1
Goonyella System Formation Strengthening (Stage 2)	Coal	1.1
Goonyella System Rail Upgrade	Coal	2.5
Goonyella System: Mast Tie Foundations	Coal	0.1
Hay Point to Coppabella: Omnibus Upgrade	Telecom	0.1
Hay point upgrade exit roads	Coal	0.1
Jilalan Pantograph Camera	Coal	0.4
MITEC DMR Replacement: Coal System	Telecom	0.2
Raglan & Mt Larcom: Walkways	Coal	0.1
Rockhampton to Burngrove: Omnibus Upgrade	Telecom	2.2
South Gladstone / Barney Point Yard Lighting Renewal	Coal	0.1
Statewide fencing - commercial corridors	Coal	0.3
Telecommunications Reliability Upgrade	Telecom	0.1
Server Connectivity RC1	Telecom	1.0

SYSTEM ENHANCEMENT PROJECTS

Bluff - Blackwater Duplications	Coal	45.8
RG Tanna New 3rd Coal Unloading	Coal	12.0
LED Signal Replacement (Commercial System)	Signalling	0.5
Moura Passing Loop	Coal	20.2
Wallaroo - Tryphinia - Dingo	Coal	0.02
Winchester passing loop	Coal	0.1
Windah - Grantleigh	Coal	0.7

	Major Projects
	Minor Projects (Sample)



3.1 Major Projects

3.1.1 Bluff to Blackwater Duplication

The Bluff to Blackwater Duplication project involves the duplication of 15.5 km of electrified track including associated civil, overhead and signalling infrastructure on the Central Line of the Blackwater System.

The aim of the duplication is to provide additional train paths to better facilitate the transport of coal from mines in central Queensland to the port of Gladstone for overseas export.

Table 2 Bluff to Blackwater Duplication

Requirements	Comments
(a) is below-rail infrastructure	All elements identified in the project plan are below rail infrastructure as follows: <ul style="list-style-type: none"> » Track and formation works; » Bridge duplications; » Culvert extensions; » Switch and crossing installation and turnout conversions; » Overhead traction wiring and overhead wiring support structures including associated optical fibre ground wire; » Signalling works, including upgrade of existing signals to LED displays; » Active level crossing protection to overline crossings.
(b) was commissioned in 2006-07 (not relevant for future capital works)	The project was commissioned in June 2007
(c) is capital expenditure and not maintenance	All works relate to capital expenditure.
(d) was fully funded by QR and, if not, what proportion of the works were funded by QR	The internal business case seeks approval from QR's CEO and Board for the expenditure of capital funding equivalent to the project capital cost. It is therefore assumed that the project is fully funded by QR without funding contributions from other parties.
(e) the need for the new capital project to accommodate reasonable demand	The project provides an additional 8 million tonnes of capacity on the Blackwater System. Documentation provided indicates that the haul task on



Requirements	Comments
	the Blackwater system will increase progressively from 46 mtpa in 2004/05 to 63 mtpa in 2008/09. The document states that QR is contracted to haul these anticipated tonnages. This contractual commitment is a reasonable need for the project.
(f) QR's legislative requirements, including workplace health and safety and environmental requirements	The project included planning for risk, environmental and safety management in accordance with legislative requirements.
(g) the appropriateness of QR's processes to evaluate and select the proposed capital project, including the extent to which alternatives have been evaluated as part of the process	<p>QR appears not to have considered alternative options to address the project need (of increasing capacity). The project plan outlined several options but these were scoping options more to do with reducing costs than addressing the project need.</p> <p>Other potential options include a combination of above rail and below rail options, such as the use of longer trains, intermediate signalling to assist with following moves, or increased train speeds. These options may or may not fully deliver the desired outcomes but there was no evidence of their consideration. It appears that QR settled on a project solution without extensive option analysis.</p>
(h) the extent to which the capital project has been subjected to the capital evaluation and selection process.	Appropriate management consideration is documented.

3.1.2 RG Tanna Terminal

The RG Tanna Terminal project involves the construction of a 3rd coal unloader loop and the extension of the existing 2nd coal unloader loop at the RG Tanna coal terminal. The new infrastructure is expected to help meet forecast growth needs in coal exports. Works relating to the 2006-07 claim are the 3rd coal unloader loop. Extension of the 2nd loop was commissioned and claimed in the 2005-06 financial year.



Table 3 RG Tanna Terminal

Requirements	Comments
(a) is below-rail infrastructure	<p>All elements of the 3rd coal unloader loop identified in the project plan consist of below rail infrastructure as follows:</p> <ul style="list-style-type: none"> » Rail formation, ballast and track; » Overhead masts and electrical conductors; » Signalling including signal foundations signals conduits and cabling; » Telecommunications conduits and cabling; » Signalling and communications equipment rooms.
(b) was commissioned in 2006-07 (not relevant for future capital works)	<p>The extension of the 2nd loop was commissioned in 2005-06. The new 3rd loop was commissioned in October 2006.</p>
(c) is capital expenditure and not maintenance	<p>All works relate to capital expenditure.</p>
(d) was fully funded by QR and, if not, what proportion of the works were funded by QR	<p>The project plan states that on 8 December 2005 the QR Board granted approval for the full project funding and subsequently approved an additional \$10,745,000 to bring the total approved amount to \$15,500,000. On the basis of this it is assumed that the project is entirely funded by QR. There is no mention of other party contributions.</p>
(e) the need for the new capital project to accommodate reasonable demand	<p>The project was specifically requested by the Central Queensland Port Authority to increase the port's capacity. Export coal tonnages are anticipated to increase from 45 mtpa to 62 mtpa by 2008/09.</p> <p>With the 3rd unloading pit and associated infrastructure, port capacity will increase to around 65 to 70 mtpa.</p> <p>The need for the project appears to be a reasonable one.</p>



Requirements	Comments
(f) QR's legislative requirements, including workplace health and safety and environmental requirements	A risk plan, environmental plan and safety management plan were prepared and considered as part of the construction process. All legislative requirements appear to have been planned for. The actual performance of the works is reported in a project completion report which includes lessons learned and commentary relating to the achievement of objectives. The project appears to have successfully achieved its objectives. There were no major safety, environmental or other incidents listed in the project completion report.
(g) the appropriateness of QR's processes to evaluate and select the proposed capital project, including the extent to which alternatives have been evaluated as part of the process	Only the 'do nothing' option seems to have been considered. Other possible options include changes to port and train operations and increasing materials handling capacity of the unloader. There is no evidence that QR has given consideration or has suggested these possible alternatives. It is assumed that all options were discussed between stakeholders before the approach to QR was made.
(h) the extent to which the capital project has been subjected to the capital evaluation and selection process.	Appropriate management consideration is documented.

3.1.3 Moura Passing Loop

The Moura Passing Loop project involves the extension of 7 passing loops between Stirrat and Beldeen on the Moura line. The infrastructure work will allow operation of longer trains (i.e. trains with a consist length of 1685 m - similar to the trains on the Blackwater system. Trains on the Moura line are currently 965 m long). Longer trains are required to handle a forecast increase in coal tonnages from the Moura mine.

Extension of the Moura passing loops will enable the haulage of an additional 5.25 mtpa.



Table 4 Moura Loop

Requirements	Comments
(a) is below-rail infrastructure	<p>All elements identified in the project plan consist of below rail infrastructure as follows:</p> <ul style="list-style-type: none"> » Relocation of services; » Earthworks and track formation; » Extension of box culverts; » Trackwork and associated signalling and telecommunications; » Modification of existing occupational level crossing; » Construction of a weighbridge.
(b) was commissioned in 2006-07 (not relevant for future capital works)	<p>The exact commissioning date is unclear from the documentation. A commissioning date of June 2007 is stated, however the project plan nominates an anticipated commissioning date of August 2007.</p>
(c) is capital expenditure and not maintenance	<p>All works relate to capital expenditure..</p>
(d) was fully funded by QR and, if not, what proportion of the works were funded by QR	<p>The project plan identifies the funding source as "Network Access Future Approvals". However, inputs to the funding source are unknown.</p>
(e) the need for the new capital project to accommodate reasonable demand	<p>The project is a response to a request from the Anglo Coal mining company which is seeking to increase its coal haul tonnages from the Moura mine. The proposed loop extensions will deliver an additional 5.25 mtpa capacity on the line. The need for this capital project appears to be a reasonable one.</p>
(f) QR's legislative requirements, including workplace health and safety and environmental requirements	<p>A risk plan, environmental plan and safety management plan were prepared and were integral in the construction process. All legislative requirements appear to have been planned for. Commentary on the actual performance of the works is captured in a project completion report which includes lessons learned and achievement of objectives. It appears that the project successfully achieved its objectives.</p>



Requirements	Comments
(g) the appropriateness of QR's processes to evaluate and select the proposed capital project, including the extent to which alternatives have been evaluated as part of the process	The project plan indicates that two new passing loops were considered as an alternative to the loop extensions but were ruled out on the grounds that they were not considered cost effective. QR appears not to have considered other infrastructure solutions or above rail options such as intermediate signalling.
(h) the extent to which the capital project has been subjected to the capital evaluation and selection process.	Appropriate management consideration is documented.

3.1.4 Carborough Downs Spur (Goonyella)

The Carborough Downs Spur project involves the construction of a 4.7 km long rail spur and balloon loop off the Goonyella main line between Coppabella and Wotonga. The new loop will service two new underground coal mines at Broadlea North and Carborough Downs.

Table 5 Carborough Downs Spur (Goonyella)

Requirements	Comments
(a) is below-rail infrastructure	<p>All elements identified in the project plan involve below rail infrastructure as follows:</p> <ul style="list-style-type: none"> » Earth works; » Trackworks; » Overhead electrical wiring and associated structures and equipment; » Construction of a weighbridge at the developer's coal loading facility; » Signalling works; » Telecommunication works.



Requirements	Comments
(b) was commissioned in 2006-07 (not relevant for future capital works)	The project plan indicates an anticipated commissioning date of July 2006. The draft completion report by QR indicates a commissioning date of 8 th December 2006 ¹ , while documentation ² for expansion to the project dated August 2006 indicates the project is active at that stage. Therefore the project is applicable.
(c) is capital expenditure and not maintenance	Based on the documentation provided all works appear to relate to capital expenditure.
(d) was fully funded by QR and, if not, what proportion of the works were funded by QR	The project plan indicates that funding for the project will be provided via agreements between QR and the mine developer however, no information has been provided in relation to the proportion of the funding split. The documentation provided indicates that the developer is responsible for constructing the earthworks.
(e) the need for the new capital project to accommodate reasonable demand	This project has come about in response to a request from a mine developer for rail infrastructure to enable the transport of coal from two mines in the Goonyella system. The need for a new capital project appears to be a reasonable one.
(f) QR's legislative requirements, including workplace health and safety and environmental requirements	A risk plan, environmental plan and safety management plan were prepared and considered as part of the construction process. All legislative requirements appear to have been planned for. The actual performance of the works and whether or not the project successfully achieved its objectives is unreported - a post completion report is not available.

¹ Both this project and Isaac Plains QR draft completion report indicates commissioning dates of 8th December 2006, which is exactly 1 year after QR Board approval. Given other evidence we believe the date is not accurate but nevertheless the projects are applicable.

² Initial Advice Statement – Carborough Downs Mine Expansion Project, Matrix Consulting



Requirements	Comments
(g) the appropriateness of QR's processes to evaluate and select the proposed capital project, including the extent to which alternatives have been evaluated as part of the process	The project plan states that the developer considered a number of alternative spur and balloon loop configurations before adopting the proposed configuration. From the documentation provided it is not known whether the adopted solution is the most efficient in terms of scope and cost. For instance, consideration of alternative transport arrangements for coal to the mainline or use of other loading facilities in the area is not evident.
(h) the extent to which the capital project has been subjected to the capital evaluation and selection process.	The project plan is unsigned and therefore it is not possible to know whether appropriate management consideration has been given to it.

3.1.5 Isaac Plains Spur (Goonyella)

The Isaac Plains Spur project involves the construction of a 4.8 km long rail spur and balloon loop off the Goonyella main line between Coppabella and Wotonga. The new loop will service an underground coal mine at Isaac plains in the Central Bowen Basin.

Table 6 Isaac Plains Spur (Goonyella)

Requirements	Comments
(a) is below-rail infrastructure	All elements identified in the project plan consist of below rail infrastructure as follows: <ul style="list-style-type: none"> » Earth works; » Trackworks; » Overhead electrical wiring and associated structures and equipment; » Construction of a weighbridge at the developer's coal loading facility; » Signalling works; » Telecommunication works.
(b) was commissioned in 2006-07 (not relevant for future capital works)	The project plan indicates an anticipated commissioning date of May 2006. QR's draft project completion report indicates commissioning on 8 th December 2006 while an Aquila company announcement indicates first shipment in November 2006. Therefore the project is applicable.



Requirements	Comments
(c) is capital expenditure and not maintenance	All works appear to relate to capital expenditure.
(d) was fully funded by QR and, if not, what proportion of the works were funded by QR	The project plan indicates that funding for the project will be provided via agreements between QR and the mine developer however, no information has been provided on the funding arrangements. The documentation indicates that the developer is responsible for constructing the earthworks.
(e) the need for the new capital project to accommodate reasonable demand	This project has come about in response to a request from a mine developer for rail infrastructure to enable the transport of coal from a new mine in the Goonyella system. This need for a new capital project appears to be a reasonable one.
(f) QR's legislative requirements, including workplace health and safety and environmental requirements	A risk plan, environmental plan and safety management plan were prepared and considered as part of the construction process. All legislative requirements appear to have been planned for. The actual performance of the works and whether or not the project successfully achieved its objectives is unreported – there is no evidence of a post completion report.
(g) the appropriateness of QR's processes to evaluate and select the proposed capital project, including the extent to which alternatives have been evaluated as part of the process	The project plan states that the developer considered a number of alternative spur and balloon loop configurations before adopting the proposed configuration. From the documentation provided it is not known whether the adopted solution is the most efficient in terms of scope and cost. For instance, consideration of alternative transport arrangements to the mainline or use of other loading facilities in the area is not evident.
(h) the extent to which the capital project has been subjected to the capital evaluation and selection process.	The project plan is unsigned and it is therefore not possible to know whether appropriate management consideration has been given to it.

3.1.6 Minerva Spur (Blackwater)

The Minerva Spur project is not presently part of the Central Queensland Coal Region, however, it is understood that QR is seeking to have the spur included in the



Regulatory Asset Base and is preparing a draft amended Undertaking (DAU) for this purpose. QR is also seeking to have included in the asset base, from 1 July 2007, sections of rail infrastructure between Burngrove and Nogoia and Nogoia and Wurba. Because of timing considerations in relation to the DAU, QR would like the Minerva Spur to be reviewed as part of its 2006-07 claim on the assumption that the DAU is accepted by the QCA.

The Minerva Coal Rail project was commissioned in December 2005 and involved the construction of a new balloon loop (3.62 km long) on the Springsure branch line. The loop serves an open-cut coal mine supplying around 2.5 mtpa of coal for the export market.

The project also included upgrading of the existing railway between Burngrove and Wurba to allow the operation of 20 tonne axle loads and to accommodate additional rail traffic resulting from the mine operation. The project scope involved upgrading of the track and strengthening of bridge and culvert structures where required. A major component of the line upgrade involved an upgrade of the Comet River bridge.

Table 7 Minerva Spur (Blackwater)

Requirements	Comments
(a) is below-rail infrastructure	All scope elements identified in the project plan involved below rail infrastructure as follows: Earth works; Trackworks; Overhead electrical wiring and associated structures and equipment; Construction of a weighbridge at the developer's coal loading facility; Signalling works; Telecommunication works.
(b) was commissioned in 2006-07 (not relevant for future capital works)	The works were commissioned in December 2005.



Requirements	Comments
(c) is capital expenditure and not maintenance	<p>It would appear that certain elements of the scope for the upgrade of the existing line, while being necessary for 20 TAL operation, could be deemed to be part of general maintenance, for instance, rail grinding, rail restressing, ballast regulation, ballast lifts, anchoring and plating works. The project plan acknowledges that the Springsure line had little maintenance attention in recent years – <i>“Track was assumed to be well regulated in its initial state and changes assumed to be uniform in nature. Neither assumption was true, especially since the Springsure line has had so little maintenance attention in recent years.”</i> The upgrading included work to level crossings, though the exact nature of this work is not known and thus the capital or maintenance nature of these works cannot be accurately assessed.</p>
(d) was fully funded by QR and, if not, what proportion of the works were funded by QR	<p>The project plan indicates that funding during construction will be entirely provided by QR and that on completion of the project, the mine developer, Sandhurst Mining, will fund the project via periodic access facilitation charges levied by QR. The project plan indicates that the mine developer would construct the earthworks.</p>
(e) the need for the new capital project to accommodate reasonable demand	<p>This project has come about as a result of a rail transportation need in relation to the export of coal from a new open cut mine. The need for the new capital project appears to be a reasonable one.</p>
(f) QR’s legislative requirements, including workplace health and safety and environmental requirements	<p>A risk plan, environmental plan and safety management plan were prepared and considered as part of the construction process. All legislative requirements appear to have been planned for. A project completion report documents the performance of the works, lessons learned and commentary on the achievement of objectives.</p>



Requirements	Comments
(g) the appropriateness of QR's processes to evaluate and select the proposed capital project, including the extent to which alternatives have been evaluated as part of the process	The project plan states that a number of options were considered by QR and the mine developer including different train consists, payloads, axle loads and loading locations and that these were rejected. It is not known based on the information provided whether the adopted solution was the most efficient in terms of scope and cost. For instance consideration of alternative transport arrangements to the mainline or use of other loading facilities in the area were not evident.
(h) the extent to which the capital project has been subjected to the capital evaluation and selection process.	The project appears to have had appropriate management consideration given to it.



3.2 Minor Asset Replacement Projects

3.2.1 Coal System Turnout Upgrade Project - Stage 1

The coal system turnout upgrade project involves the replacement of existing life expired 47kg/m and 53kg/m rail bound manganese crossings with new 60kg/m swing nose crossings. The current works are a continuation of a replacement program which commenced in previous years.

Table 8 Coal System Turnout Upgrade

Requirements	Comments
(a) is below-rail infrastructure	The project involves below rail infrastructure.
(b) was commissioned in 2006-07 (not relevant for future capital works)	The current claim relates to turnout replacements carried out in the 2007-08 year. QR has indicated "This project is related to Coal Systems Turnout – Stage 2 project number A02273 – for an additional set of turnouts. This project will be included in QR's 2007/08 claim."
(c) is capital expenditure and not maintenance	The expenditure is deemed to be of a capital nature as the replacement infrastructure is an improvement over the existing in terms of performance, serviceability and safety.
(d) was fully funded by QR and, if not, what proportion of the works were funded by QR	The project plan indicates that out of the \$9.85M of funding allocated, \$56.7K is expected from contributions. The project plan is confusing in the context that QR have indicated elsewhere that no contributions for any project were or would be received ³ .
(e) the need for the new capital project to accommodate reasonable demand	This project is a response to a significant increase in haul tonnages in the Central Queensland coal network over the previous two years. The need for the project appears to be reasonable.

³ It is possible, that at project plan stage the term "contributions" may not mean direct funding injection as such but refer to distributed allocations from internal QR accounts, however, this is not clear at all.



Requirements	Comments
(f) QR's legislative requirements, including workplace health and safety and environmental requirements	This project is consistent with QR's obligations to provide safe infrastructure. A risk plan and safety management plan were prepared. Preparation of an environmental management plan is not mentioned in the documentation but given the nature of the works environmental risk is considered to be minimal.
(g) the appropriateness of QR's processes to evaluate and select the proposed capital project, including the extent to which alternatives have been evaluated as part of the process	There is no evidence in the documentation that alternatives were considered.
(h) the extent to which the capital project has been subjected to the capital evaluation and selection process.	Appropriate management consideration is documented.

3.2.2 Goonyella System Formation Strengthening (Stage 2)

The Goonyella System Formation Strengthening project involves strengthening of 3.3km of failed railway formation in various sections of track in the Goonyella System.

The current project is a continuation of a program commenced in earlier years.

Table 9 Goonyella System Formation Strengthening (Stage 2)

Requirements	Comments
(a) is below-rail infrastructure	The project involves below rail infrastructure.
(b) was commissioned in 2006-07 (not relevant for future capital works)	The current claim relates to formation strengthening carried out in the 2006-07 year.
(c) is capital expenditure and not maintenance	The expenditure is deemed to be of a capital nature as the works are a total replacement of existing infrastructure.
(d) was fully funded by QR and, if not, what proportion of the works were funded by QR	There is no indication in the documentation of external contributions. The information supplied by QR states that the project will be funded by access revenues.
(e) the need for the new capital project to accommodate reasonable demand	The project has come about as a result of a significant growth in rail traffic in the Central Queensland coal network. The need for the project appears to be a reasonable one.



Requirements	Comments
(f) QR's legislative requirements, including workplace health and safety and environmental requirements	This project is consistent with QR's general obligations to provide safe infrastructure in the context of stable infrastructure not requiring special attention. There is no evidence in the documentation provided of a risk management plan, safety management plan or environmental management plan.
(g) the appropriateness of QR's processes to evaluate and select the proposed capital project, including the extent to which alternatives have been evaluated as part of the process	The scope for alternative options for this project is limited.
(h) the extent to which the capital project has been subjected to the capital evaluation and selection process.	Appropriate management consideration is documented.

3.2.3 Goonyella System Rail Upgrade

The Goonyella System Rail Upgrade project involves the replacement of 36.4 km of 53 kg/m track with 60 kg/m between Hay Point and Coppabella and Coppabella and Gregory Junction on the Goonyella system.

The current project is a continuation of a program commenced in the previous year.

Table 10 Goonyella System Rail Upgrade

Requirements	Comments
(a) is below-rail infrastructure	The project involves below rail infrastructure.
(b) was commissioned in 2006-07 (not relevant for future capital works)	The current claim relates to rail replacements carried out in the 2006-07 year.
(c) is capital expenditure and not maintenance	The expenditure is deemed to be of a capital nature as it does not concern like for like replacement but is an improvement on existing infrastructure in terms of performance and standard.



Requirements	Comments
(d) was fully funded by QR and, if not, what proportion of the works were funded by QR	The project plan indicates that out of the \$11.45M funding allocation, \$1,089K is expected from contributions. The project plan is confusing in the context that QR have indicated elsewhere that no contributions for any project were or would be received ⁴ .
(e) the need for the new capital project to accommodate reasonable demand	This project is a response to a significant increase in rail traffic and rolling stock axle loads in the Central Queensland coal network in recent years. The documentation states that there has been a 25% increase in rail defects on the Hay Point to Coppabella and Coppabella to Gregory Junction corridors in the past 18 months as a result of the increased traffic. The need for the project appears to be a reasonable one.
(f) QR's legislative requirements, including workplace health and safety and environmental requirements	This project is consistent with QR's obligations to provide safe infrastructure. A risk plan and safety management plan were prepared. Preparation of an environmental management plan is not mentioned in the documentation but given the nature of the works environmental risk is considered to be minimal.
(g) the appropriateness of QR's processes to evaluate and select the proposed capital project, including the extent to which alternatives have been evaluated as part of the process	There is no evidence in the documentation that scope alternatives were considered.
(h) the extent to which the capital project has been subjected to the capital evaluation and selection process.	Appropriate management consideration is documented.

3.2.4 Rockhampton to Burngrove: Omnibus Upgrade

The Rockhampton to Burngrove Omnibus Upgrade project involves the replacement of life expired Optical fibre based transmission equipment with modern equipment.

⁴ It is possible, that at project plan stage the term "contributions" may not mean direct funding injection as such but refer to distributed allocations from internal QR accounts, however, this is not clear at all.



Table 11 Rockhampton to Burngrove: Omnibus Upgrade

Requirements	Comments
(a) is below-rail infrastructure	The project involves below rail infrastructure.
(b) was commissioned in 2006-07 (not relevant for future capital works)	The current claim relates to rail replacements carried out in the 2006-07 year.
(c) is capital expenditure and not maintenance	The expenditure is deemed to be of a capital nature, as it does not concern like for like replacement but is an improvement on existing infrastructure in terms of standard and serviceability.
(d) was fully funded by QR and, if not, what proportion of the works were funded by QR	There is no indication in the documentation of external contributions.
(e) the need for the new capital project to accommodate reasonable demand	<p>The existing optical fibre omnibus equipment was installed around 1985 and uses out dated NEC drop-and-insert type equipment for which there are no spare parts. The existing system is experiencing increased failure rates with impacts on reliability.</p> <p>The need for the project appears to be a reasonable one.</p>
(f) QR's legislative requirements, including workplace health and safety and environmental requirements	This project is consistent with QR's general obligations to provide safe infrastructure in the context of reliability especially of the safeworking system ⁵ . A risk management plan, safety management plan and environmental management plan were not available for review.
(g) the appropriateness of QR's processes to evaluate and select the proposed capital project, including the extent to which alternatives have been evaluated as part of the process	There is no evidence in the documentation of the alternative options that were considered.
(h) the extent to which the capital project has been subjected to the capital evaluation and selection process.	Management consideration is documented.

⁵ Even if it fails failsafe, since one level of risk mitigation has been removed.



3.3 Minor System Enhancement Projects

3.3.1 LED Signal Replacement (Commercial System)

The LED Signal Replacement project involves the replacement of all mainline and ground shunt incandescent signals with Light Emitting Diodes (LEDs). The project excludes Junction Route Indications (JRI) and subsidiary shunt signals.

Table 12 LED Signal Replacement (Commercial System)

Requirements	Comments
(a) is below-rail infrastructure	The project involves below rail infrastructure.
(b) was commissioned in 2006-07 (not relevant for future capital works)	The current claim relates to signal replacements carried out in the 2006-07 year.
(c) is capital expenditure and not maintenance	The expenditure is deemed to be of a capital nature as it does not concern like for like replacement but is an improvement on existing infrastructure in terms of safety and reliability.
(d) was fully funded by QR and, if not, what proportion of the works were funded by QR	The project plan indicated that the project involves no external contributions.
(e) the need for the new capital project to accommodate reasonable demand	<p>This project forms part of a signalling improvement strategy aimed at delivering:</p> <ul style="list-style-type: none"> » improved safety through increased signal lamp visibility and reliability; » a reduction in SPADs; and » a reduction in train delays caused by blown bulbs. <p>The need for the project appears to be a reasonable one.</p>
(f) QR's legislative requirements, including workplace health and safety and environmental requirements	<p>This project is consistent with QR's obligations to provide safe infrastructure. A risk plan and safety management plan were prepared. The safety management plan was not available for review. Preparation of an environmental management plan is not mentioned in the documentation but given the nature of the works environmental risk is considered minimal.</p>



Requirements	Comments
(g) the appropriateness of QR's processes to evaluate and select the proposed capital project, including the extent to which alternatives have been evaluated as part of the process	There is no evidence in the documentation that scope alternatives were considered.
(h) the extent to which the capital project has been subjected to the capital evaluation and selection process.	Management consideration is documented.

3.3.2 Windah – Grantleigh

This project involves the duplication of track and associated infrastructure between Windah and Grantleigh in the Blackwater system. The project was commissioned and claimed in 2005-06. The current claim relate to costs incurred post commissioning. There are no details provided in relation to the nature of these costs.

Table 13 Windah – Grantleigh

Requirements	Comments
(a) is below-rail infrastructure	The project relates to below rail infrastructure.
(b) was commissioned in 2006-07 (not relevant for future capital works)	The claim relates to costs incurred in the 2006-07 year.
(c) is capital expenditure and not maintenance	There are no details provided on the nature of these costs however, as they relate to the previously approved capital project they are considered to be of a capital nature.
(d) was fully funded by QR and, if not, what proportion of the works were funded by QR	There are no details provided on the nature of these costs.
(e) the need for the new capital project to accommodate reasonable demand	The need for the project was supported in the previous year's assessment.
(f) QR's legislative requirements, including workplace health and safety and environmental requirements	QR's legislative requirements, including workplace health and safety were supported in the previous year's assessment.
(g) the appropriateness of QR's processes to evaluate and select the proposed capital project, including the extent to which alternatives have been evaluated as part of the process	The appropriateness of QR's processes to evaluate and select the proposed capital project was supported in the previous year's assessment.
(h) the extent to which the capital project has been subjected to the capital evaluation and selection process.	The extent to which the capital project has been subjected to the capital evaluation and selection process was supported in the previous year's assessment.



3.3.3 Server Connectivity RC1

The Server Connectivity RC1 project involves the upgrading of QR's data communications network in the 'RC1' building. The current data communications network operates on life expired equipment, which has limited bandwidth, and is no longer supported either in hardware or software. The upgrading work involves the provision of Enterprise Gigabit switches to the core of the communications network.

The project received QR's internal approval in February 2005.

Table 14 Server Connectivity RC1 Project

Requirements	Comments
(a) is below-rail infrastructure	The project involves communications equipment, which supports the activities of business groups involved in the management of below rail infrastructure.
(b) was commissioned in 2006-07 (not relevant for future capital works)	No documentation has been made available to confirm the exact commissioning date of the project, however QR's anticipated completion date was February 2006 at the commencement of the project.
(c) is capital expenditure and not maintenance	The expenditure is deemed to be of a capital nature as it involves significant improvement in the capability of existing infrastructure (ie exceeding a like for like replacement).
(d) was fully funded by QR and, if not, what proportion of the works were funded by QR	The project documentation indicates that the project would be funded by QR through access charges, TSC funding and revenue from external business groups. There are no direct external party contributions apparently funding this project. The breakdown of indirect external party contributions has not been detailed.
(e) the need for the new capital project to accommodate reasonable demand	This project has come about because existing business communication infrastructure can no longer be supported either in hardware or software and is unable to cope with QR's data communication requirements. The need for the project appears to be a reasonable one.



Requirements	Comments
(f) QR's legislative requirements, including workplace health and safety and environmental requirements	There is no detailed information, which supports QR's compliance with health and safety or environmental requirements in so far as the execution of this project, however, the nature of the work suggests that environmental and OHS requirements would be minimal.
(g) the appropriateness of QR's processes to evaluate and select the proposed capital project, including the extent to which alternatives have been evaluated as part of the process	There is evidence in the project documentation that QR considered a range of alternatives, which received evaluation.
(h) the extent to which the capital project has been subjected to the capital evaluation and selection process.	Appropriate management consideration is documented.



4. Conclusion

On the basis of the documentation provided it is evident that QR has a process of capital evaluation and selection which supports the level of expenditure. There appears to be adequate management consideration to the capital evaluation process, however, there is little evidence in relation to the extent to which alternatives have been considered in the selection process. A thorough options analysis supported by appropriate documentation is lacking on most projects.

Overall, the documentation provided for the major projects is more comprehensive than for minor projects.

One of the notable deficiencies of QR's previous 2005-06 claim was the absence of post completion reports, which is also the case in QR's current claim. Without post completion reports it is not possible to determine whether the project actually met its objectives. Quality certification on these projects is also lacking.

We understand that for future years QR will be preparing 'draft' post completion reports immediately following commissioning of the project so that appropriate review can take place.

We recommend that to assist with the post completion auditing process, QR tailors its completion reports to specifically address the requirements outlined in its Access Undertaking.

QR's current claim includes some projects which were commissioned in the previous year but which are repeated in the current claim to cover the cost of defects rectification and other administrative close outs. To avoid the need for these follow up submissions consideration could be given to QR capturing an estimate of these costs and including them in the main claim. This would allow prompt close-out and avoid repeated assessment. The Minerva project was also completed in a previous year but only just brought to claim. The costs for this project, while reasonable in this claim for the particular works, have implications for adjustment to the asset base where double counting of the asset value occurs or where costs have maintenance implications.

Overall the scopes of the projects commissioned in 2006-07, which QR is seeking to have included in the regulatory asset database appear prudent and justifiable.



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