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QR NATIONAL™

5 September 2012

John Hall
Chief Executive
Queensland Competition Authority
GPO Box 2257
Brisbane QLD 4001

Draft Amending Access Undertaking – Goonyella to Abbott Point Reference Tariff

Dear John,

I am pleased to submit to the Queensland Competition Authority (QCA) a draft amending access undertaking (DAAU) to the approved 2010 Access Undertaking to implement the reference tariff for coal carrying train services operating from the Goonyella system to the Port of Abbott Point.

The rail infrastructure connecting North Goonyella to Newlands (the Northern Missing Link) became operational on 19 December 2011. These enhancements formed part of the commercially negotiated Goonyella to Abbott Point Expansion (GAPE) project which was delivered ahead of time and under budget.

The reference tariff has been developed on the basis of a capital estimate. The application for the inclusion of the GAPE project in the Regulatory Asset Base will be included in the 2011-12 capital expenditure claim. Any variances between the forecast capital expenditure amounts used to derive the reference tariff and the amounts approved by the QCA will be adjusted via the capital carryover account.

The cost allocations used to derive the reference tariff are consistent with those assumed in the commercial agreements. The reference tariff is also commensurate with the approved UT3 assumptions regarding capital expenditure such as depreciation which is reflected in other reference tariffs for coal carrying train services.

The DAAU is submitted under s.142 of the QCA Act in order to establish a dedicated reference tariff and stand-alone individual coal system. This also necessitates other consequential amendments to the access undertaking including various reporting metrics.

The DAAU also includes an amendment to the recovery of maintenance and operating costs for connecting infrastructure not reflected in an approved reference tariff.

QR Network staff are available to discuss aspects of this proposed reference tariff should the QCA and other stakeholders wish to obtain a better understanding of how it may directly impact their access charges. Interested parties should contact either:

- Mark Bourdaniotis, Manager Commercial North on (07) 3235 3142; or
- Dean Gannaway, Manager Regulation and Policy on (07) 3235 2055.

The submission comprises the attached explanatory notes and clean and mark-up versions of the amended Access Undertaking. Also provided is the regulatory model which was used to derive the GAPE reference tariff. This model includes confidential information and is provided to the QCA in confidence as supporting analysis for the DAAU.

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Should you have any queries in relation to this draft amending access undertaking please contact David Collins, Senior Vice President Finance and Regulation by phone on (07) 3235 1525 or by email at David.Collins@qrnational.com.au.

Sincerely

[redacted]

Paul Hoffmann
A/Chief Executive Officer
QR Network Pty Ltd

QR Network Access Undertaking (2010)

Draft Amending Access Undertaking

Reference Tariff for the GAPE System

5 September 2012

QR NATIONAL™
QR Network Pty Limited

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1. Preamble

This submission to the Queensland Competition Authority (QCA) has been prepared by QR National Network (QRNN) in accordance with its obligations to develop Reference Tariffs under Section 6.4 of the 2010 Access Undertaking (QRNN's Undertaking). The submission sets out QRNN's proposal for:

- The creation of an independent Goonyella to Abbot Point Expansion (GAPE) coal rail system which will include the Northern 'Missing' Link (NML) between North Goonyella and Newlands, and associated infrastructure enhancements required in the Goonyella and Newlands systems;
- A Reference Tariff for the GAPE system to apply to coal carrying Train Services using the NML to the Abbot Point Coal Terminal; and
- A revised Newlands system Reference Tariff to apply to coal carrying Train Services from all existing and new mines using the Newlands system to the Abbot Point Coal Terminal.

QRNN aims at all times to deliver a safe, reliable, environmentally sustainable and commercially viable network. As part of this drive, QRNN has a commitment to provide Reference Tariffs for the major coal regions to further foster transparency and certainty in pricing for access seekers. This commitment is contained in Clause 6.4.2(b), which requires that where a new coal mine is developed, and Train Services servicing that mine will utilise Rail Infrastructure in the Central Queensland Coal Region (CQCR), the Train Services will pay a new or existing Reference Tariff in a manner consistent with Schedule F.

The intention of the drafting of Clause 6.4.2(b) was to provide a mechanism to submit a new Reference Tariff to the QCA for approval without the need for a formal Draft Amending Access Undertaking (DAAU) process. However, as the proposed Reference Tariff requires consequential amendments to incorporate a new coal system, the proposed Reference Tariff for coal carrying Train Services from GAPE and Newlands to Abbot Point (NAPE) mines within the term of the 2010 Access Undertaking is submitted as a DAAU.

In assessing the GAPE Train Service against the requirements of QR Network's Undertaking, QRNN has relied only on the forecast costs and volumes for the UT3 period (i.e. up to 30 June 2013). Consistent with the approach to the development of the Reference Tariffs for the CQCR, the GAPE Reference Tariff is developed on the basis of operations using dedicated assets comprised of the project infrastructure enhancements.

The GAPE project was also underpinned by specific commercial agreements between QRNN and foundation customers. The allocation of costs within the proposed GAPE Reference Tariff structure has been designed to integrate into those commercial arrangements.

This submission details the relevant principles, methodology and underlying assumptions relied upon for the development of the GAPE Reference Tariff and revised Newlands Reference Tariff. The submission and the development of the Reference Tariff are structured in a manner consistent with calculating a Maximum Allowable Revenue requirement using the UT3 approved 'building block' methodology. Specifically, the submission:

- Identifies the capital values for the calculation of the return of and on capital;
- Evaluates the relevant incremental costs;
- Develops a Reference Tariff consistent with the Schedule F tariff structures;
- Details the consequential amendments necessary to incorporate the GAPE system into the CQCR; and
- Outlines QRNN's preferred approach to estimating financing costs associated with total capital expenditure in the CQCR over the UT3 period.

In this submission:

- References to QR National Network are to QR Network Pty Ltd, a wholly owned subsidiary of QR National Limited and operator of the CQCR;
- References to 'mines' are to coal mine owners as end customers pursuant to a haulage agreement with an Access Holder and as parties to the relevant agreements supporting GAPE and NAPE investments;
- References to UT3 are to the period of QR Network's 2010 Undertaking;
- References to UT4 are to the period of QR Network's proposed 2013 Undertaking;

- Unless expressly stated otherwise, all references to Clauses, Subclauses and Paragraphs refer to clauses, subclauses and paragraphs in Schedule F, Part B of QR Network's Undertaking; and
- Terms that are defined in QRNN's Undertaking have the meaning given in that Undertaking.

2. Background

On 19 December 2011, QRNN unveiled a new vital transport link for the Queensland coal industry by opening its $1.1 billion GAPE project in the northern Bowen Basin coalfields. Acting Premier, Treasurer and Minister for State Development and Trade Andrew Fraser and QR National Chairman John Prescott officially opened the new rail infrastructure at Suttor Developmental Road Bridge (100 kilometres north of Moranbah), where customers, employees and dignitaries gathered to celebrate the project and watch the historic first journey of a loaded coal train on the newly-constructed NML.

Figure 1: QR National Chairman John Prescott and Acting Premier Andrew Fraser officially open the NML

QRNN has created an extraordinary growth opportunity for the Australian resources industry by bridging the 69 kilometre gap between the Goonyella and Newlands rail systems. Construction of the NML was the central component of the GAPE project, coupled with major upgrades to the existing Newlands and Goonyella coal systems. The NML had been on Queensland's infrastructure wish-list for over three decades and the GAPE project will create a short-term capacity increase on the Newlands system of up to 50 million tonnes per annum (Mtpa) to the upgraded Abbot Point Coal Terminal. The GAPE project, in combination with QRNN's other committed expansions, will deliver an extra 70 million tonnes of rail capacity over the next three years. This means the Central Queensland Coal Network will be able to move more than 300 million tonnes of coal per annum by 2015.

The GAPE expansion was initiated for two reasons – to alleviate capacity pressures on the Goonyella rail and port infrastructure and to utilise the expansion of the Abbot Point Coal Terminal. QRNN worked with alliance partners CoalConnect, Coal Stream, Aspect3 and Synergy to deliver the GAPE project on behalf of five foundation customers; QCoal, Rio Tinto Coal, BMC, Middlemount Coal and Lake Vermont Resources.

The 20-month construction of GAPE was achieved a month ahead of schedule, despite the challenges of Queensland's extraordinary wet weather in December 2010 and January 2011. QRNN and its alliance partners weathered floods, fire and a cyclone to deliver one of the nation's largest railway projects on budget and ahead of schedule. The successful delivery of major expansions like GAPE demonstrates QRNN's capability to play a central

role in the continuing expansion of Australia's resources sector. The GAPE project underscores our ability to build major rail infrastructure, aligned to customer and market demand, on time and within budget.

The GAPE project has supported thousands of jobs in the mining and construction industry and was a key driver for economic growth in regional Queensland. The project has been a windfall for regional communities with more than $12 million a week invested in Central Queensland over the two-year life of the project. Approximately 800 jobs were created during construction, with additional jobs created in local communities servicing and supplying the work sites.

Further work to finalise the GAPE project will continue through to 2012, including completion of additional works on the Briaba section and upgrades to existing track infrastructure in the Newlands system.

3. Scope of Works

The GAPE project is one of the largest rail infrastructure projects undertaken in Queensland's history and required the linking of two major coal transport systems, Goonyella and Newlands. Each of these systems operated independently of each other and had long-standing operating practices, which had to be integrated. As such, it was crucial that GAPE planning and development was done in very close consultation with customers, operations and maintenance personnel. This interaction continued throughout the construction period, where QRNN provided monthly reports to customers and held quarterly progress briefings. There were also 2 site visits held during the construction period.

From a very early stage, QRNN worked with coal customer representatives to define key preferences and drivers for the project development. These preferences included:

- Minimising capital costs;
- Developing a schedule to suit cost objectives;
- Expansion to match the port capacity of 50 Mtpa;
- No pre-investment in future stages; and
- That the selected scope of work did not preclude future expansion.

These objectives were maintained and delivered throughout the project.

Investment in below rail infrastructure was optimised to provide the lowest overall Total Cost of Ownership (TCO) to our coal customers and to minimise the capital expenditure required to deliver capacity up to 50 Mtpa to the port. Major design alternatives focussed on rolling stock configuration and operational parameters to minimise the overall infrastructure required while providing the most cost effective above rail solution.

Train length and axle load were selected on the basis of the existing Newlands system configuration and the capital costs required to upgrade the system to accommodate longer and heavier trains. The additional investment in upgrading infrastructure was offset by the ability to reduce the scope of additional passing loops and duplication required to accommodate increased traffic and congestion associated with smaller payload trains. Additional benefits of longer trains were realised that should allow above rail operators to haul existing customer tonnes more cost effectively.

The selected H82 train consist (see 'Reference Train Characteristics' below for further information) met the objective of minimising initial project costs, while retaining the flexibility to transition to the longer Goonyella length trains in the next expansion stage.

In addition, the operational parameter of Below Rail Transit Time (BRTT) was optimised in order to balance the need for physical infrastructure with system congestion and the impact on above rail cycle time to minimise overall TCO.

These decisions were supported at the time by robust capacity modelling carried out by QRNN's Capacity Planning group.

Customer representatives endorsed the selected scope of works, which was delivered ahead of schedule and within budget. This scope included 112km of new track consisting of:

- 69km of new track linking the Goonyella and Newlands rail systems;
- 14km of track duplication north of Collinsville;
- major yard and infrastructure upgrades;
- 1km bridge deviation; and
- 6 passing loops.

GAPE Project works have been grouped into the following three categories:

1. Expansion and upgrades of the Newlands system;
2. Establishment of connecting rail infrastructure between the Goonyella and Newland's systems (the NML); and
3. Infrastructure enhancements to the Goonyella system, which support train services originating in the Goonyella system.

Each of these categories are explained in greater detail in the following sections.

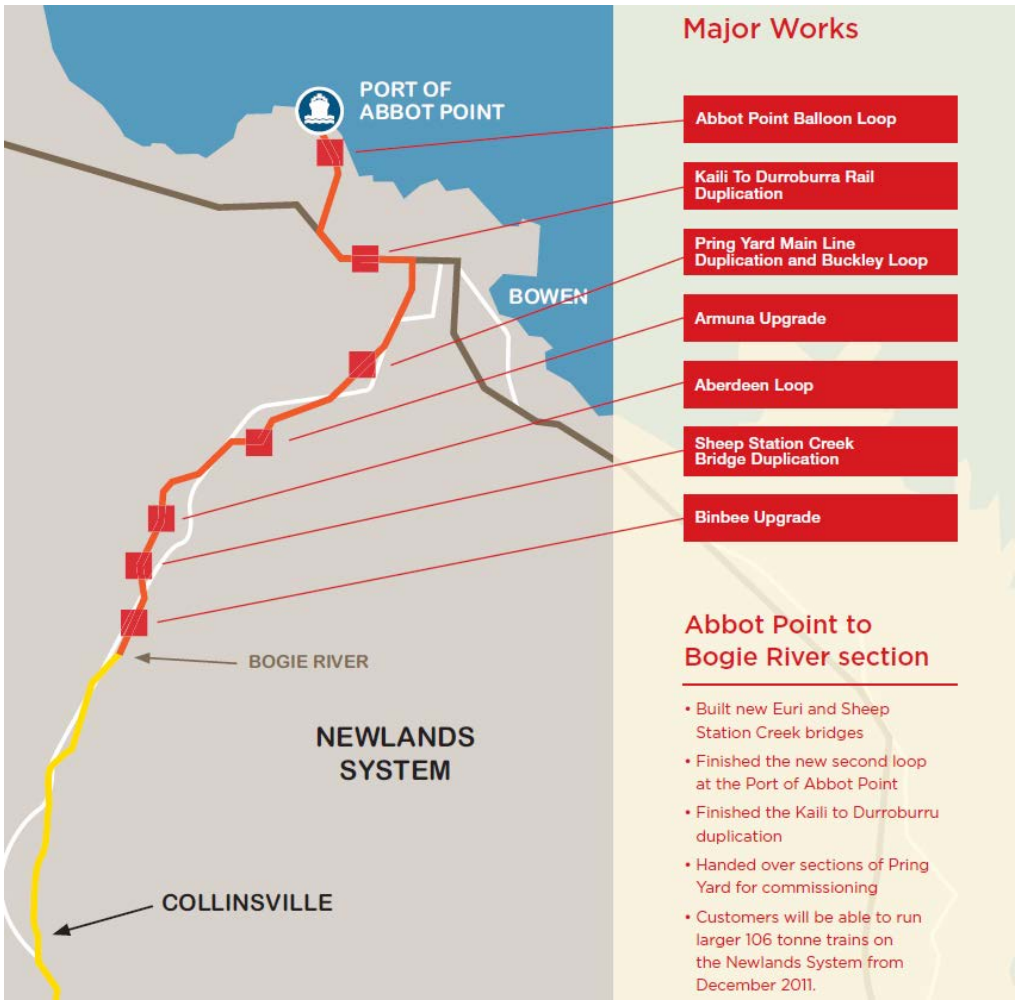
1. GAPE project capital works in the Newlands system

Infrastructure upgrades, track renewal works and the partial duplication of the Newlands system (175km of rail line between Newlands and Abbot Point) were necessary to support additional GAPE and NAPE volumes. Newlands system projects were split into two sections:

1.1 Abbot Point to Bogie River:

In May 2011, the GAPE project passed a significant milestone with the commissioning of the second Abbot Point Balloon Loop and holding road. The 6.5km loop and holding road provides an important infrastructure connection to the Abbot Point Coal Terminal which will see coal tonnages hauled to the port increase by up to 50 million tonnes per annum. A team of around 100 people from Coal Stream, Aspect3 and QR National Rail Construction worked on the loop against many challenges including wet weather and floods in order to successfully meet the commissioning date safely and on time. The new loop also incorporates new access roads, four crew change pads and safer level crossings. This section was delivered by QRNN and its alliance partners Coal Stream (civil works) and Aspect3 (signalling).

Figure 2: Abbot Point to Bogie River (Newlands system)



1.2 Bogie River to Newlands

This section (and the NML) was delivered by QRNN and its alliance partners Coal Connect (civil works) and Synergy (signalling).

Works included:

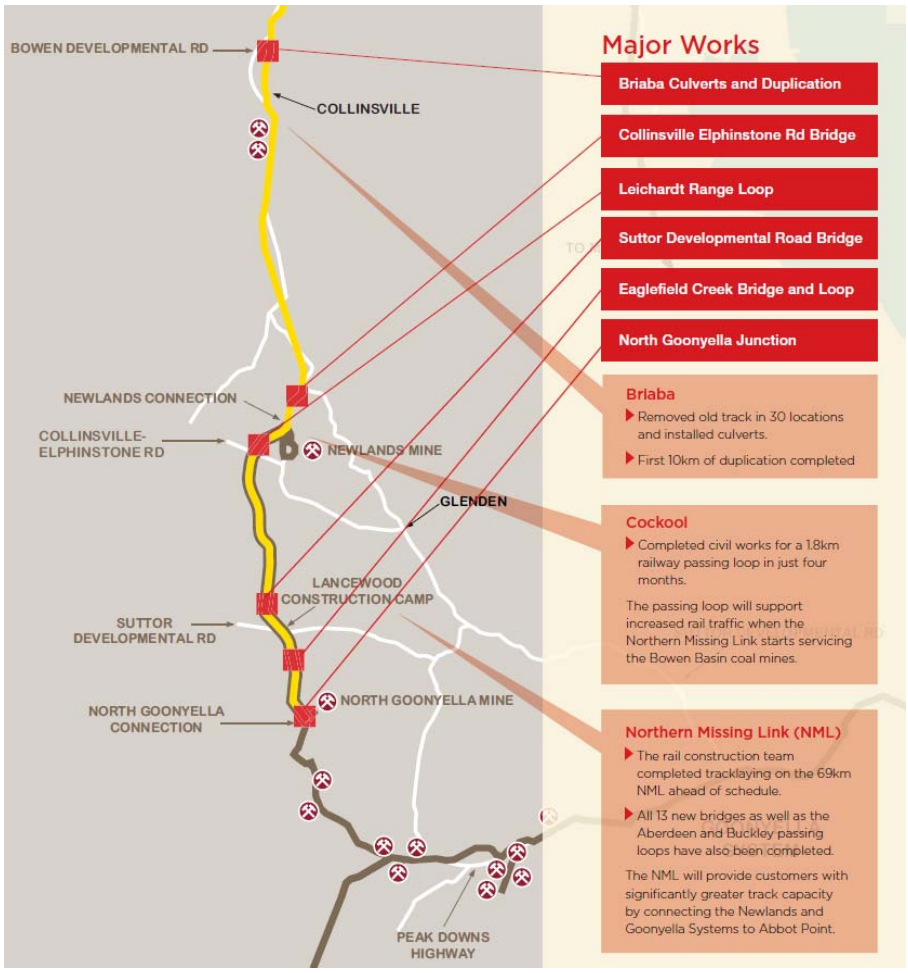
- Removal of old track, installation of culverts and 10km of track duplication at Briaba;
- Completion of civil works for a 1.8km passing loop at Cookool; and
- New junctions at McNaughton, Birralee, Havilah and Newlands.

2. Northern 'Missing' Link

The NML is a 69km greenfield rail link which connects the Goonyella coal rail system to the Newlands coal rail system. Building the NML was a significant feat with major project milestones including the construction of 2 'road over rail' bridges, 11 rail bridges, 3 passing loops and 63 drainage culverts. Other highlights of the construction process include:

- Over 2.6 million cubic metres of earthworks was completed;
- Over 100,000 concrete sleepers have been laid and 190,000 cubic metre tonnes of ballast used; and
- 11 rail bridges include 96 bridge beams, used 950 tonnes of steel and 4,700 cubic metres of concrete.

Figure 3: Bogie River to Newlands and the NML



3. GAPE project capital works in the Goonyella system

These works relate to infrastructure for GAPE customers who require the installation of enhancements to facilitate loaded trains accessing the NML. The Goonyella Enhancements include:

- Wotonga Angle and Duplication; and
- Teviot Brook Passing Loop.

Figure 4: Track Laying Machine on the NML

4. QR Network's Undertaking

Schedule F of QRNN's Undertaking contains the Reference Tariffs applicable to nominated coal carrying Train Services. These Reference Tariffs have been developed in accordance with the principles contained in Part 6 of QRNN's Undertaking and have been endorsed by the QCA for application in accordance with the terms and conditions set out in Section 1 of Schedule F.

Specifically, Clause 6.4.2(b) of QRNN's Undertaking requires that where a new coal mine is developed and Train Services servicing that mine will utilise Rail Infrastructure in the CQCR, the Train Services will be incorporated in a new or existing Reference Tariff in a manner consistent with Schedule F.

The intent of Clause 6.4.2 is that QRNN would submit, or the QCA could require QRNN to submit, a proposed Reference Tariff and corresponding variations to System Allowable Revenue and System Forecasts, which would then be assessed in accordance with the provisions of this paragraph. This is the case for the GAPE Reference Tariff. However, Clause 6.4.2 only contemplates the development a new Reference Tariff within an existing system and not the inclusion of a new coal system. Similarly, the NML is a significant interconnecting piece of rail infrastructure between two systems, as opposed to a 'branch line' directly connecting a coal mine loading facility to an existing corridor. Therefore, it is necessary to amend the definition of the Central Queensland Coal Region.

As QRNN is submitting the GAPE Reference Tariff as a DAAU and not in accordance with the requirements of Clause 6.4.2 it is not an explicit requirement that proposed reference tariff must conform to the relevant provisions of the QRNN Undertaking. The tariff has been developed to reflect the commercial and economic matters relevant to users of the service in a manner consistent with the intention of those provisions.

Clause 4 of Part B to Schedule F of the QRNN Undertaking provides for the establishment of Reference Tariffs for new coal carrying Train Services. Specifically, subclause 4.1.2 specifies that:

> *'The Reference Tariff applicable for a new coal carrying Train Service will be the higher of (on a $ / net tonne kilometre (ntk) basis):*

A. the Reference Tariff for the relevant Individual Cost System Infrastructure; or

B. the sum of the new coal carrying Train's Service's Private Incremental Costs (if any), the Incremental Costs of using any Rail Infrastructure specifically related to the new coal carrying Train Service and the required minimum Common Cost contribution determined in accordance with Subclause 4.1.1.'

As a new coal system the first limb of Clause 4.1.2 is redundant. Accordingly, it is necessary to first determine the incremental costs relevant to the GAPE Reference Tariff and then determine what, if any, contribution needs to be made to an existing Individual Coal System.

As coal carrying train services for GAPE customer mines are utilising newly created rail infrastructure not currently included in the CQCR, any costs not already included in existing Reference Tariffs or System Allowable Revenues, including the capital and operating costs associated with the Rail Infrastructure from the GAPE customer mines to Abbot Point, are "incremental" to the GAPE project.

5. Volumes

While first railings were contracted to commence in January 2012, the NML opened ahead of schedule, allowing the first loaded Train Service to operate over the link on 19 December 2011. Contracted Train Service Entitlements did not commence until 1 January 2012.

Customers have contracted capacity (in train paths) under either a GAPE or NAPE Deed. GAPE Deed customers (GAPE customers) are predominantly located in the Goonyella system and will utilise the NML to transport their coal. It is proposed that GAPE customers pay a regulator-approved access charge calculated for a new individual GAPE coal system with its own revenue cap.

NAPE Deed customers (NAPE customers) are located in the Newlands system and will not utilise the NML. As they operate in the Newlands system only, NAPE customers pay for a share of GAPE Project capital expenditure related to the enhancements they actually use. This share will be added to the existing Newlands system Capital Indicator.

One Newlands coal producer is an exception to this. The commercial arrangements require this customer to make a proportionate contribution towards NML capital costs. This is explained further in the 'Capital and Cost Allocation' section below.

At the date of this submission, all GAPE and NAPE customer tonnes will be transported north to the Abbot Point Coal Terminal and all Above Rail operators will operate diesel trains. As such, the AT1 to AT4 Reference Tariff components have been developed to satisfy the incremental costs associated with all GAPE project infrastructure for the remainder of the UT3 term.

The long term volume scenario for new capacity created by the GAPE project, and committed under the GAPE and NAPE Deeds, is 33.0 Mtpa. All additional tonnes are assumed to be exported via the Abbot Point Coal Terminal.

In order to establish the Reference Tariffs for the remainder of UT3 (i.e. until 30 June 2013), QRNN has converted contracted train path entitlements into nominal net tonne forecasts. These are summarised below.

Note that 2011/12 and 2012/13 volumes fall short of the contracted volumes at full utilisation. These years are considered to be part of the 'ramp-up' period.

Table 1: Expansion Net Tonne forecasts to 30 June 2013

	2011/12	2012/13
Net Tonnes (Mtpa)	2.0	10.55

These tonnages differ significantly from those originally contemplated at the time of developing UT3 and communicated in supporting submissions. At the time of developing UT3, studies were being undertaken to evaluate expansion scenarios for Abbot Point up to 100 Mtpa given the bullish demand environment. Following lodgement of UT3, the market conditions changed significantly following the Global Financial Crisis and tonnage expectations moderated considerably. This is also consistent with the reductions in the annual System Forecasts relative to the approved UT3 volumes.

These volume profiles have also necessitated variations to timing of inclusion of assets into the Regulatory Asset Base (RAB) and the rate of depreciation to be recovered during the ramp-up period. These variations are discussed in greater detail in the relevant sections.

6. Incremental Costs and their Allocation

As mentioned above, GAPE project works have taken place in the Newlands and Goonyella systems. Incremental costs include the:

- capital costs of the NML;
- capital costs of GAPE project Goonyella system works (Goonyella Enhancements);
- capital costs of GAPE related Newlands system works;
- incremental operational expenditure required for the 2010 Undertaking period;
- relevant maintenance costs for NML; and
- incremental mainline maintenance costs.

6.1 Capital Charges for GAPE Rail Infrastructure

The project plan for the construction of GAPE Rail Infrastructure includes an estimated capital cost broken down as follows:

Table 2: Summary of GAPE Project Costs

GAPE project Capital Costs ($m)	Excluding interest during construction	Including interest during construction
Goonyella system	$56.0	$62.9
Newlands system	$579.0	$663.5
Northern Missing Link	$431.3	$510.9
Total	**$1,066.3**	**$1,237.3**

Where a new mine joins an existing system and does not require the development of a new Reference Tariff in accordance with Schedule F (i.e. pays the most relevant existing Reference Tariff) the capital costs associated with facilitating those train services is factored in the Capital Indicator in Schedule F and reflected in existing access charges. However, where a new Reference Tariff is developed, the capital costs can be recognised as either:

- An increase in the value of the RAB; or
- An increase in the value of the Capital Indicator.

As construction costs will not be finalised at the time of preparing this submission and the length of time expected for the QCA to complete the prudency review for inclusion in the RAB the proposed Reference Tariff has been prepared based on an indicative capital estimate (and reflected as a capital indicator). Accordingly QRNN proposes to establish an independent GAPE system with its own Capital Indicator, and reflect the incremental NAPE customer share of capital costs as an increase in the existing Newlands Capital Indicator.

The capital expenditure amounts will therefore be submitted to the QCA for assessment against the requirements of Schedule A as part of the 2011/12 capital expenditure claim. Any variance between the capital indicator and the approved capital expenditure amounts will be reflected in the capital carryover account balance. This approach is consistent with that previously applied for the Lake Vermont Reference Tariff.

6.1.1 Return on Capital

QRNN's systematic risk profile for the GAPE system Rail Infrastructure, on a stand-alone basis, is similar to that of other Rail Infrastructure in the CQCR; particularly that of export coal customer mines in the Newlands system. Accordingly, QRNN has applied the weighted average cost of capital determined by the QCA for the CQCR under the 2010 Undertaking (9.96%) in calculating the appropriate return on capital.

QRNN does note that the asset stranding profile for the GAPE Reference Tariff differs significantly from that which applies to the Newlands and Goonyella systems. In the event of a reduction in demand for coal originating from the Northern Bowen Basin, the Port of Hay Point coal terminals enjoy material location cost advantages which could, on expiry of the contractual term, promote a higher level of utilisation of the Goonyella system. The relative average cost advantages and disadvantages associated with these changes in the long term may drive further reductions in demand, triggering an optimisation event as contemplated by Schedule A, Clause 1.4(b). While QRNN has not addressed these issues in the preparation of the GAPE Reference Tariff, it assumes a standardised risk profile for the Northern Bowen Basin. There will be a need to develop appropriate principles to ensure current pricing and risk allocations reflect the consequences of these scenarios.

6.1.2 Return of Capital

Consistent with the approved approach to capital investment undertaken in UT3, the GAPE project costs have been assessed using a straight line depreciation profile over a term of 20 years. This will be reviewed in UT4 and if the current approach is retained, the depreciation profile for the UT4 opening asset value of the GAPE project costs would be reset to 20 years.

Once the total GAPE project capital costs have been finalised, a weighted average life will be calculated based on the actual capital spend by asset class. It is important to note that this economic life assumption does not have an impact on the UT3 tariffs and is consistent with the economic life applied to new mainline infrastructure in other sections of the CQCR.

However, given the low utilisation of new GAPE infrastructure during the UT3 ramp-up period, QRNN proposes to defer the depreciation of GAPE system capital expenditure until the commencement of the proposed UT4 period (i.e. 1 July 2013). The approved asset values will be rolled forward in the RAB with asset appreciation.

This benefits GAPE and NAPE customers operating during the tonnage ramp-up period as they will not be subject to the ‘full cost recovery’ tariff at a time when the railway is not fully utilised.

6.2 Total Maintenance of the Relevant Rail Infrastructure

In order to estimate the maintenance allowance for the GAPE system, a top-down cost estimate was prepared using the current UT3 maintenance cost inputs as a benchmark. The cost estimate was broken into two parts, i.e. the incremental maintenance charge and the fixed maintenance charge. Due to the significant capital additions in terms of both track and route kilometres, QRNN will incur additional maintenance costs which are not directly attributable to asset utilisation and therefore not commensurate with the costs and volume dependent maintenance activities assumed in the ‘long run’ incremental maintenance charge.

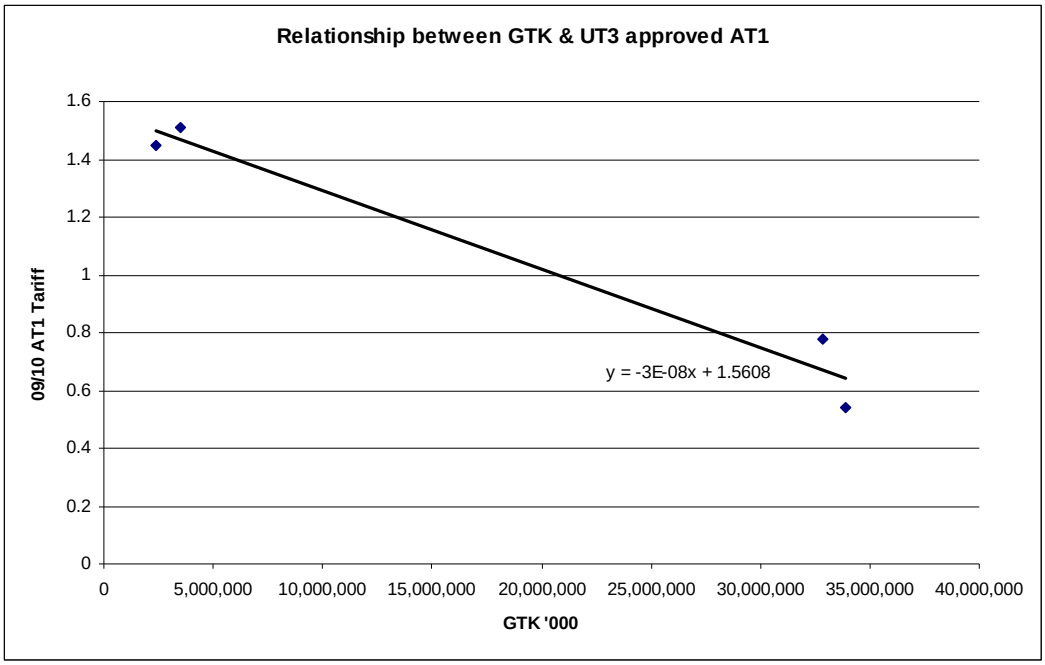
The incremental maintenance charge was based on the current AT1 tariffs revised for the increase in volume associated with the GAPE project. The fixed maintenance charge was developed using the current UT3 approved maintenance allowance after removing any variable cost components.

6.2.1 Incremental Railway Maintenance Costs

The access charge should include an amount to cover the long-run incremental maintenance costs associated with the proposed Train Services on the mainline. This is generally reflected in the existing AT1 Reference Tariff. As the characteristics of coal carrying Train Services from GAPE customer mines are comparable to existing Newlands services, QRNN proposes to adjust the AT1 rate for the Newlands system to reflect the volume impact on the incremental mainline maintenance costs.

In order to estimate the adjusted Newlands system AT1 charge, a curve (depicted below) was plotted reflecting the approved UT3 rate for all four systems, i.e. Goonyella, Blackwater, Moura and Newlands. This curve represents the relationship between the variable maintenance charge (i.e. AT1), and volume in gross tonne kilometres (gtk).

Figure 5: Relationship between GTK & AT1 rates approved for UT3



The equation of the above curve is used to derive an appropriate AT1 charge.

$$y = -0.00000003\,\mathrm{x} + 1.5608$$

x = UT3 approved Newlands '000gtk + additional 'GAPE project' Newlands '000gtk
x = 3,502,871 + 7,973,593
x = 11,476,464
y = $1.22 per '000gtk.

Note: QRNN has used 'steady state' gtk to better reflect the 'longer term' traffic that will be using the system.

The resulting y value reflects the adjusted Newlands AT1 tariff in 2009/10 dollars. This is then escalated at CPI to derive an appropriate AT1 tariff for 2011/12 & 2012/13, i.e. $1.29 and $1.33 per '000gtk respectively.

QRNN proposes to use the revised Newlands system AT1 tariffs as a proxy for the new GAPE system.

To calculate the incremental maintenance charge for the GAPE and Newlands systems, the AT1 rate was then multiplied by all additional GAPE project gtk.

The following table shows the resulting additional incremental maintenance by system under ramp-up tonnages. Note that Goonyella, Northern Missing Link and a share of Newlands maintenance costs will be allocated to the GAPE system. The allocation methodology is outlined in detail below.

Table 3: Incremental Maintenance Costs

Incremental Maintenance ($m)	2011/12	2012/13
Goonyella system	$0.70	$3.22
Newlands system	$0.69	$3.67
Northern Missing Link	$0.28	$1.49
Total	**$1.67**	**$8.39**

6.2.2 Fixed Railway Maintenance Costs

In assessing the appropriate fixed maintenance charge for the GAPE project infrastructure, a top-down assessment was performed using the approved UT3 2009/10 maintenance allowance as a benchmark. Any component of this maintenance allowance that was not fixed in nature was removed. Consequently, the allowance for traction maintenance, the variable maintenance component of ballast cleaning and the revenue collected via the AT1 Reference Tariff (which represents variable maintenance) was removed, leaving only the non-electric fixed maintenance component.

Table 4: UT3 Approved Maintenance Allowance

2009/10 Maintenance costs recovered via AT2-4 ($m)	2009/10 ($)
Blackwater system	$15.0
Goonyella system	$29.4
Moura system	$6.3
Newlands system	$3.4
Total	**$54.2**

The amounts in Table 4 are expressed in 2009/10 end of year dollars. They have then been escalated into 2011/12 and 2012/13 dollars via a cumulative 'Maintenance Cost Index' (MCI) and converted into a 'price per track km' ($/track km) by dividing the fixed maintenance cost by the relevant track kilometres in each system. The $/track km rates are used as a proxy for an indicative fixed maintenance unit charge.

The approved UT3 maintenance costs are also based on a 2007/08 work order based resource allocation reflective of the static CQCR as it was configured at that time. Accordingly, the additional maintenance costs representing the non-volume dependent component of asset maintenance costs are commensurate with an increase in resource allocations arising from the additional maintenance activities.

Table 5: Indicative Fixed Maintenance Rates

AT2-4 rates ($ / track km)	2011/12	2012/13
Blackwater system	$16,606	$18,542
Goonyella system	$37,367	$41,723
Moura system	$30,207	$33,728
Newlands system	$19,661	$21,953
GAPE system	$19,661	$21,953

Given that GAPE and NAPE customers will rail across the Newlands system, it has been assumed that the Newlands $/track km rate is an appropriate proxy for the GAPE system.

These rates were then multiplied by the new track km created by the GAPE project to determine the additional fixed maintenance costs. The following table summarises these costs.

Table 6: Fixed Maintenance Costs

Fixed Maintenance ($m)	2011/12	2012/13
Goonyella system	$0.21	$0.23
Newlands system	$0.72	$0.80
Northern Missing Link	$1.46	$1.63
Total	**$2.38**	**$2.66**

Note that Goonyella, Northern Missing Link and a share of Newlands maintenance costs will be allocated to the GAPE system. The allocation methodology is outlined in detail below.

6.2.3 Network Strategic Asset Plan Estimate (Bottom-Up Approach)

In order to assess the robustness of the top-down estimate of maintenance costs, a bottom-up estimate was also prepared using the Network Strategic Asset Planning (NSAP) tool. This tool models the required scope of works for assets applied in the Network and the tasks required of those assets. Application of asset product based rates can be used to arrive at a cost estimate of maintaining the Network or part there-of.

The model is consistent with the regulatory approach to recover the asset cost caused by the passage of trains as well as the time based deterioration of the assets. Costs are then distributed relative to the traffic task over the life of the asset. The estimates are calculated from the average annual scope based on the year by year tonnage task.

The sophistication of NSAP is under continuous review as approaches to management of specific assets and asset policy change.

6.2.3.1 Network Strategic Asset Plan (NSAP) Assumptions

The modelling was based on costs (in $10/11) consistent with the QCA allowance with the model extrapolating to the scenario with the new assets and additional tonnes. For clarity the estimates provided have the following assumptions built in:

- Depreciation on Assets employed by Asset Maintenance;
- Includes Asset Maintenance charges for such services as payroll, HR, IT;
- 0% Margin;
- Exclude ROA on assets and inventory employed by Asset Maintenance; and
- Excludes Asset Renewals including:
  - Rail, Sleeper, Turnout and Ballast renewals;
  - Civil Structures and Earthworks renewals; and
  - All Trackside systems renewals.

6.2.3.2 Modelling Process

The model estimates increases in costs (the increment) on increased tonnage and the introduction of new infrastructure which needs to be maintained/serviced.

The incremental costs are calculated using the actual detailed description of the asset base and tonnage task using the following process:

1. Firstly, estimates were made using NSAP for the original Newlands system assets and tonnage task.
2. This NSAP estimate for the current Newlands operation (10/11) was validated against the maintenance costs for the system. This was used to assess the validity of the model. Variances were identified in some products, however there was excellent agreement (<3%) at a broad level. As a general statement, NSAP estimates higher mechanised track and lower general track maintenance. Given NSAP has been built up from a fundamental asset based perspective, this is an excellent outcome overall.
3. The total estimates were then calculated for the annual tonnes as they ramp up on the new system assets over the UT3 period.
4. Finally, incremental cost estimates were determined for the interim submission by subtracting 1 from 3.

At present, NSAP is not sensitive to the impact of changing tonnages on some corrective maintenance products, for example, changes to fix on fail costs for track and signalling assets.

Final estimates have been adjusted based on the actual split of costs for these items into corrective and preventative costs. Estimates were then increased or reduced where they are known to be sensitive to traffic tonnage.

6.2.3.3 Incremental Cost Estimate

The results of this modelling process have arrived at the following incremental cost estimates for the management of the GAPE tonnes over the period up to the end of the UT3 regulatory process.

The table below illustrates the cost estimate associated with the new GAPE infrastructure as well as those associated with additional tonnage on existing assets on the Newlands system.

Table 7: Maintenance Estimate for GAPE and Incremental Newlands Traffic

Incremental Maintenance Estimate for UT3 ($m)	Maintenance Products Included	Cost Increment to end of UT3 Period ($10/11)
Mechanised Maintenance	Ballast Cleaning	$8.63
	Rail Grinding	
	Track Resurfacing / Stone Blowing	
General Track Maintenance	Track Inspection and Monitoring	$2.91
	General Track Maintenance Activities	
	General Earthworks Maintenance	
	General Corridor Maintenance Activities	
Structures & Facilities	Structures Inspection and Monitoring	$0.12
	Structure Repairs	
Signalling	Signalling Preventative Maintenance	$1.44
	Signalling Corrective Maintenance	
	Level Crossing Maintenance	
	Monitoring Equipment Maintenance	
Telecommunications	Preventative Maintenance	$0.01
	Corrective Maintenance	
Total		**$13.12**

This base cost estimates has been escalated to the relevant period and the incremental cost associated with increased Goonyella system traffic added to arrive at the following:

Table 8: NSAP Estimate of Incremental Maintenance Costs

($m)	GAPE and Incremental Newlands Cost ($10/11)	Escalated to relevant year using MCI	Total (including incremental Goonyella costs)
2011/12 (Jan – June)	$2.72	$2.79	$3.99
2012/13 (Full Year)	$10.40	$11.10	$15.00
Total	**$13.12**	**$13.89**	**$18.99**

* Includes an allowance for incremental cost associated with increased Goonyella system traffic.

6.2.4 Total Maintenance Costs

It is evident that the bottom-up estimates with the inclusion of ballast undercutting are commensurate with the estimates derived from the top down approach. The table below combines the incremental and fixed maintenance costs to reflect the Total Maintenance Costs used to derive the Reference Tariffs.

Table 9: Total Maintenance Costs

Total Maintenance Costs Incremental + Fixed ($m)	2011/12	2012/13
Goonyella system	$0.91	$4.67
Newlands system	$1.40	$6.05
Northern Missing Link	$1.74	$4.22
Total	**$4.05**	**$14.94**

Note that Goonyella, Northern Missing Link and a share of Newlands maintenance costs will be allocated to the GAPE system. The allocation methodology is outlined in detail below.

6.3 Incremental Railway Management (Operating) Costs

Operating cost estimates attributable to the GAPE system are based on the GAPE operating cost forecast provided for the 'August 2009 Regional and System Wide Costs'[1], and an additional Risk Premium allowance. It is assumed that neither Newlands nor Goonyella system operating costs will change as a result of the additional GAPE traffic, however, a proportion of GAPE project operating costs will be allocated to the Newlands system to reflect the incremental NAPE customer traffic on this system.

The QCA's consultant who reviewed QRNN's proposed UT3 operating and maintenance costs recommended that the net difference in total operating costs in 2007/08 dollars for the CQCR with and without GAPE should be as follows[2]:

Table 10: GHD Estimate of GAPE Operating Costs

GAPE Operating Cost Estimates ($m)	2011/12	2012/13
2007/08 $	$3.80	$4.70
Escalated to 2011/12 $	$4.37	$5.53

As discussed in the volume section of this submission, these estimates were based on a more substantial tonnage profile than was used to determine the GAPE Reference Tariff. However, it should be noted that the UT3 operating costs were also based on an allocative cost approach relevant to a railway manager responsible for the entire Queensland narrow gauge coal network. In this context, the 40% standard allocator will materially underestimate the stand-alone costs now incurred.

[1] GHD (2009) 'Report for QR Network Access Undertaking, Assessment of Operating and Maintenance Costs for UT3, A report prepared for the Queensland Competition Authority'.
[2] Ibid.

Given the limited time for the application of the GAPE Reference Tariffs (i.e. the 18 months prior to the expiry of UT3) rather than revise the standalone operating cost forecasts for the entire CQCR, we have applied the original, GHD recommended operating expenditure forecasts for UT3. Costs for UT4 would then be re-assessed by reference to the standalone operating costs of the CQCR including the GAPE system. As the original figures were expressed in 2007/08 mid-year terms, they have been escalated to 2011/12 end of year dollars for consistency.

An additional Risk Premium has been calculated using the Newlands system as a proxy. The UT3 approved risk premium for Newlands was expressed in terms of 'price per ntk'. This rate is then applied to the incremental ntk resulting from the GAPE project to derive the applicable risk premium.

As a cross-check, a high level assessment was carried out to identify the necessary functions that would be affected by the introduction of GAPE traffic during the ramp-up period. These functions include:

- A new Train Control board and the required network controllers and managers to operate it;
- Additional planning and incident response staff; and
- Other contract management and administrative staff.

The following table summarises the operating cost and risk premium estimates used to determine the Reference Tariffs.

Table 11: Operating Cost Estimate

Operating Costs ($m)	2011/12	2012/13
Goonyella system	$1.83	$2.13
Newlands system	$1.79	$2.42
Northern Missing Link	$0.74	$0.99
Total	**$4.37**	**$5.53**

Table 12: Risk Premium Estimate

Risk Premium ($m)	2011/12	2012/13
Goonyella system	$0.08	$0.40
Newlands system	$0.08	$0.46
Northern Missing Link	$0.03	$0.19
Total	**$0.19**	**$1.04**

Note that Goonyella, Northern Missing Link and a share of Newlands maintenance costs will be allocated to the GAPE system. The allocation methodology is outlined in detail below.

6.4 Capital and Cost Allocation

In addition to the construction of the NML, significant capital investment related to the GAPE project is taking place in the Newlands and Goonyella systems. These costs must be allocated appropriately to ensure that those customers that benefit from the capital works are the ones that pay for them. QR Network has allocated costs to four categories:

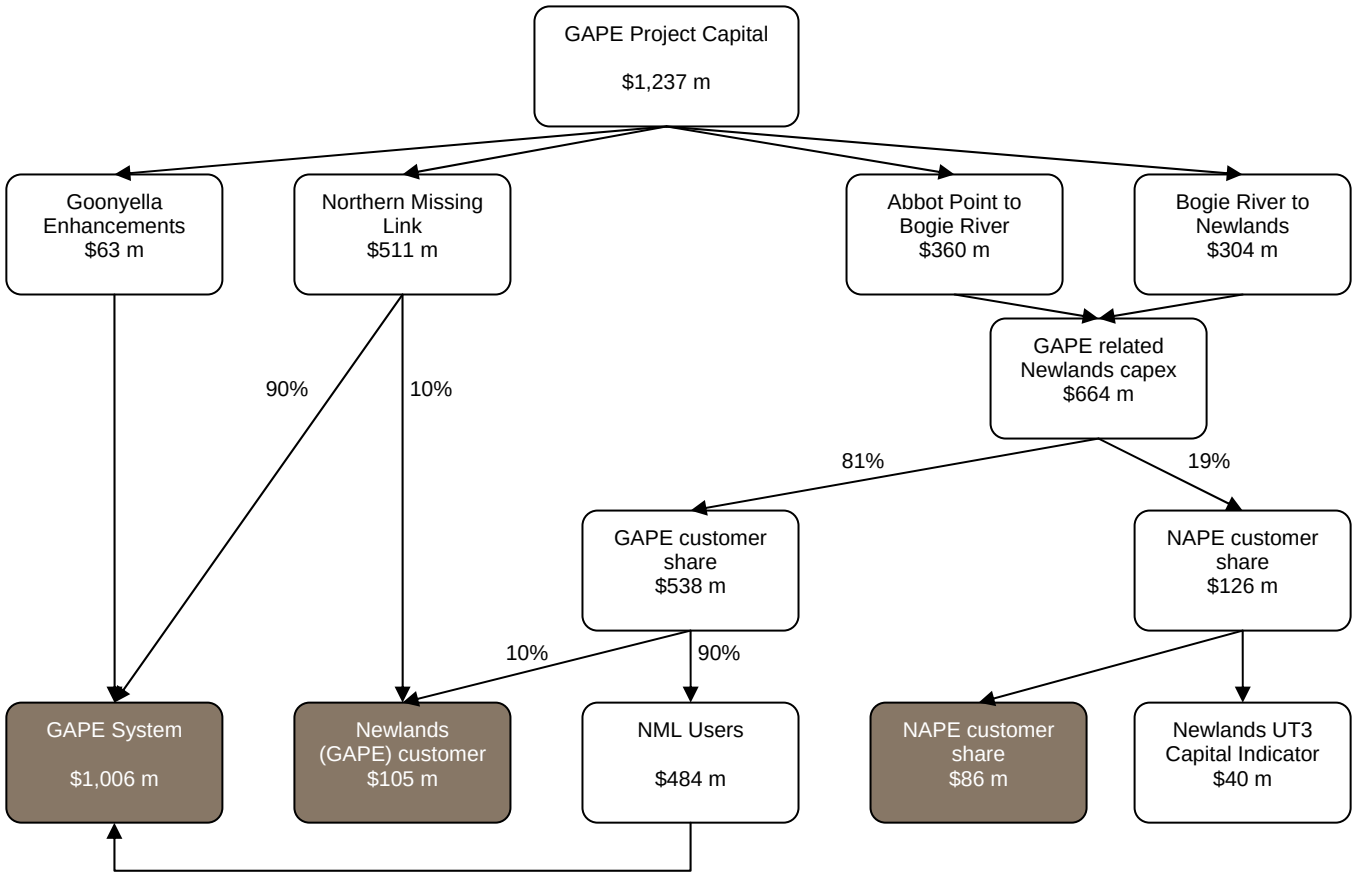
- GAPE system;
- Goonyella Enhancements;
- NAPE share; and
- Newlands (GAPE) Customer share.

Under the commercial arrangements, one Newlands coal producer entered into both GAPE and NAPE Deeds for its mine. As a result, this customer (Newlands (GAPE) Customer) is required to make a proportional contribution towards the costs of the NML. Accordingly, it is necessary to allocate costs to this customer separately because their

applicable Access Charge will not be calculated on the same basis as other GAPE or NAPE customers in order to reflect the commercial arrangements.

The figure below graphically represents the allocation of GAPE project capital. The rationale for this allocation is discussed in detail below.

Figure 6: Capital Expenditure Allocation (including interest during construction)



6.4.1 Allocation of Northern Missing Link Capital Costs

As indicated above, in order to give proper effect to the commercial arrangements underpinning the GAPE project, it is necessary to allocate a proportion of the NML capital expenditure directly to the Newlands (GAPE) Customer. Existing Newlands customers will not be adversely effected by this allocation as it will recovered as a System Premium for the relevant tonnages originating from the Newlands (GAPE) Customer's loading point in addition to the Newlands system Reference Tariff. Train Services operating from this loading point, if it connects directly to the Newlands system, will first be assumed to operate under the GAPE commercial arrangements in order to ensure these costs are not indirectly socialised within the Newlands system Revenue Cap.

Table 13: Allocation of Northern Missing Link Capital Costs

Northern Missing Link Capital Cost Allocator	%
Newlands (GAPE) Customer allocation of NML	10.1%
'Other GAPE customer' share of NML	89.9%

The balance of NML capital costs will be allocated to the GAPE system for recovery through the GAPE Reference Tariff.

6.4.2 Allocation of Newlands Capital Costs related to the GAPE project

GAPE customers, NAPE customers and existing Newlands users will all utilise the upgrades to the Newlands system. For the purpose of calculating Reference Tariffs, capital expenditure associated with GAPE project works in

the Newlands system must be allocated between both GAPE and NAPE customers. The NAPE customer share will subsequently be added to the Newlands system Capital Indicator and incorporated into the Newlands Reference Tariff.

QRNN has allocated the Newlands capital costs according to the proportion of new tonnes subject to the relevant Reference Tariff.

The proportion attributable to Newlands is determined by the following equation:

$$\frac{NAPE_{nt}}{GAPE_{nt} + NAPE_{nt}}$$

Where:

- NAPE nt = total net tonnes (nt) contracted under all NAPE Deeds.
- GAPE nt = total net tonnes (nt) contracted under all GAPE Deeds.

Conversely, the proportion attributable to the GAPE system is:

$$1 - \left(\frac{NAPE_{nt}}{GAPE_{nt} + NAPE_{nt}} \right)$$

GAPE related Newlands capital costs are allocated as follows:

Table 14: Allocation of GAPE related Newlands Capital Costs

GAPE related Newlands Capital Cost Allocator	%
GAPE customer share	81.0%
NAPE customer share	19.0%

Of the 19% NAPE customer share, $40 million was already included in the Newlands system Capital Indicator for UT3, and will be deducted from the cost allocation to NAPE customers. This capital was a proxy estimate for track renewal works that would have been required in the Newlands system in the event that the GAPE project did not proceed. The renewal works were subsequently completed as part of the GAPE scope of works and this cost allocation reflects the fact that existing Newlands users derive a benefit from the GAPE project. These benefits also include the ability to operate longer and heavier trains as discussed in 'Reference Train Characteristics' below.

The GAPE customer share of GAPE related Newlands capex is broken down further among the Newlands (GAPE) Customer and customers that utilise the NML by using the allocation methodology outlined in section 6.4.1. Newlands (GAPE) Customer's share will be added to the capital cost recovered via the system premium on Newlands (GAPE) Customer tonnes. The balance will be allocated to the GAPE system and recovered through the GAPE Reference Tariff.

6.4.3 Defer inclusion of GAPE related Newlands capex until UT4

In the remainder of UT3, only 3% of contracted NAPE tonnes and 0% of Newlands (GAPE) Customer tonnes are expected to be railed. As a result, QR Network proposes to defer the inclusion of the Newlands (GAPE) and NAPE customer share of GAPE capital costs into the Reference Tariff until the commencement of UT4. These amounts will be capitalised at the Approved WACC of 9.96%, for the UT3 period.

The rationale behind this is to ensure that existing Newlands users do not see a material impact in their $/nt price, as would be the case if the NAPE customer share of GAPE capital costs are immediately added to the Newlands system capital indicator. Deferring this portion of GAPE project capital better aligns the inclusion of capital to the tonnage ramp-up profile; a clear benefit to customers.

6.4.4 Allocation of Goonyella System Enhancement Capital Costs

The capital costs associated with the Goonyella System Enhancements will be fully allocated to the GAPE Reference Tariff. The capital expenditure for the GAPE project also includes electrification works for the additional passing loops in the Goonyella system. Consistent with the incremental cost approach, these costs will be allocated to the GAPE system and exclusively recovered through the AT_3 tariff.

6.4.5 Allocation of Maintenance and Operating Costs

QRNN has allocated maintenance and operating costs according to each category's share of total new gtk in each year. The allocation amongst categories will vary according to the tonnage ramp-up profile.

Table 15: Maintenance and Operating Cost Allocation

GTK '000s	2011/12	2012/13
GAPE system	750,208	3,857,128
Goonyella Enhancements	543,891	2,430,891
NAPE share	Nil	37,467

% share of Total GTK	2011/12	2012/13
GAPE system	58.0%	61.0%
Goonyella Enhancements	42.0%	38.4%
NAPE share	Nil	0.6%

6.4.6 Allocation of Risk Premium

As mentioned above, the additional risk premium was calculated on a 'price per ntk' basis. It is therefore appropriate to allocate costs according to the proportion of ntk in each year. The allocation amongst categories will vary according to the tonnage ramp-up profile.

Table 16: Risk Premium Allocation

NTK '000s	2011/12	2012/13
GAPE system	468,794	2,410,262
Goonyella Enhancements	339,869	1,519,028
NAPE share	Nil	23,412

% share of Total NTK	2011/12	2012/13
GAPE system	58.0%	61.0%
Goonyella Enhancements	42.0%	38.4%
NAPE share	Nil	0.6%

6.4.7 Summary of Cost Allocations by system

In summary, GAPE project capital costs have been allocated according to each group's tonnage proportion. Maintenance and operating costs have been allocated by a share of total GTK and the risk premium has been split by the proportion of total NTK. Note that all costs associated with Goonyella Enhancements will be included in the GAPE system. The NAPE customer share will be incorporated into the Newlands Reference Tariff.

Costs allocated to the GAPE system are:

- 90% of the capital cost of the NML;
- 100% of the capital cost of the Goonyella Enhancements;

- 72.9% of the total capital cost of the GAPE related Newlands system works;
- Incremental operational expenditure required for the NML for the remainder of the 2010 Undertaking period;
- Relevant maintenance costs for NML; and
- 100% of incremental Goonyella mainline maintenance costs and a share of incremental Newlands mainline maintenance costs.

Costs allocated to the Newlands system are:

- 12.7% of total capital cost for GAPE related Newlands system works; and
- A share of incremental Newlands mainline maintenance costs.

Costs allocated to the Newlands (GAPE) Customer and paid as a system premium on top of the Newlands system price are:

- 10.0% of the capital cost for the NML; and
- 8.1% of the total capital cost for GAPE related Newlands system works.

The following tables summarise the allocation of capital (inclusive of interest during construction) and costs to the GAPE or Newlands system for the remainder of UT3.

Table 17: Capital Cost Allocation for UT3 (inclusive of interest during construction)

Total Capital Costs ($m)	2011/12	2012/13
GAPE system (incl GSE)	$941.9	$41.8
Newlands system	Nil	Nil
Newlands (GAPE)	Nil	Nil
Total	**$941.9**	**$41.8**

Note: capital, operations and maintenance costs will not be allocated to Newlands or the Newlands (GAPE) Customer in UT3 as per the capital deferral proposal outlined in section 6.4.3. These costs will be deferred until UT4.

Table 18: Maintenance Cost Allocation for UT3

Total Maintenance Costs ($m)	2011/12	2012/13
GAPE system (incl GSE)	$4.1	$14.9
Newlands system	Nil	Nil
Newlands (GAPE)	Nil	Nil
Total	**$4.1**	**$14.9**

Table 19: Operating Cost (including Risk Premium) Allocation for UT3

Total Operating Costs ($m)	2011/12	2012/13
GAPE system (incl GSE)	$4.6	$6.6
Newlands system	Nil	Nil
Newlands (GAPE)	Nil	Nil
Total	**$4.6**	**$6.6**

7. Contribution to Common Costs

Due to the materiality of the price differential with the Newlands and Goonyella system, QRNN does not propose to include an allocation of common costs from those systems for inclusion in the GAPE Reference Tariff. The GAPE system users only pay those costs which are not already recovered thorough an existing reference tariff. The rationale behind this is clearly illustrated by comparing the average price per net tonne ($/nt) of each system.

Because Goonyella is the only electrified system considered in this analysis, we have excluded revenue derived from the Goonyella AT5 tariff. This is to ensure the comparison is made on the same basis.

Table 20: $/nt comparison based on AT2 - AT4 Revenues

$ / nt	2011/12	2012/13
GAPE system	$9.90	$10.08
Goonyella system	$2.34	$2.73
Newlands system	$1.75	$2.00

It is clear that the GAPE system is more expensive (on a $/nt basis) than both Goonyella and Newlands. Accordingly, it is appropriate that GAPE users pay for their incremental costs only, without having to make a further contribution to either the common costs of either the Goonyella or Newlands system. However, the GAPE Reference Tariff will need to include an allocation of common operating and maintenance costs in subsequent regulatory periods to reflect the expected material increases in common costs associated with the loss of economies of scale inherent in a stand-alone Central Queensland Coal Region (relative to management of the entire QLD narrow gauge network).

8. Reference Train Characteristics

As mentioned in section 3 ‘Scope of Works’ above, the GAPE system’s optimal train configuration was selected after careful consideration of four key objectives. These objectives were identified through consultation with key stakeholders and included:

- Meeting the annual demand profile as provided by the coal industry;
- Minimising capital costs;
- Low overall Total Cost of Ownership (TCO); and
- System availability, maintainability and reliability.

Industry engagement was critical in terms of directing and guiding the selection of the Reference Train as it created ‘flow on’ impacts to the wider Newlands system.

All train lengths and wagons were considered as part of the selection process. The preferred length and wagons were selected to lower overall TCO including above and below rail capital expenditure and operating costs. The Hybrid 82 (H82) train was determined to have the lowest TCO and lowest capital cost configuration when existing loop length and grade requirements were considered.

106 tonne wagons significantly reduced the number of train paths required (due to higher payload), and above rail operating costs. These savings more than offset the capital investment required to upgrade the Newlands system so that it was capable of taking longer trains.

However, the additional number of trains and train cycles resulting from the GAPE expansion will impact the Newlands system Below Rail Transit Time (BRTT), which measures the sectional run times (100%) plus the percentage above 100% attributable to below rail delays such as train crossing, maintenance and signal faults.

During the development of the optimal Reference Train configuration it was agreed that the scenarios should consider a relaxation of the current BRTT constraint (124% in Newlands and in Goonyella). The analysis measured the impact of operating at a higher BRTT and the results suggested that in ranges above 160% the operation became inefficient. In ranges below 160%, it was found that there could be an acceptable trade off between a reduction in below rail capital and an increase in above rail capital.

As part of value engineering process, QRNN identified that customers would realise a lower TCO by operating larger trains (H82) at a higher BRTT (160%) than if additional infrastructure (passing loops and track duplication) was built to retain the contracted BRTT.

QRNN subsequently approached existing Newlands customers and obtained their agreement to modify their mine facilities to accommodate the H82 trains and to vary their contracted BRTT.

The Reference Train used to derive the GAPE Reference Tariffs is configured as;

- 3 x 4000 class locomotives, and
- 82 x 106t gross wagons.

The assumptions for this train configuration are;

- Maximum length (including the locomotive/s) of 1,402 metres.
- 26.5 tonne axle load.
- Total payload of 6,800 tonnes.
- Trains can traverse all grades from North Goonyella Junction to Abbot Point.

9. Reference Tariffs

As neither GAPE nor Newlands coal carrying Train Services are provided by electric locomotives, there is no requirement for the Reference Tariff to include AT5 or EC components.

The proposed GAPE system Reference Tariffs (prior to any Revenue Cap adjustment amounts) to apply from 19 December 2011 are summarised below.

Table 21: Proposed Reference Tariffs

System	GAPE system	
Tariff ($)	2011/12	2012/13
AT1 ($ / '000 gtk)	$1.29	$1.33
AT2 ($ / rtp)	$11,949.82	$12,248.57
AT3 ($ / '000 ntk)	$3.18	$3.26
AT4 ($ / nt)	$5.12	$5.24
AT5 ($ / '000 egtk)	Nil	Nil
EC ($ / '000 egtk)	Nil	Nil
QCA Levy ($ / nt)	$0.01170	$0.01170

There are no changes to the Goonyella or Newlands system Reference Tariffs.

9.1 Commencement Date

Subparagraph 6.4.2.(i) specifies the commencement date for new Reference Tariff services. Specifically:

> *'If the QCA approves a proposed Reference Tariff submitted under Clause 6.4.2(a), or resubmitted under Subparagraph 6.4.2(j)(ii):*
>
> *(i) the proposed Reference Tariff will apply from the earlier of:*
>
> *A. the date of the QCA decision;*
>
> *B. where Clause 6.4.2(b) applies, the date of the first Train Service servicing the new coal mine; and*
>
> *C. where Clause 6.4.2(c) applies, the date when the relevant notice is given by the QCA,*
>
> *except where the QCA specifies a later date in its decision, in which case the proposed Reference Tariff will apply from that date.'*

As the first Train Service from a GAPE customer mine operated on 19 December 2011, it is proposed that the proposed Reference Tariff applies from 19 December 2011.

9.2 System Allowable Revenues

As indicated previously, QRNN proposes to establish an independent GAPE coal system with its own System Allowable Revenue (SAR) and revenue cap.

While the NAPE customer share of project capital has been deferred until UT4, a small number of contracted NAPE tonnes are expected to rail in Newlands system in 2012/13. As a result, a small amount of incremental cost has been allocated to the Newlands system and the SAR must be adjusted accordingly.

The GAPE SAR and updated Newlands SAR for 2011/12 and 2012/13 are detailed in the table below.

Table 22: Consequential Variations to UT3 System Allowable Revenue

System Allowable Revenue AT2-AT4 ($m)	2011/12	2012/13
GAPE system	$20.0	$104.7
Newlands system	$30.6	$31.7 *

There is no change to Goonyella's System Allowable Revenue. * Includes the impact of the 2012/13 Volume Reset.

The tables below illustrate the impact of the GAPE project on Newlands system SAR. Given the immateriality of additional NAPE volumes during the UT3 regulatory period, there will be no impact on the Newlands system Reference Tariff.

Table 23: GAPE project impact on Newlands System Allowable Revenue

	GAPE impact on Newlands SAR	
SAR ($m)	2011/12	2012/13
Newlands system	Nil	+ $0.37 *

* Includes the impact of the 2012/13 Volume Reset.

10. Consequential Amendments to the 2010 QR Network Access Undertaking

QRNN has identified a number of areas of the Access Undertaking, which require amendment to implement the GAPE Reference Tariff:

- Establishment of a new individual coal system for pricing and revenue cap purposes;
- Amendment to the reporting arrangements to address the commonality of rail infrastructure between systems;
- Removal of the applicability of the cross system pricing principles given the use of a dedicated tariff;
- A four part GAPE System Reference Tariff structure (AT1 – AT4) for the remainder of the UT3 term. The AT2 and AT4 tariff components commensurate with the commercial arrangement for cost allocation;
- Amendments to the capital carryover account provisions to determine financing costs on an ex-post basis.

These amendments are reflected in the mark-up and clean version of the amended documents provided as Attachments B and C. Detailed reasons for these amendments are provided in the following sections.

Figure 7: The first coal train operating up the NML

10.1 Reporting

The GAPE Reference Tariff is a composite tariff of the following:

- Shared common use rail infrastructure with the Newlands system;
- Dedicated common use rail infrastructure comprising the NML; and

- Shared common use rail infrastructure with the Goonyella system.

While most reference tariffs and coal systems in CQCR relate to dedicated assets within that geographical system, the exception has been the Gladstone area which involves shared common use rail infrastructure between the Moura and Blackwater coal system. As the GAPE Reference Tariff is based predominantly on a notional RAB largely comprised of allocated costs, amendments are necessary to the reporting requirements in Part 9. This is necessary as most of the reporting requirements are predominantly related to geographical based metrics.

For reporting purposes the NML will be incorporated into the Newlands system with the exception of those matters in clause 9.1(i).

These changes also necessitate the following amendments:

- Maintenance cost reports will not report separately on the GAPE System (all other references to an Individual Coal System are inclusive of GAPE;
- The definition of Central Queensland Coal Region now incorporates the rail infrastructure from North Goonyella to Newlands;
- A specific definition for the GAPE and Newlands System (this is also consistent with the proposed system definitions included for Blackwater and Goonyella in the consequential amendments for the Draft Incentive Mechanism.

10.2 Review Event

The earlier sections of this submission detailed that the proposed reference tariffs were based on:

- a low volume estimate;
- the consequential deferred inclusion of Newlands upgrades in the Newlands Reference Tariffs; and
- the deferral of return of capital in the GAPE Reference Tariff.

QRNN considers that it is not unreasonable to review the System Allowable Revenues for both these systems where a material change in utilisation of available capacity occurs. QRNN's intention is not to change the Reference Tariff but simply increase the System Allowable Revenues commensurate with the increased utilisation.

Accordingly, QRNN has included additional arrangements in the definition of Review Event that a Reference Tariff will be reviewed where there has been a 10% increase in the number of contracted coal carrying Train Services using the Newlands or GAPE system.

10.3 Capital Indicator and Regulatory Asset Base

The inclusion of financing costs associated with seasoned equity offers is a known and well understood principle. The QCA has also accepted these costs to be legitimate costs to be capitalised into the RAB. For example, the QCA accepted upfront equity raising costs into the RAB for for the phase 2/3 expansion of the Dalrymple Bay Coal Terminal [3].

The approved allowable revenues for the UT3 period based on the quantum of the capital indicator did not include provision for upfront debt or equity raising costs. This is because the regulatory cash flows generated sufficient retained earnings to finance the capital expenditure assumed in the capital expenditure forecasts. However, these cash flows and the capital indicator included the GAPE project costs.

QRNN therefore considers it reasonable and prudent that an ex-post assessment is performed following approval of the 2012-13 capital expenditure amounts to determine an amount for equity raising costs into the RAB.

In contrast with the approach by the Australian Energy Regulator where the amount of equity raising costs is determined at the commencement of the regulatory proceedings, the different approaches to the inclusion of capital expenditure in the regulatory cash flows necessitates a look-back approach to take into account of the actual capital expenditure incurred.

QRNN has included additional requirements in the Schedule A which provides for inclusion in the opening value of the RAB in the next regulatory period an amount for equity raising costs which is determined having regard to:

1. the aggregate of the Adjusted System Allowable Revenue for the Central Queensland Coal Region, excluding any Revenue Cap Adjustment Amounts, over the Term;
2. the Approved Capital Expenditure amounts over the Term;
3. the tax depreciation that should have applied for the Approved Capital Expenditure; and
4. the tax payable based on the tax depreciation that should have applied for the Approved Capital Expenditure excluding imputation.

This approach ensures the equity raising amounts are calculated with proper reference to the actual cash flows. As financing is undertaken at a network level, the amount of equity raising costs is relevant to all capital expenditure and revenue in the CQCR. Accordingly, the amount of equity raising costs, if any, will be allocated to individual coal systems based on their proportion of actual capital expenditure over the term of UT3.

QRNN also proposes to determine the amount for equity raising using the approach employed by the Australian Energy Regulator (AER) in the Powerlink decision. While the QCA applied a dividend yield approach with DBCT the AER method appears to be internally consistent with the approach to imputation credits.

The only point of difference is that QRNN does not propose to recognise a dividend reinvestment policy. The basis for the exclusion is to ensure consistency with the financial model used to determine reference tariffs in the CQCR.

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[3] Queensland Competition Authority (2010) Final Decision – DBCT Capacity Expansion Phase 2/3 Actual Costs DAAU, p.40. http://www/qca.org.au/files/P-2006AUAmend-QCA-FinalDec-DBCTPh23ActCostDec-0910.pdf

The QCA requires the financial models for both CQCR and DBCT to discount the free cash flows by WACC to recognise the timing of receipts of revenue.

However, in calculating these amounts no correction is made for the timing of dividends. QRNN does not consider it reasonable to incur deductions on its free cash flow, which assumes no mid period dividends but to then assume dividend reinvestment in the equity raising costs. Therefore, QRNN proposes to determine the equity raising costs using the following key parameters:

1. Dividend reinvestment of 0%;
2. Dividend imputation payout ratio of 70%; and
3. Seasoned equity raising cost of 3% of total external equity requirements.

A worked example is provided at attachment A.

10.4 Reference Tariffs for New Coal Carrying Train Services

A key change to the pricing framework in UT3 was the introduction of cross-system pricing principles. These principles were intended to address the increasing number of small volume changes in Train Services operating across multiple coal systems. This was particularly relevant for ad-hoc train services, which take advantage of available capacity in the event of a supply chain disruption.

The principles do not adequately address the circumstances where a material volume of cross-system services apply such as those which originate in Goonyella and arrive in Newlands. As the GAPE Reference Tariff is a prescribed price for these cross-system traffics then the requirement to apply these principles is no longer necessary. It should be noted however that the cross system pricing principles will still apply where a service originates in Blackwater and arrives at Abbot Point. The two relevant systems for the purpose of determining the access charge would then be the Blackwater and GAPE Reference Tariffs.

Additional amendments have been made to the pricing for new coal carrying train services which utilise the NML. The commercial arrangements which underpin the development of the GAPE project are based on a uniform price of use by all users (i.e. an equal share of the project costs). As the project costs to be included in the GAPE Reference Tariff are also incremental to those users and not common costs with other users of the CQCR the requirement to recognise private infrastructure costs in the access charge has been removed. All new coal carrying train services will be required to pay the published reference tariff plus their specific incremental costs (private or QRNN).

QRNN does not consider it reasonable that the published reference tariff should increase for one user due to the incremental costs specific to another user in this instance.

This is not to say that the recognition could be made for a new service being required to an access charge lower than the approved GAPE Reference Tariff subject to the agreement of the QCA.

10.5 GAPE Reference Tariff

Schedule F has been amended to include the new GAPE system, including volumes, tariffs and reference train characteristics. Amendments have also been made to the Newlands system to reflect the agreed changes to the reference train.

11. Unrelated Amendments to Rail Connections

The draft amending access undertaking relating to the investment framework which was submitted to the QCA in December 2010 also included amendments to the section 8.3 of the 2010AU. The purpose of these amendments was to address material deficiencies in the operation of clause 8.3(f) which states:

> *QR Network will include operating and maintenance costs of Connecting Infrastructure in the cost build up for Reference Tariffs and not through separate agreements with the owner of the Private Infrastructure.*

It may be inferred from this clause that unless the costs are included in a Reference Tariff then QR Network is not permitted to recover operating and maintenance costs associated with the connecting infrastructure. It has always been a requirement that as the connecting infrastructure is in place to allow access to the declared service then the owner of adjoining infrastructure is responsible for any maintenance, renewals and relevant enhancements to maintain compliance with standards even though the main cause of maintenance and change in asset condition is associated with mainline operations.

The reference tariff is only applicable for coal carrying train services which involve the loading and unloading of coal. Accordingly, there is no reference tariff appropriate for non-coal services or the entry and exit associated with above rail facilities. QR Network does not consider it appropriate to include the costs of connections to above rail facilities in reference tariffs for coal carrying train services.

However, QR Network is currently not recovering its maintenance costs associated with these connections due to the uncertainty of the inferred restrictions in clause 8.3(f). While QR Network included reference to this issue in its explanatory notes for its proposed standard rail connection agreement the QCA's draft decision included no commentary on this matter.

Accordingly, this DAAU also includes amendments to clause 8.3 to improve QR Network's commercial certainty and promote its legitimate business interests by being able to recover costs associated with the management of connections not included in a Reference Tariff.

Attachment A: Worked Example of Equity Raising Costs

The following example is indicative only and has been prepared using the following inputs:

- the financial model approved by the QCA in June 2010; and
- the assumptions for the GAPE tariff included in this DAAU.

Central Queensland Coal Region - UT3 Ex-post Equity Raising Costs

Inputs						
WACC	9.96%		Inputs			
Cost of Debt	9.94%		Calculations			
Cost of Equity	9.98%					
Benchmark Capital Structure	55%		*Includes:*	*Goonyella*		
Dividend Imputation Payout Ratio	70%			*Blackwater*		
Corporate Tax Rate	30%			*Newlands*		
Dividend Reinvestment	0%			*Moura*		
Inflation	2.5%					
Seasoned Equity Offering Costs	3%			*GAPE*		
Gamma	0.5					

Year	2009-10	2010-11	2011-12	2012-13	2013-14	Total
RAB and Capex ($ Nominal)						
Opening RAB	3,223,778	3,471,854	3,583,305	4,754,431	4,866,449	15,033,368
Actual Capex	428,000	185,700	1,245,990	186,816		2,046,506
Capex Rate	0	0	0	0		0
Debt	1,773,078	1,909,520	1,970,818	2,614,937	2,676,547	8,268,352
Equity	1,450,700	1,562,334	1,612,487	2,139,494		6,765,015
Dividend Assessment ($m Nominal)						
Tax Payable	34,561	48,810	55,964	51,407		190,741
Dividends	56,449	79,722	91,408	83,965		311,544
Dividend Reinvestment	0	0	0	0		0
Benchmark Cash Flows ($m Nominal)						
System Allowable Revenue	571,919	655,210	726,367	845,157		2,798,653
SAR Opex	180,248	214,122	238,666	271,989		905,025
Interest Payment	176,244	189,806	195,899	259,925		821,874
Tax Payable	34,561	48,810	55,964	51,407		190,741
Internal Cash Flow	180,866	202,472	235,838	261,837		881,012
Dividends	56,449	79,722	91,408	83,965		311,544
Retained Cash Flow (excl. dividend reinvestment)	124,417	122,749	144,430	177,872		569,468
Benchmark Capex Funding ($m Nominal)						
Capex Funding Requirement	408,156	177,090	1,188,221	178,154		1,951,621
Repayment of Debt	-136,441	-61,298	-644,120	-61,610		-903,469
Debt Component	136,441	61,298	644,120	61,610		903,469
Equity Component	271,715	115,792	544,101	116,544		1,048,153
Retained Cash Flow (excl. dividend reinvestment)	124,417	122,749	144,430	177,872		569,468
Equity Requirement (SEO)	147,298	-6,957	399,672	-61,327		478,685
Equity Raising Costs						
External Equity Raising Costs	4,419	-209	11,990	-1,840		14,361
NPV at 30 June 2013	5,875	-252	13,184	-1,840		16,967

Attachment B: 2010 Access Undertaking – mark-up

Attachment C: 2010 Access Undertaking – clean