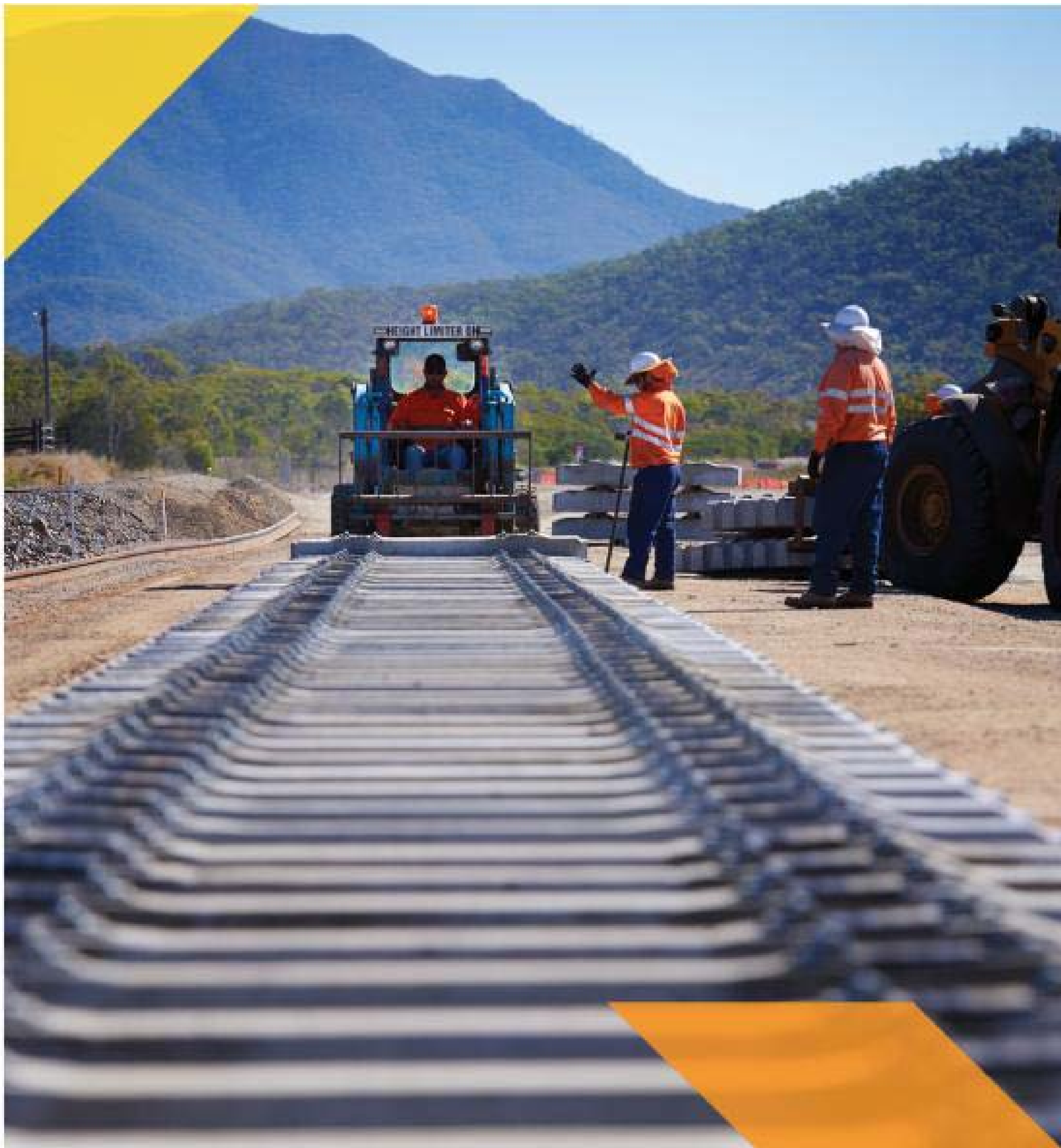
AURIZON

December 2012

Standard User Funding Agreement (**SUFA**) – Regulatory Notes (Volume 3)



Contents

Contents 2

Executive Summary 3

1 Introduction 5

1.1 General 5
1.2 Confidentiality 5

2 Assessment of the DAAU against section 138(2) of the QCA Act 5

2.1 Statutory Overview 5
2.2 Assessing SUFA against the matters in section 138(2) of the QCA Act 7
2.2.1 The Objects of Part 5 7
2.2.2 The legitimate business interests of the owner or operator 8
2.2.3 The legitimate business interests of the operator 8
2.2.4 The public interest (including the interests in having competition in markets) 12
2.2.5 The interests of access seekers 12
2.2.6 The effect of excluding existing assets for pricing purposes 16
2.2.7 The pricing principles in section 168A of the QCA Act 16

3 Draft Amending Access Undertaking (DAAU) amendments 18

3.1 Purpose of amendments 18
3.2 Recognition of SUFA project assets 18
3.2.1 Capital Carryover Account 19
3.2.2 RAB Roll-forward. 19
3.2.3 Asset Optimisation 19
3.3 Capacity Shortfall for SUFA Extension Infrastructure Enhancements 20
3.4 Limitations on the application of SUFA 21
3.4.1 State Consent 22
3.5 Development of alternate SUFA models 22
3.6 Recovery of SUFA development costs 22
3.7 Dispute resolution 24

Attachment A – Operating Performance Risk Allowance (OPRA) 1

1 Overview 1

2 Pricing principles and uncompensated risks 1

3 Systematic Risk Component of Operating and Maintenance Costs 6

4 Implementation 9

5 Summary 11

Executive Summary

This document comprises volume 3 of Aurizon Network's voluntary Draft Amending Access Undertaking (DAAU) on its proposed Standard User Funding Agreement (SUFA), which amends Aurizon Network's 2010 Access Undertaking (2010AU) as approved by the Queensland Competition Authority (QCA) on 1 October 2010.

This volume assesses the DAAU against the matters in section 138(2) of the QCA Act which the QCA must have regard in deciding whether to approve the proposed SUFA model, and discusses the consequential amendments to the 2010AU.

This volume also details the reasons why it is appropriate to include an Operating and Performance Risk Allowance and how such an allowance might be determined and implemented in a manner that is consistent with the proposed SUFA.

In Aurizon Network's view the DAAU satisfies the requirements of section 138(2) of the QCA Act in all material respects:

a) the proposed SUFA gives access seekers an effective means of funding infrastructure enhancements necessary to provide the requested access rights and therefore promotes the efficient investment and utilisation of rail infrastructure (the objects of Part 5);
b) in its capacity as the operator of the declared service, Aurizon Network's legitimate business interests are properly considered by ensuring that it is not compelled to fund an infrastructure enhancement where it cannot obtain funding at an appropriate cost or where it prefers to allocate capital to investments with more favourable risk/reward characteristics;
c) as the operator of the declared service, Aurizon Network's legitimate business interests and the interests of users of the rail infrastructure are also protected by ensuring all decisions and management controls associated with the safe and reliable construction, maintenance and operation of the railway are fully assigned to Aurizon Network as the railway manager of the single integrated network;
d) the proposed SUFA provides for expansion of the facility and an increase in utilisation, thereby promoting growth of the Queensland coal industry with consequential positive competition effects in upstream and downstream markets;
e) the interests of access seekers are promoted as the SUFA model operates in an effective cashflow and risk neutral way and this in turn promotes a balanced negotiation for the terms and condition of access. The interests of access seekers are also promoted through the inclusion of appropriate protections for corporate distress events and an alignment of interests with the access provider in the maintenance and operation of the facility;
f) the SUFA model will not have any material bearing on the exclusion of existing assets for pricing purposes; and
g) the SUFA model does not offend the access pricing principles in section 168A of the QCA Act and to the extent that relevant transaction costs associated with SUFA are to be included in price for access, this is done in a way that represents an efficient cost allocation and in a manner that provides incentives to reduce cost.

In order to enter into a SUFA transaction a number of consequential amendments are required to be made to the 2010AU. The primary purpose of these amendments is to facilitate the negotiation and operation of a user funded significant investment in rail infrastructure. These may be summarised as amendments:

- to the capital indicator necessary to ensure that revenue can be appropriately and reliable attributable to SUFA assets for the purpose of determining the lease payments to the trust;
- required to address incentives for minimising the scope of infrastructure enhancements and implications for funded capacity shortfalls between Aurizon Network and access seekers;

- which detail the obligation of Aurizon Network to enter into a user funding agreement consistent with the proposed SUFA to a significant investment;
- to terminate the operation of schedule J of the 2010AU, due to its inconsistency with the proposed SUFA model, and the QCA's development of an alternative SUFA model; and
- which provide a mechanism for the recovery of prudent and efficient external costs incurred by Aurizon Network in developing an effective workable SUFA model and assessing the model against the requirements of section 138(2) of the QCA Act.

1 Introduction

1.1 General

This document comprises **Volume 3** of Aurizon Network's submission to implement a draft amending access undertaking (**DAAU**) for the proposed Standard User Funding Agreement (**SUFA**) arrangements. The DAAU, including the SUFA documents and consequential modifications, amends Aurizon Network's 2010 Access Undertaking (**2010AU**) as approved by the Queensland Competition Authority (**QCA**) on 1 October 2010.

The objective of this document is to address the regulatory matters relevant to consideration and approval of the DAAU given under section 142 of the *Queensland Competition Authority Act 1997* (Qld) (**QCA Act**). **Volume 1** of the DAAU submission presents an overview of the structure and operation of the submitted SUFA framework.

The submission covers the following aspects:

- An assessment of the DAAU against section 138(2) of the QCA Act (the matters the QCA must have regard in approving a draft access undertaking); and
- The consequential amendments to the access undertaking.

A detailed discussion on issues relevant to the determination of an operating and performance risk allowance is also included at Attachment A to this volume.

At the time of lodgement of this DAAU, a number of DAAUs have been submitted to the QCA which amend the 2010AU as approved on 1 October 2010. Accordingly, the consequential amendments may need to be reviewed for consistency with any approved DAAU's which amend the 2010AU after the 1 October 2010.

1.2 Confidentiality

There is no confidential information in this volume.

2 Assessment of the DAAU against section 138(2) of the QCA Act

2.1 Statutory Overview

The DAAU to implement the proposed SUFA arrangements has been voluntarily submitted to the QCA under section 142(1) of the QCA Act. It follows that, pursuant to section 143(2) of the QCA Act, the QCA may approve the DAAU only if it considers it appropriate to do so having regard to the matters mentioned in section 138(2) of the QCA Act.

Section 138(2) of the QCA Act provides that the QCA may only approve a draft amending access undertaking where the authority considers it appropriate to do so, having regard to:

(a) the object of Part 5;

(b) the legitimate business interests of the owner or operator of the service;

(c) if the owner and operator of the service are different entities—the legitimate business interests of the operator of the service are protected;

(d) the public interest, including the public interest in having competition in markets (whether or not in Australia);

(e) the interests of persons who may seek access to the service, including whether adequate provision has been made for compensation if the rights of users of the service are adversely affected;

(f) the effect of excluding existing assets for pricing purposes;

(g) the pricing principles mentioned in section 168A (of the QCA Act); and

(h) any other issues the authority considers relevant.

The matters to be considered in section 138(2) of the QCA Act do not specify an order of priority; the QCA is instead required to exercise its judgment and discretion in order to balance the competing interests raised by the statute. Aurizon Network's view on how SUFA meets and promotes each of the objectives in section 138(2) of the QCA Act is set out in the following sections.

That said, Aurizon Network would note that one criterion, relevant for the QCA's consideration of SUFA, is in fact an imperative. In particular, section 138(2)(c) of the QCA Act, in contrast to s 138(2)(b) of the QCA Act, is not phrased as an issue of discretion, but as a requirement: namely, the QCA must consider and be satisfied with respect to a requirement that the legitimate business interests of the operator ***are*** protected. This is relevant to the SUFA model, as legal and equitable ownership of the underlying asset will rest with an entity which differs from the operator (Aurizon Network). In these circumstances, Aurizon Network submits that the QCA is under a heightened obligation to not merely have regard to its legitimate business interests as an operator (as required by section 138(2)(b) of the QCA Act), but in fact be positively satisfied that those interests will be protected.

While the terms of section 138(2) of the QCA Act are controlling with respect to the DAAU, a further set of provisions is arguably relevant to the QCA's consideration of the regulatory framework of which SUFA forms a part. In particular, the Act provides the regulator with a broad power to order Aurizon Network to facilitate the user-funded expansion of the rail infrastructure. Specifically, section 118(d) of the QCA Act provides that the QCA may make an access determination that requires the access provider to extend (or permit the extension of) the facility. This power is subject to the express limitations in s 119(2) of the QCA Act, which provide that any such determination must not:

- result in the access seeker, or someone else, becoming the owner, or one of the owners, of the facility, without the existing owner's agreement [section 119(2)(b) of the QCA Act];
- require an access provider to pay some or all of the costs of extending the facility [section 119(2)(c) of the QCA Act];
- that the expansion is technically and economically feasible, and consistent with the safe and reliable operation of the facility [section 119(4B)(a) of the QCA Act]; and,
- the legitimate business interests of the owner and/or operator of the facility are protected [section 119(5)(b)(iii) of the QCA Act].

Aurizon Network's voluntarily development of a SUFA is, at least in part, motivated by recognition that use of the access determination process for user-funded expansions may give rise to transaction costs and coordination issues, particularly for multi-user investments. In this sense, use of a SUFA, rather than an access determination, may be a preferred option for some users or for some types of expansion.

However, given that the character of the SUFA is, in effect, a standardised approach to give effect to what might conceivably be the outcome of an access determination, Aurizon Network considers that it is proper for the QCA to exercise its powers under the QCA Act in relation to the consideration of the SUFA in a way that is consistent with the limits of its powers under section 119(2) of the QCA Act. That is to say, the QCA ought not to use the consideration of SUFA under section 138(2) of the QCA Act as a means by which the restrictions in section 119(2) of the QCA Act on ordering a user-funded expansion might be indirectly circumvented.

In this respect, the proposed SUFA framework has been designed to establish a workable and effective cash flow and risk neutral commercial model. This should promote a balanced negotiation as a part of establishing the terms and conditions of access for the access seeker. However, Aurizon Network considers that the requirements of sections 119(5)(b)(iii) and 138(2)(c) of the QCA Act necessitate that, in circumstances where the interests of the access provider, the access seeker and the public are not aligned, the QCA must be satisfied that the legitimate business interests of Aurizon Network are protected by the QCA's resolution of that misalignment.

2.2 Assessing SUFA against the matters in section 138(2) of the QCA Act

This section assesses SUFA against the matters in section 138(2) of the QCA Act:

1. The Objects of Part 5
2. The legitimate interests of the owner or operator
3. The legitimate interests of the operator
4. The public interest (including the interests of having competition in markets)
5. The interests of access seekers
6. The effect of excluding existing assets for pricing purposes
7. The pricing principles in section 168A (of the QCA Act)

These are addressed in turn in the sections below.

2.2.1 The Objects of Part 5

The objects of *Part 5 – Access to Services* are outlined in section 69E of the QCA Act. The object of providing access under the QCA Act is to promote the economically efficient operation of, use of and investment in, significant infrastructure by which services are provided, with the effect of promoting competition in upstream and downstream markets.

SUFA satisfies the objects of part 5 as follows:

- SUFA gives access seekers an effective means to fund an extension to the declared facility so as to create capacity in the network and thereby facilitate the access being sought;
- Aurizon Network remains the operator of the existing infrastructure and the extension with appropriate management and control over a highly integrated rail network. This is necessary to ensure the ongoing efficient operation of the significant infrastructure the services require;
- The requirement to develop SUFA supports the operation of section 118 of the QCA Act and is also a requirement of an approved access undertaking;
- The proposed SUFA is consistent with the requirements of clause 6.4(j) of the Competition Principles Agreement (**CPA**) and therefore is consistent with the ongoing certification of the effective Queensland Rail Access Regime[1];
- The proposed SUFA arrangements are consistent with the current tax and legal environment at the time of submission. Aurizon Network notes that while alternative arrangements of lesser complexity may promote a more 'efficient' investment in significant infrastructure if tax laws were different, a thorough review has been undertaken and the proposed SUFA framework is considered to be the most effective model within existing tax and legal constraints;
- In establishing a template funding agreement, an access seeker is able to ensure that negotiations are not protracted through uncertainty over the terms and conditions by which the facility would be extended. This promotes timely investment in significant infrastructure;
- The negotiation of an access agreement and the funding arrangements by which the access rights are being provided means that the economically efficient use of significant infrastructure is unaffected by SUFA; and
- The timely expansion of the facility and the consistent application of the SUFA model promote competition in the downstream rail haulage market, as the customer is able to fund and procure access rights prior to committing to a rail haulage provider.

[1] *Competition Principles Agreement – 11 April 1995 (as amended to 13 April 2007)* (2007) available at http://www.ncc.gov.au/images/uploads/Competition_Principles_Agreement,_11_April_1995_as_amended_2007.pdf

2.2.2 The legitimate business interests of the owner or operator

The proposed SUFA arrangements are consistent with the legitimate business interests of Aurizon Network as the operator of the declared service and the responsible entity submitting the access undertaking in relation to the declared service.

2.2.2.1 Election to fund

Consistent with the CPA guidelines, Aurizon Network may elect not to fund an expansion to the Network where it cannot raise the capital required on suitable pricing or other terms, or it is in the interests of Aurizon Network's parent company and its shareholders to allocate scarce capital to alternative investments that offer superior risk-reward profiles.

2.2.2.2 Management of risk

Under the proposed SUFA arrangements, Aurizon Network takes all prudency risks for a SUFA project's delivery except in respect of the 'baseline' requirements of scope, standard and procurement methodology as agreed at contractual closure. Prudency risk in respect of each project's 'baseline' requirements is assumed by the Preference Unit Holders (**PU Holders**) as user funders from contractual closure.

The general risk allocation principle adopted in the proposed SUFA arrangements is that risk is most efficiently managed by the party who is able to control that risk most effectively, which in this case is Aurizon Network. Although Aurizon Network considers that it is also better placed than any other party to control risk over the 'baseline' requirements, Aurizon Network acknowledges that PU Holders need to agree to these requirements because they have such a large potential effect on a SUFA project's delivery performance. As noted above, Aurizon Network has a relatively small number of highly sophisticated and well resourced customers that are strongly placed to make their own assessment of 'baseline' requirements in the negotiating period that concludes with contractual closure.

Consistent with the general risk allocation referred to above, PU Holders under SUFA assume risks for the costs associated with the regulator's decision to exclude costs from the Regulatory Asset Base on grounds of prudency. However, where the regulator excludes costs for variations from the baseline requirements, for example scope change or variation from the agreed procurement strategy, Aurizon Network assumes liability for those excluded costs.

The risk allocations under SUFA are reasonable having regard to the general principles for risk allocation and protect the legitimate interests of Aurizon Network on the 'baseline requirements' and procurement strategy which PU Holders have a legitimate interest in controlling.

2.2.3 The legitimate business interests of the operator

Requirement of Test

This test applies where the owner and the operator of the service are different entities. It requires that the legitimate interests of the operator are protected.

Why SUFA meets the test

In the case of SUFA, the Trust is the owner and Aurizon Network is the operator. SUFA contains mechanisms to protect the interests of Aurizon Network as operator. These include:

(a) Aurizon Network controls closures to facilitate construction, hence mitigating business interruption risk on the Central Queensland Coal Network;

(b) Aurizon Network controls asset management mitigating the risk of decisions being made without consideration of impacts on the system as a whole;

(c) Aurizon Network is the accredited railway manager and manages risk for the whole Central Queensland Coal Network on an integrated basis;

(d) An Aurizon Network subsidiary performs the role of the Trustee. (The Trustee has the usual duties of a trustee in favour of the PU Holders, must perform its duties in a manner that is consistent with those duties and may, in specified circumstances, be replaced);

(e) Funders are required to be the party that gains access during construction and the transfer of preference units during operation are to be approved by Aurizon Network; and

(f) Aurizon Network is rewarded appropriately for risk taken, including by the payment of an operating and performance risk allowance.

These mechanisms are discussed in more detail in the points below.

2.2.3.1 Business interruption and damage

Aurizon Network controls closures to facilitate construction, hence mitigating business interruption risk on the Central Queensland Coal Network.

In the course of normal business, any expansion needs to be considered in the context of Aurizon Network operating a significant operational business that may be adversely affected by the expansion. For example, the expansion may cause business interruption of Aurizon Network's network operations, which would adversely affect Aurizon Network both directly, in respect of its revenues, cashflow and profits, and indirectly in respect of its business relationships with other coal supply chain participants that would experience their own business interruption. The expansion may also have negative consequences for the land on which it is located and the infrastructure to which it is connected, which would have similar adverse effects for Aurizon Network. Aurizon Network notes that it has material obligations to State entities in respect of that land and infrastructure under long-term leases.

Under the risk allocation principle specified above, Aurizon Network is the party best able to control the business interruption and damage risks most effectively, so they are allocated to Aurizon Network under the proposed SUFA arrangements. If control of these risks were to be allocated on a different basis, Aurizon Network could experience a high level of business interruption due to a desire to minimise an expansion's capital costs and project delivery program, and excessive damage of Aurizon Network's land and infrastructure assets.

2.2.3.2 Asset management

Aurizon Network controls asset management mitigating the risk of decisions being made without consideration of impacts on the system as a whole.

As a network operator, Aurizon Network makes asset management decisions for expansions on the basis of what is 'best for network', rather than what is best for a single expansion project on a standalone basis. These asset management decisions, which relate to scope, standard and cost considerations, are in respect of issues such as infrastructure standards, equipment standardisation, 'operability', 'maintainability', lifecycle costing and system resilience. Aurizon Network considers that making asset management decisions on a project-by-project basis would have a material adverse effect on the effectiveness of the network as a whole. As the network was funded by Aurizon Network and its predecessor companies, decision making on a standalone basis would be against Aurizon Network's legitimate business interests.

In order to protect these interests, Aurizon Network is responsible under the proposed SUFA arrangements for all asset management decisions other than in respect of the scope and standard

agreed with PU Holders as at contractual closure. If these risks were to be allocated on a different basis, the resulting expansion infrastructure may be less operable, maintainable and resilient, and more difficult to manage.

2.2.3.3 Safety Assurance

Aurizon Network is the accredited railway manager and manages risk for the whole Central Queensland Coal Network on an integrated basis.

Aurizon Network, as the operator of the existing facility, is the accredited railway manager and is responsible for implementing its safety management system across the facility, including any expansion. Aurizon Network has legislative responsibilities for both rail safety and workplace health and safety in respect of the facility, again including any expansion. Aurizon Network, a company for which 'Safety is the Core Value', has an unquestionable legitimate business interest in the management of all safety issues that arise from an expansion. Aurizon Network considers that, for a 'brownfield' rail infrastructure project, project delivery and ongoing network operation responsibilities are best managed by the same corporate entity, as it is best placed to manage the interface between project delivery and network operation.

Although it is possible for project delivery responsibilities to be held by another entity, such as a third party project manager, Aurizon Network considers that this project structure would require numerous project delivery/network operation interfaces to be specified and negotiated in much greater detail than is necessary under the proposed SUFA arrangements.

2.2.3.4 Trustee ownership

An Aurizon Network subsidiary performs the role of the Trustee.

Aurizon Network has proposed that NewCo, an Aurizon Network subsidiary will be the Trustee for the Trust's unit holders, subject to their right of oversight and removal. NewCo, like any Trustee, will have fiduciary obligations to the unit holders to act in their best interests. The structure includes significant reserve powers and reserve decisions which allow the unit holders to direct activities of the Trustee. If NewCo fails certain tests, including failure to comply with the reserve powers and directions, there is a contractual right to replace NewCo as Trustee.

The State requires the parent of Aurizon Network to guarantee the performance of Aurizon Network and the Trust under the Extension Infrastructure Agreement (**EIA**) and Interface Network Deed (**IND**) by entering into a Deed Poll Guarantee (**DPG**). This is consistent with existing lease arrangements and the State is seeking to preserve its position under the arrangement. Aurizon Network accepts this requirement but it leaves Aurizon exposed to loss should the activities of the Trust allow the State to call on the DPG. For this reason, it is in the legitimate business interests of Aurizon Network to have a related party undertake the role of Trustee to provide sufficient oversight of the activities of the trust.

Aurizon Network's approach is also based on the principle that a SUFA project should not adversely affect Aurizon Network or the Aurizon group of companies. An Aurizon Network related entity acting as Trustee is an important component in achieving recognition of the extension infrastructure funding as equity, rather than debt, on Aurizon Network's balance sheet. Debt treatment would have an adverse impact on Aurizon Group's financial metrics, which is not in Aurizon Network's legitimate business interests.

It is also important for effective and timely decision making that the Trustee be a party with access to knowledge about construction and operation of railways. An Aurizon Network related entity is the best qualified party in respect of railway specific experience related to expansions of the CQCN.

The contractual structure seeks to deliver system integrity through contractually allocating key roles to Aurizon Network as project manager, landholder and lessee. System integrity can still be influenced by the actions of the Trustee as counterparty to key agreements, particularly if the Trustee inappropriately exercises its role at or beyond the boundaries permitted in the contractual structure.

NewCo is incentivised to comply with the obligations as Trustee, and in performing the role it is in NewCo's interest, as an Aurizon Network entity to ensure system integrity.

In respect of the potential conflict of interest of NewCo as Trustee and counterparty to Aurizon Network in key contracts, the structure includes substantial reserve powers and reserve decisions where unit holders can direct NewCo. It also allows for significant transparency of information to unit holders. The intention of this is to effectively place PU Holders in a similar position to being the direct counterparty to the agreements.

It is not possible to contractually address all feasible risks and losses that could occur to Aurizon Network as operator of the extension in order to ensure this requirement is satisfied. Therefore, the legitimate business interests of Aurizon Network as the operator of the expansion can only be protected through Aurizon Network performing the role of Trustee. Accordingly, SUFA has been developed with Aurizon Network as the Trustee with an appropriate degree of recognition of the interests of the access seekers through the reserve powers and reserve decisions.

2.2.3.5 Ownership of SUFA interests

Funders are required to be the party that gains access during construction and the transfer of preference units during operation are to be approved by Aurizon Network.

The SUFA framework requires a commercial link between each PU Holder and each entity that obtains the access rights created by that SUFA transaction (**Stapling**). It also addresses restrictions on the transfer of PUs over the life of a SUFA transaction.

SUFA's purpose is to provide a mechanism for an access seeker to contribute funding to a SUFA project and obtain associated access rights on a Stapled basis. SUFA interests and access rights must be Stapled during the project delivery phase. During the operational phase SUFA interests and access rights need not be Stapled, though any change to the ownership of PUs must be subject to Aurizon Network's consent at its discretion.

During the project delivery phase, there must be an alignment of commercial interests between the PU Holders, the holder of the associated access rights and the coal supply chain. In this phase of the project, the PU Holders have significant governance rights in respect of matters such as changes to project scope, acceleration and project delivery control. As is standard in a project delivery setting, these rights need to be exercised on a timely basis to avoid project delays and additional delivery costs. The inclusion of material governance rights for PU Holders during the project delivery phase was on the basis that the commercial interests of Aurizon Network and PU Holders will be broadly aligned.

During the operational phase there should be an alignment of commercial interests between each PU Holder and Aurizon Network because of both parties' interests in the performance of the coal chain. The continued ownership of PUs by the PU Holders at the closure of a SUFA transaction would generally meet this requirement as those PU Holders are expected to be coal supply chain participants. However there may be potential owners of the PUs whose commercial interests are not aligned with commercial interests of Aurizon Network, and that the ownership of PUs by such entities would not be in Aurizon Network's legitimate business interests.

As previously indicated, the State requires Aurizon Network's parent to guarantee the performance of the Trust under the EIA and the IND. This is consistent with existing land and infrastructure lease arrangements and the State is seeking to preserve the position it currently enjoys. Aurizon Network accepts this requirement but it leaves Aurizon Network's parent exposed to loss should the activities of the Trust allow the State to call on the guarantee. The PU Holders have significant rights to direct the Trustee and may impact the risk to which Aurizon Network's parent is exposed under this arrangement.

In order to address the diverse range of potential changes of ownership of PUs over the multi-decade life of a SUFA transaction, Aurizon Network should be able to protect its legitimate business interests by having the right to consent to, or withhold consent from, a proposed transfer of PUs.

2.2.3.6 Compensation for otherwise uncompensated risks

Aurizon Network is rewarded appropriately for risk taken, including by the payment of an operating and performance risk allowance.

As the operator of the existing and expanded facility, Aurizon Network's return on assets for the existing facility will not be commensurate with the commercial, legal and regulatory risks of providing the service on the extended facility where Aurizon Network is not the funding party of the expansion. Accordingly, it is necessary for Aurizon Network to receive an operation and performance risk allowance, which would reduce Aurizon Network's lease payments otherwise payable to the trust, in order to ensure Aurizon Network's legitimate business interests as operator of the extension are protected. A more detailed assessment of OPRA is included in Attachment A of this volume.

2.2.4 The public interest (including the interests in having competition in markets)

Aurizon Network considers that the proposed SUFA arrangements are the most effective and efficient model of giving effect to the requirements of an access seeker to fund the extension of the facility where the access provider is unwilling or unable to do so. Accordingly, the DAAU is in the public interest.

As SUFA allows an access seeker to extend the facility, subject to the extension being economic and technically feasible, in circumstances where Aurizon Network is not willing to fund the extension, SUFA is a means by which competition in the markets for coal production and rail haulage will be positively effected.

As the SUFA assets will form part of a larger integrated railway network, it is reasonable to ensure that the PU Holders retain an overarching interest in the performance and efficiency of the railway as part of a coal supply chain. This ensures an ongoing alignment of business interests, and therefore the public interest, in the provision of the declared service. As such it is reasonable to restrict how PU Holder interests may be transferred. The objective of the restrictions is to ensure that a PU Holder will act and exercise its governance rights in the same manner as a supply chain participant. At the same time, these restrictions do not operate to prevent the PU Holder creating synthetic instruments with which to monetise the PU Holder's interest.

2.2.5 The interests of access seekers

In developing the SUFA framework in consultation with industry participants, Aurizon Network has sought to apply the principles of no disadvantage (non-prejudice). This is reflected in the SUFA framework's encapsulation of:

- cash flow and risk neutrality;
- default risk of the SUFA project matching that of Aurizon Network funded projects; and
- alignment of interests between the access provider and access seeker.

The proposed SUFA framework and DAAU appropriately addresses the interests of the access seeker (and potential PU Holder under a SUFA arrangement).

2.2.5.1 Cash flow and risk neutrality

The proposed SUFA framework has been designed to establish a workable and effective cash flow and risk neutral commercial model for the purpose of promoting a balanced negotiation as a part of establishing the terms and conditions of access for the access seeker.

As the lease payments by Aurizon Network to the Trust are based on the return on assets commensurate with the commercial and regulatory risks, Aurizon Network considers that effective cash flow and risk neutrality is necessary to achieve an appropriate balance of interests between the access seeker and the access provider. Accordingly, the lease payments should be commensurate with an

appropriate allocation of commercial and regulatory risks inherent within the regulatory framework to which the Trust is exposed.

In achieving this objective of effective cash flow and risk neutrality SUFA allows the access seeker to exercise countervailing market power and constrains Aurizon Network to achieving a return on assets commensurate with the commercial and regulatory risks within the boundaries of statistical error in the capital asset pricing model (noting this is the QCA's current standard for assessing compensation for commercial and regulatory risk).

The proposed SUFA framework is effectively cash flow and risk neutral as:

- lease payments are based on the pre-tax revenue associated with the SUFA extension infrastructure enhancements;
- lease payments assume the commensurate volume risk inherent in the revenue cap as a relevant percentage of actual revenue earned and the consequential liability or accrual of the relevant proportion of the resultant revenue cap adjustment amounts;
- asset stranding risk, to the extent that the extension of the facility is economic, is dependent on the circumstances prevailing at the time the decision is made and assumes no differentiation;
- the direction to pay in the EIL quarantines PU Holders with a high degree of protection in the event of Aurizon Network corporate distress; and
- the Trust is immunised from operating and maintenance cost risks which are reflected in the OPRA.

Importantly, the SUFA framework provides the following scenarios:

(a) if the Trustee's infrastructure lease from the State is terminated for reasons attributable to Aurizon Network and Aurizon Network's infrastructure lease from the State continues, Aurizon Network is required to compensate the Trustee for its foregone lease rental revenue;
(b) if the Trustee's infrastructure lease from the State is terminated for reasons not attributable to Aurizon Network and Aurizon Network's infrastructure lease from the State continues, Aurizon Network is required to negotiate in good faith compensation for the Trustee, provided Aurizon is no worse off; and
(c) if both the Trustee's infrastructure lease and Aurizon Network's infrastructure lease from the State are terminated, the Trustee is entitled to an appropriate share of the aggregate value of the disposal proceeds of the combined rail system.

In addition in all situations where the Trustee's infrastructure is in operational service and retains value in the regulated asset base, Aurizon Network as sublessee will to pay lease rental.

Transition Costs

Aurizon Network notes that some transition costs may be incurred by the PU Holder in the event of corporate distress. However, the approved WACC includes a return for corporate distress as assumed under a benchmark BBB credit rating and gearing of 55%.

Asset stranding and optimisation

In relation to asset stranding and optimisation, Aurizon Network considers it unnecessary to prescribe the process by which those assets will be identified. Aurizon Network considers the matters pertinent to an optimisation decision will have regard to the relevant economic facts which are not readily predictable today when making those decisions.

In any case, any decision to optimise assets in the regulatory asset base (**RAB**) must occur through a public consultation process. Accordingly, Aurizon Network considers that both Aurizon Network and

PU Holders will have sufficient opportunity to present any relevant arguments of facts to the QCA in the decision making process.

Tax and interest charges

Aurizon Network has identified that in order to ensure that the projected cash flows are risk neutral it is necessary to include an adjustment for the tax deductibility of interest during construction. Due to the structure of the Trust, which does not acquire financing, Aurizon Network has no transparency of the tax depreciation amounts to be recognised in the regulatory cash flows for the financing costs of subscription units. Exclusion of these deductions will over-state the pre-tax revenue relative to assets funded by Aurizon Network and it would therefore provide a funding advantage to an access seeker through a higher return and higher prices to users. The most appropriate approach to address this issue would be to assume financing occurs at the benchmark gearing and cost of debt and deduct the present value of the tax shield from the capitalised interest during construction amount. This deduction would occur in the capital expenditure report submitted to the QCA which seeks to include the relevant project costs into the Regulatory Asset Base.

Transaction costs

Aurizon Network acknowledges that the proposed SUFA arrangements will involve transaction costs, but does not consider those costs to be material in the context of the statistical error of the capital asset pricing model. In other words, Aurizon Network does not possess market power in the negotiation of an Aurizon Network-funded alternative arising from these costs and therefore the regulatory objective is satisfied. As the proposed project management fee is a prudent and efficient cost for inclusion in the RAB, the access seeker will be compensated for those costs. It should also be noted that the existing users of the declared service will also obtain the benefits of the incentive to reduce costs through lower access charges.

Cash flow exclusions

The principal costs borne by the PU Holders which would not be included in the regulatory cash flows are:

- the ’negative interest spread’ between the interest earned on liquid funds held by the Trust and invested in money markets and the interest paid by PU Holders on their borrowings. For regulatory purposes interest accrues only when the Trust has incurred construction costs; interest is capitalised at the approved WACC. As the ’net interest spread’ only relates to part of the project delivery budget at any one time, the ‘negative interest spread is not considered a material item; and
- the ongoing operational costs of managing the Trust which Aurizon Network anticipates will not represent a material cost impost or impact on the distributions by the Trust to PU Holders.

Bank guarantees

It may be argued that the costs of procuring a bank guarantee where the access seeker does not possess an investment grade rating are additional to the costs associated with Aurizon Network undertaking the investment. However, the risk of default by an access seeker is a matter that Aurizon Network would ordinarily either seek to mitigate through appropriate security arrangements on the take or pay obligations for the long term access rights or seek to price in the relevant terms and conditions of access. Therefore, the requirement to procure a bank guarantee for access seekers with a credit rating of less than BBB- is not an additional cost imposed by the SUFA framework. Aurizon Network notes that its customers have advocated a more onerous credit threshold than it has proposed, so as to provide protection of each PU Holder from any default by another PU Holder.

Transitional provisions

Rail infrastructure covered by the 2010AU is subject to the transitional declaration in section 250 of the QCA Act. Aurizon Network is able to submit a request for revocation for part or all of the declared service to the QCA for making a recommendation to the Minister regarding the ongoing application of Part 5 to all or part of the service. The transitional provisions also require the scope of the declaration to be reviewed in 2020. As there is a mechanism by which assets leased to the Trust and subleased to Aurizon Network could become declared, it is necessary for the SUFA framework to include provisions to manage transition from a regulated to an unregulated framework. Access seekers' interests are protected through the role and deterministic powers of an expert panel in establishing how lease payments are to be calculated in the event of deregulation.

2.2.5.2 Default risk of the project and Aurizon Network

An access seeker is subject to several forms of default or corporate failure risk. These are:

- default by another access seeker during the construction period; or
- corporate failure of Aurizon Network.

The default of another access seeker, is extensively mitigated by requiring each access seeker (and Aurizon Network where it is providing subscriptions under a hybrid funding model) to procure a bank guarantee for the PU Holder's future project outgoings when the PU Holder (or its guarantor) has a long term S&P rating of lower than BBB- . The residual risk could be reduced by raising the credit threshold, but the transaction costs associated with a higher threshold may substantially exceed the probability and consequence of a default by a party subject to that higher threshold. This risk is further mitigated in SUFA through:

- the Trustee's ability to dispose of the defaulting PU Holder's interest;
- the prospect of another access seeker funding the shortfall and being compensated through the approved WACC.

It should also be noted that the SUFA framework offers diversification benefits associated with funding a larger scale project, which are likely to reduce the impact of targeted asset optimisation due to the fungible nature of the PU Holder interests. That is, if any asset which is leased to Aurizon Network by the Trust is optimised that reduction in distributions is borne uniformly across all PU Holders. It is not born solely by those access seekers who access capacity over the relevant project segment. Some level of risk sharing during the construction period is therefore reasonable where the risks are shared over the life of those assets.

The other principal risk is of corporate failure of Aurizon Network. If that were to occur, the Trust's lease over the expansion assets would end, the assets would revert to the State and it would then dispose of them. Following that disposal, the Trustee would be entitled to a defined share of the net proceeds of disposal available to Aurizon Network and the trustee for each SUFA transaction.

In summary, access seekers interests are not adversely impacted by default risks to materially increase the costs of SUFA infrastructure relative to negotiating terms and conditions with Aurizon Network.

2.2.5.3 Alignment of interests

Under the proposed SUFA framework, PU Holders have a high degree of commercial alignment with Aurizon Network for the following reasons:

- The involvement of the access seekers in agreeing with Aurizon Network the requirements of 'baseline' scope, standard and procurement methodology as at closure will enable the access seekers to understand the key project delivery risks.

- The prudency risks associated with scope and cost (to the extent relevant to the agreed procurement strategy) can be effectively mitigated through the regulatory pre-approval process;
- If the access seekers so wish, a substantial portion of works for a SUFA project may be tendered in advance so that the associated contracts may be awarded at SUFA closure, which would mitigate cost and program risk;
- Aurizon Network is properly motivated, both financially and with respect to reputation, to manage project delivery efficiently and prudently. This is because the performance-related nature of the project management fee and its being at risk for loss due to negligence or breach by Aurizon Network as project manager, combined with the ability to replace Aurizon Network as the project manager if prescribed conditions are met;
- The PU Holders, acting through the Trustee have negative control rights over key milestones in the lifecycle of major works contracts;
- As asset stranding risks are anticipated to be socialised within an individual coal system, or across the broader network for common network costs, giving Aurizon Network a strong incentive to ensure the ongoing competitiveness of the relevant supply chains. By incurring unreasonable costs in delivering a project the access provider places its own future returns at risk;
- Physical capital maintenance is dependent, initially on the purpose for which the facility is constructed, and subsequently the nature and quality of the service access seekers are prepared and willing to pay. Service quality is determined primarily through commercial negotiation.
- Aurizon Network will be subject to 'non-discrimination provisions' that will operate to ensure that it cannot discriminate, in the performance of certain project delivery and operational phase activities, against SUFA assets on the basis of their funding source. Aurizon Network is not able to unfairly differentiate between user funded and Aurizon Network funded infrastructure as it needs to meet the performance standards agreed with the access seeker when the SUFA arrangements are entered into. This is in addition to its ongoing contractual performance obligations to current and future access holders. Similarly, the integration of those assets within a system means that there is no prospect of differentially maintaining user funded assets to a lower standard without the risk of impairing the amounts recoverable by its own shareholders on disposal.
- As both an access customer and a PU Holder, they are more likely to seek a balanced approach to the inter-relationship between capital expenditure, capital maintenance expenditure and access charges. In contrast, a PU Holder that is not an access customer might seek higher maintenance costs to preserve capital value through cost transfer to users of the declared service; and
- Finally, many of the matters relevant to SUFA assets occur in a transparent public consultation process through the Part 5 processes. For example, asset optimisation will not be determined unilaterally by Aurizon Network and PU Holders are able to present any relevant arguments to the QCA during those public consultation processes.

2.2.6 The effect of excluding existing assets for pricing purposes

The proposed SUFA model does not have an impact on existing assets for pricing purposes and therefore this matter is not relevant to the assessment of SUFA.

2.2.7 The pricing principles in section 168A of the QCA Act

The primary purpose of SUFA is to allow an access seeker to fund infrastructure enhancements for the purpose of entering into an access agreement. As the price to be paid by the access seeker for access to the service is determined independently from the funding of the relevant infrastructure enhancements, SUFA is not inconsistent with the pricing principles.

The exclusion of the project management fee from the capital costs to be included in the Regulatory Asset Base would not allow for an equitable reconciliation of the costs of the infrastructure enhancement between the access seeker and other users of the service. In Aurizon Network's view

the project management fee represents an efficient cost and its inclusion in the pricing for access to the services is not inconsistent with the requirements of the pricing principles in section 168A of the QCA Act.

In particular, s.168A(c) requires that prices should be at least sufficient to recover efficient costs of providing access to the service and provide incentives to reduce costs or otherwise improve productivity. The project management fee represents an incentive based framework to promote efficiency in the construction and management of the relevant infrastructure enhancements.

Aurizon Network notes that there are regulatory precedents for capital efficiency incentives. These include:

- The regulatory framework in the National Electricity Rules which includes similar efficiency incentives where cash flow differences between the forecast capital expenditure and the actual capital expenditure are retained for the regulatory term; and
- The capital costs approved by the QCA and included in the DBCT Regulatory Asset Base, which are understood to include similar project management fees where the project is delivered independently of DBCT Management.

As the QCA Act contemplates that the access provider must extend or permit the extension of the facility then reasonable and prudent project management costs represent a legitimate and efficient cost of an extension. Accordingly, the inclusion of a project management fee in the Regulatory Asset Base is consistent with promoting efficiency.

3 Draft Amending Access Undertaking (DAAU) amendments

3.1 Purpose of amendments

The DAAU comprises:

- the suite of SUFA contractual documents which are necessary to facilitate the delivery of SUFA infrastructure enhancements; and
- consequential amendments to the 2010AU to enable the execution of those documents.

The DAAU does not address matters relevant to the negotiation of access conditions or the commercial framework for funding planning studies. Aurizon Network acknowledges that improvements could be made to the 2010AU to improve the clarity of the operation of various processes in parts 6 and 7 in relation to these matters. However, the 2010AU includes all the relevant aspects of the investment framework in Schedule J, such that amendments to the 2010AU in addition to those included in this DAAU are not required for the purposes of entering into a SUFA arrangement.

This DAAU includes amendments to the 2010AU, addressing the following matters:

- recognition of SUFA assets in the allowable revenues and the RAB;
- implications for user funded capacity shortfalls;
- limitations on the application of SUFA and an access seekers ability to user fund;
- development of alternate SUFA models; and
- recovery of the SUFA development costs.

During the industry engagement, a number of stakeholders suggested that specific dispute resolution procedures should be developed and included in the 2010AU. This section discusses this issue and the reasons why Aurizon Network considers the existing dispute resolution framework promotes the objects of the regime and appropriately balances the interests of the access provider and the access seeker.

A summary of the full amendments is included at **Volume 4** of this submission.

3.2 Recognition of SUFA project assets

A key attribute of the SUFA framework is that it is tax effective and allows for the complete pass through of the pre-tax access revenue to the contributor indirectly through the Trust. As the Trust is a separate tax entity, it is necessary for the Trust to maintain a minimum income stream to cover its deductible expenses, in order to avoid incurring a tax loss which would be carried forward and unfunded within the Trust. This is most likely to occur with tax depreciation, which commences following the operational commissioning of the SUFA assets.

As the Trust does not borrow or incur any financing costs, the Trust is unlikely to incur any tax deductible expenses such as financing costs prior to the year of operational commissioning. Any costs incurred by the Trust prior to the commissioning of the SUFA assets will need to be funded through subscription units, in order to ensure the Trust earns sufficient income to offset those expenses. However, Aurizon Network does not consider these operating costs incurred by the trust to be material where Aurizon Network operates the trustee.

For these reasons, Aurizon Network proposes amendments to the 2010AU in order to ensure that there is a clear and identifiable revenue base for the payment of the rental lease to the Trust to avoid tax losses. There are two prospective circumstances which may arise due to the negotiation of a SUFA infrastructure enhancement:

1. The infrastructure enhancements were already reflected in an existing reference tariff and system allowable revenue through the capital indicator; or
2. The infrastructure enhancements were not contemplated in the capital indicator which necessitates a commensurate increase in the capital indicator (with a consequential increase in allowable revenues).

In respect of the first case where the infrastructure enhancements are already in the capital indicator, Aurizon Network will nominate the proportion of the capital indicator relevant to those infrastructure enhancements which will be subject to a SUFA arrangement. This nominated amount will form the basis of the lease payment calculations and the relevant percentage of the allowable revenues to be distributed to the SUFA participants.

These amendments are reflected in the additional access undertaking clauses 7.5.5(m) and 7.5.5(n).

3.2.1 Capital Carryover Account

Due to the timing implications for review of prudency and acceptance of capital projects by the QCA for inclusion in the RAB, SUFA infrastructure enhancements will necessarily be represented in the system allowable revenue through the existing or an increased capital indicator as currently occurs with planned infrastructure enhancements.

Accordingly, the capital carryover account provision in Schedule A (clause 4(c)) of the access undertaking is amended to allow for transparent accounting of the difference between the system allowable revenue based on the forecast capital expenditure and the system allowable revenue which the PU Holder would have been entitled to earn had those revenues been based on the actual capital expenditure amounts accepted by the QCA for inclusion in the RAB.

Accordingly, the capital carryover account balance determined at the end of the regulatory control period will separately identify the balance attributable to assets funded under SUFA transactions and assets funded by Aurizon Network.

3.2.2 RAB Roll-forward.

The inclusion of SUFA assets in the RAB should also provide for the separate identification of assets owned or funded by Aurizon Network relative to assets which have been funded through SUFA arrangements. Accordingly, the DAAU proposes amendments to the RAB roll-forward report to the QCA in clause 9.3.2 of the 2010AU to allow for this separate identification.

Aurizon Network has not proposed similar amendments to the public RAB roll-forward report in clause 9.3.3 of the 2010AU as the PU Holder will be provided appropriate information in relation to the value of the Trust's assets in the RAB through the relevant reporting and auditing arrangements in the SUFA framework.

3.2.3 Asset Optimisation

As discussed earlier in this submission, where cost optimisation is triggered based on the QCA's decision to exclude costs in the RAB due to the incurred costs not being prudent, it will be necessary for the QCA to provide a statement of reasons in making that decision to allow the allocation of the optimised costs between Aurizon Network and the Trust as appropriate.

Where the QCA does not approve capital expenditure in the RAB, it has a requirement to issue Aurizon Network a preliminary notice under clause 2.5 of Schedule A of the access undertaking. Aurizon Network notes that clause 2.5(b) of the 2010AU is sufficiently broad to allow a preliminary notice to include any relevant information to allow the allocation of optimised costs. Accordingly, amendments

have not been made to Schedule A of the access undertaking to further prescribe the information required to be included in a preliminary notice.

If an optimisation event is triggered under clause 1.4 of Schedule A of the access undertaking, it will be necessary to identify the value of the assets in the RAB by class and location in order to adjust the RAB value for the purpose of calculating lease payments as relevant.

Aurizon Network has not prescribed the process by which those assets will be identified. The matters pertinent to an optimisation decision will have regard to the relevant economic facts which are not readily predictable today. Any decision to optimise assets in the RAB will occur through a public consultation process. Accordingly, both Aurizon Network and PU Holders will have sufficient opportunity to present any relevant arguments of facts to the QCA in the decision making process.

3.3 Capacity Shortfall for SUFA Extension Infrastructure Enhancements

The objective of the regulatory framework is to provide a mechanism for an access seeker to fund the efficient infrastructure enhancements necessary to create the capacity required to provide the access rights being sought by the access seeker.

It is possible that the infrastructure enhancements undertaken subject to a SUFA arrangement may not provide sufficient capacity to fully meet the access rights without adversely impacting the access rights of an existing access holder.

The 2010AU introduced the concept of compression for access rights where the infrastructure enhancements once completed do not provide sufficient capacity. Access rights are granted conditionally prior to undertaking the relevant infrastructure enhancements. Where the assessment of capacity indicates that the change in capacity is not sufficient to meet the requirements of the conditional access rights, then those access rights will be proportionally reduced to the extent of the incremental capacity shortfall.

Where Aurizon Network compresses conditional access rights under clause 11.3(c) of the access undertaking, Aurizon Network is required to fund any further infrastructure enhancements necessary to address the capacity short fall.[2] A SUFA participant may have an incentive to minimise the planned infrastructure enhancements in order to reduce the funding contribution it is required to make, and directly transfer the residual funding obligation to Aurizon Network through the compression. Given that the capacity assessment must have regard to the relevant supply chain operating assumptions, it is feasible that a capacity shortfall may arise due to a particular supply chain operating assumption which is outside of the control of Aurizon Network.

It is also feasible that the agreed scope between Aurizon Network and the SUFA participants may be subject to the outcome from dispute resolution. Therefore it is unlikely to be in Aurizon Network's legitimate business interests to be compelled to fund supplementary infrastructure enhancements where the incentives of access seekers are strongly aligned to capital minimisation.

Aurizon Network considers the most appropriate means of addressing these perverse incentives would be to require the party who funded the infrastructure enhancements which give rise to a capacity shortfall to fund the necessary supplementary infrastructure enhancements.

A SUFA participant therefore has the option of either having their access rights remaining compressed or proportionally funding the supplementary infrastructure enhancements to address the capacity shortfall.

---

[2] See clause 7.5.4(a)(ii) of 2010AU

Therefore, the DAAU includes an amendment to clause 7.5.4(a)(ii) of the 2010AU to exempt Aurizon Network from being required to fund extensions associated with conditional access rights under clause 11.3 of the access undertaking which have been provided through a SUFA expansion.

The DAAU also retains the proposed amendments from the Investment Framework DAAU of December 2010 which precludes Aurizon Network from being required to fund an expansion for a major external development where Aurizon Network has already undertaken an expansion for that major external development. The intention of these amendments is to protect Aurizon Network's legitimate business interests from an incentive of access seekers to not participate in the SUFA arrangement but instead trigger a funding obligation for Aurizon Network under clause 7.5.4(a) of the DAAU through a subsequent access request.

3.4 Limitations on the application of SUFA

The SUFA model submitted in this DAAU is primarily intended to work for significant investments (that is expansions which Aurizon Network is required to fund pursuant to clause 7.5.4(a) of the 2010AU). The foundation principles in Schedule J of the 2010 AU, and reflected in clause 7.5.5(a) of the 2010AU, contemplate that a SUFA participant may choose to fund an expansion even where Aurizon Network is willing to do so.

A further principle of Schedule J of the 2010AU, and reflected in paragraph 21, is that Aurizon Network will own and operate SUFA expansions. As the proposed SUFA framework involves a party other than Aurizon Network being the owner, the access seekers' right to fund an extension, other than a significant investment, does not support the legitimate business interests of Aurizon Network.

Similarly, section 119(2) of the QCA Act does not allow an access determination to have the effect of the access seeker, or someone else, becoming the owner (in equity) without the existing owner's agreement. In this regard, the consent is provided pursuant to a voluntary DAAU given under section 142 of the QCA Act to allow for the user funding of significant investments.

Therefore, the DAAU includes amendments to clause 7.5.5(a) of the 2010AU to restrict the right of an access seeker to fund a significant investment pursuant to the SUFA templates submitted in this DAAU.

For the avoidance of doubt, Aurizon Network's obligations for the recognition and compensation of contributed assets funded through SUFA will be determined subject to the terms of SUFA. Accordingly, clause 7.5.5(m) of the 2010AU has been amended to exclude these obligations in this clause from application to a Significant Investment funded through the SUFA framework provided in this DAAU. This removes any inconsistency between the terms of the 2010AU and the terms of the SUFA arrangements.

Complimentary amendments are also made to clause 6.5.2 of the 2010AU to avoid any inconsistency between he requirements of entering into an arrangement associated with user capital contributions and SUFA.

A new clause 7.6(c) has been included in the DAAU to ensure that in the event of any inconsistency between the 2010AU and a user funding agreement, the user funding agreement prevails. This is necessary to reflect the intention of section 168 of the QCA Act. However, as this DAAU relates to a funding agreement and not an access agreement, the amendment to clause 7.6(d) of the 2010AU is necessary to provide Aurizon Network and access holders with sufficient regulatory certainty.

Importantly, as the Trust is the party engaging Aurizon Network to undertake the infrastructure enhancements, various obligations in clause 7.5.1 of the 2010AU become contractual obligations and should necessarily be enforceable through the relevant provisions of the SUFA and not obligations pursuant to the 2010AU.

3.4.1 State Consent

The voluntary draft amending access undertaking is given by Aurizon Network to the QCA as operator of the declared service. Under the Queensland Rail Access Regime, the undertakings given in this DAAU can only be binding on the party who is giving them. However, the ability for Aurizon Network to enter into a SUFA transaction using the SUFA framework submitted in this DAAU is conditional upon the consent of the State, through QTH and in some circumstances Queensland Rail, and their agreement to enter into the SUFA arrangement as a party to the Extension Infrastructure Agreement and Integrated Network Deed.

Accordingly, an additional amendment has been made to clause 7.5.5(a)(iii) of the 2010AU which requires that Aurizon Network is only required to enter into a user funding agreement consistent with SUFA where all other relevant parties to SUFA have executed the agreements.

3.5 Development of alternate SUFA models

The 2010AU required Aurizon Network to submit to the QCA within three months of the approval date a DAAU which implemented the Investment Framework, including the development of a SUFA framework.[3]

As the model submitted by Aurizon Network did not satisfy the literal requirements of Schedule J, the QCA issued a notice under clause 7.6(b) of the 2010AU informing Aurizon Network of its intention to develop its own Proposed SUFA and Investment Framework Amendments.

The DAAU therefore includes amendments to remove both Schedule J and the requirements for the QCA to develop its own Proposed Standard User Fund Agreement and Investment Framework Amendments. If approved, the DAAU would terminate the process initiated under clause 7.6(b) of the 2010AU.

It is necessary to remove Schedule J of the 2010AU as the Proposed Standard User Funding Agreement in this DAAU is inconsistent with Schedule J. As previously noted, the investment framework in Schedule J is already reflected in parts 6 and 7 of the 2010AU in all material respects and the retention of Schedule J is unnecessary.

3.6 Recovery of SUFA development costs

The allowable revenues approved by the QCA for the Trust's[3] regulatory control period were based on the commercial and regulatory costs and risks assumed in the DAAU submitted to the QCA in September 2008. Accordingly, the system allowable revenues do not include compensation for a range of additional incremental externally incurred costs relating to the following regulatory obligations which were not included in the September 2008 DAU. These include the requirement to:

- develop an alternative form of access agreement;
- expand the auditing arrangements to reports prepared under part 9;
- procure an asset condition report;
- prepare access condition reports; and
- prepare a standard user funding agreement.

Aurizon Network therefore considers it reasonable that it recovers the incremental costs incurred in the development of a SUFA in order to ensure that prices for access to the service generate expected revenue for the service that is at least enough to meet the efficient costs of providing access as required under section 168A of the QCA Act. The costs incurred in developing the proposed SUFA are efficient as the DAAU gives effect to sections 118 and 119 of the QCA Act on an ex-ante basis.

[3] Clause 7.6(a) of 2010AU.

The costs to be recovered through access charges include the externally incurred costs in the development of this DAAU and the DAAU for the Proposed Standard User Fund Agreement and Investment Framework Amendments given to the QCA in December 2010. This is reasonable as the December 2010 model was based on satisfying the requirements of Schedule J of the 2010AU.

Aurizon Network has considered a number of options for recovery of the SUFA development costs. These include:

1. Inclusion in the 2012-13 System Allowable Revenues:
2. Capitalisation into the RAB as intellectual property;
3. A deduction from the capital carryover account balance; or
4. The establishment of a SUFA development cost pool which is recoverable from access seekers from incremental expansions.

In relation to the first three options, it is not apparent that this would lead to an allocation of costs between current and future access seekers that reflect the benefits of the SUFA framework. The primary beneficiaries of SUFA are those access seekers who are able to apply SUFA as a safe-harbour framework in the negotiation of commercial terms and conditions of access. While the fourth option is most likely to result in an allocation of costs which reflects the inherent economic benefits arising from its development, it also requires some certainty that there will be sufficient expansions over the next one or two regulatory periods to allow recovery.

Aurizon Network considers that option four is most likely to represent the efficient allocation of costs. Accordingly, Aurizon Network proposes to establish a SUFA Development Cost Pool which includes those costs approved by the QCA as being incremental costs reasonably incurred in the development of the Proposed SUFA.

The SUFA Development Cost Pool will be increased by monthly capitalisation of interest at the approved annualised weighted average cost of capital. Where Aurizon Network enters into an access agreement for access rights where the option of using the Proposed SUFA was available, Aurizon Network will be entitled to recover an upfront fee from those access seekers in proportion to their access rights and amount of $250,000 per $100 million in expected capital expenditure. On a $1 billion dollar project this would result in the recovery of SUFA Development Fees of $2.5 million.

Aurizon Network would continue to recover a SUFA Development Fee until such time as the amounts in the SUFA Development Cost pool are reduced to 0. The rate of recovery has been determined based on the forecast estimate of the SUFA Development Cost Pool and the potential redundancy of the SUFA framework itself through changes to the relevant taxation legislation over a period of time. The following table includes a forecast of the SUFA Development Cost Pool.

At this point in time the costs associated with the development of SUFA are estimated to be in the range of $4.5M to $5.5M. This includes costs associated with legal drafting and technical advisors (including tax, accounting, and banking) and may be summarised as:

- *Accounting*. In developing SUFA Aurizon Network has procured accounting advice in order to assess the implications for the financial statements and compliance with all relevant accounting standards. This also includes review of risks to changes in those standards and the implications over the contractual life of an executed SUFA.
- *Tax Advice*. It has been necessary to procure expert tax advice to assess the effectiveness of various user funding models and the implications for other tax obligations such as stamp duty.
- *Financing*. Aurizon Network has considered the implications of entering into a user funding arrangement from the perspective of its current and future financing arrangements and whether the proposed model is suitable for an access seeker to obtain financing (commensurate with the benchmark WACC and gearing)

- *Risk Neutrality and the Operating and Performance Risk Allowance*. Consultants were engaged to advise on the cash flow and risk neutrality of the SUFA framework and matters relevant to the determination of operational risk compensation for capital contributions.
- *Banking Legal*. Legal advice has been procured to assess whether the SUFA is materially consistent with Aurizon Network contractual obligations under its relevant financing facilities.
- *Banking Fees*. Aurizon Network will incur costs through its banking syndicate for the review of the final SUFA framework and amendment to the SFA to facilitate a user funded transaction.
- *Ratings Impact Assessment*. Expert services were procured to assess the implications of the proposed SUFA framework for current and future credit rating assessments.
- *State Legal*. Aurizon Network is required to meet all legal costs incurred by the State in the preparation and development of the State Agreements.

Upon approval of the DAAU, Aurizon Network will submit a claim to the QCA for the approval of incremental costs to be included in the SUFA Development Cost Pool.

3.7 Dispute resolution

Pursuant to clause 7.5.5(i) of the 2010AU, where an access seeker is in dispute with Aurizon Network regarding the proposed terms of a User Funding Agreement or issues arising under an existing User Funding Agreement, then either party to the proposed or existing User Funding Agreement may refer the issue to the dispute resolution process set out in clause 10.1 of the 2010AU.

During the industry consultation period, participants suggested that the dispute resolution provisions in the 2010AU should be amended to include specific targeted and expedited dispute resolution procedures. Aurizon Network does not support this approach, as it considers that the 2010AU dispute resolution provisions provide sufficient protections for both Aurizon Network and access seekers.

Aurizon Network's understanding of the essence of the participant's concerns is the potential for a protracted dispute resolution process which has been informed by previous disputes arbitrated by the QCA. Aurizon Network has viewed the access determination register maintained by the QCA under section 127 of the QCA Act.

Since the commencement of Part 5 of the QCA Act, the QCA has only arbitrated three disputes on a similar matter. The nature or substance of the dispute was the interpretation of the declaration. Given the nature of the disputes, Aurizon Network does not consider them to be a reliable or reasonable indicator of the timeframes for resolving disputes arising under clause 7.5.5(i) of the QCA Act.

The establishment of binding resolution timeframes on either the QCA or an expert are not reasonable and the process and procedures to be used for arbitrating a dispute can only be informed once the basis or substance of the dispute is known and understood. The QCA or an expert should be capable of conducting an expedited dispute resolution process once the relevant facts have been established.

An important objective of dispute resolution is that it is not intended to be a substitute for negotiation. A specified dispute resolution procedure has the potential for the parties to a negotiation to refer the matters to dispute rather than engage in commercial negotiation. The dispute resolution procedures in the 2010AU are commensurate with regulatory best practice and are consistent with those contained in most regulatory frameworks and access undertakings within Australia. Accordingly, it is not clear that a sufficiently robust argument has or could be raised which warrants amendments to the dispute resolution provisions.

However, the DAAU does qualify through amendment to clause 7.5.5(i) of the 201AU that the dispute resolution provisions in the 2010AU only apply to a dispute arising under an existing User Funding Agreement where that agreement does not specifically provide for dispute resolution. The role of the regulator in dispute resolution should necessarily be constrained to the negotiation of an agreement. Once an agreement has been entered into, then disputes necessarily become the matter of contract. However, Aurizon Network does acknowledge that some disputes may arise under an existing user

funding agreement which do not have a specific process for resolving a dispute which has a bearing on the negotiation of the access rights and has retained reference to dispute resolution under clause 10.1 of the 2010AU for that purpose.

Attachment A – Operating Performance Risk Allowance (OPRA)

1 Overview

In volume 3 of the DAAU for the proposed Standard User Funding Model, Aurizon Network has identified the need to be compensated for the operational and performance risks associated with a User Funding Arrangement in order to ensure its rights as operator of the declared service are protected and that the access seeker is provided a return commensurate with the commercial and regulatory risks.

The proposed SUFA documents in volume 2 of the DAAU include a deduction in the lease rental payments for recovery of OPRA for the provision of railway manager services on contributed assets. This attachment has been prepared to provide in information relevant to the:

- the underlying rational for OPRA;
- relevant benchmarks which may be relevant to its determination; and
- issues relevant to its implementation.

This attachment also includes an indicative estimate of an OPRA based on a range of regulatory and relevant industry comparators; however Aurizon Network is not submitting this estimate as part of the DAAU. Accordingly, it is not necessary for the QCA to approve or reject this estimate in approving the DAAU submitted under section 142 of the QCA Act. OPRA will be determined on a case by case basis having regard to the regulatory framework and the relevant risks prevailing at the time the user funding arrangement is in place.

2 Pricing principles and uncompensated risks

The starting point for determination of OPRA is the consequential impact of a user funding agreement associated with meeting the requirement of the pricing principles in section 168A of the QCA Act that prices should:

> *"…generate expected revenue for the service that is at least enough to meet the efficient costs of providing access to the service and include a return on investment commensurate with the regulatory and commercial risks involved…"*

One of the main difficulties in satisfying this principle is forecasting the efficient costs of providing the service in the presence of uncertainty. Reliance is often placed on 'efficient benchmarks'. However the availability and robustness of these benchmarks is very limited, having regard to similar geography, technology, utilisation, density, age, safety management and commercial complexity. Even if comparators are compatible on these characteristics, in the absence of a large sample size, it is difficult to objectively assess whether their costs are efficient.

One way to address uncertainty is a cost pass-through model. A regulator may not be willing to accept this approach as it may remove the incentives for management to pursue efficiency improvements.

Another inherent problem in the setting of operating and maintenance cost allowances is that in focusing on efficient prices, the regulator may deny the business compensation for necessary costs that it must incur but are not deemed efficient. The service provider may in fact incur costs which are not efficient but are based on either inherent or inherited cost drivers. For example, to the extent that the regulated firm is required to extend the declared facility in order to accommodate additional access rights then it may incur further costs which are

deemed to be inefficient and therefore excluded from prices. For example, narrow gauge is an inherent cost driver and benchmarking against higher productivity standard gauge railways may lead to the exclusion of unavoidable costs from the regulatory allowance.

The operational risk profiles associated with the provision of access rights on contributed assets can be categorised as follows:

- Asymmetric risks: The firm is exposed to asymmetric risks which causes the firm to incur costs which are not assumed in the approved operating cost allowances, for example, the costs arising from a force majeure event such as a major flood (that is, there is only downside risk); or
- Symmetric risks: The firm expects revenues to align to costs but there is an equal probability that costs may be lower or higher than the approved operating and maintenance cost allowances (that is, there is upside and downside risk and the probability of each is the same); and
- Systematic/non-systematic risks: Systematic risks are those risks that are positively correlated with domestic economic activity (in other words, those costs that rise and fall with changes in GDP). By definition asymmetric risks are not systematic.

Asymmetric risks and non-systematic risks are discussed below. Systematic risks are discussed in **section 3**.

Asymmetric Risks

Aurizon Network notes that the issue of asymmetric risks is highly complex. This is even more so where those risks involve high consequence but low probability. As a matter of principle this will typically be managed by insurance arrangements or in the case of moderate risks, pass-through provisions.

While regulators may be less likely to favour a cost pass through arrangement overall, regulators should be more willing to favour this approach to address asymmetric risks. Given these events tend to be low probability, (but potentially high impact) this avoids compensating the service provider for a material loss that may not be incurred. To the extent that these risks are subject to a cost pass-through, this reduces the amount of compensation required under the operating and performance risk allowance (although the business would still need to have some strategies in place to manage these risks).

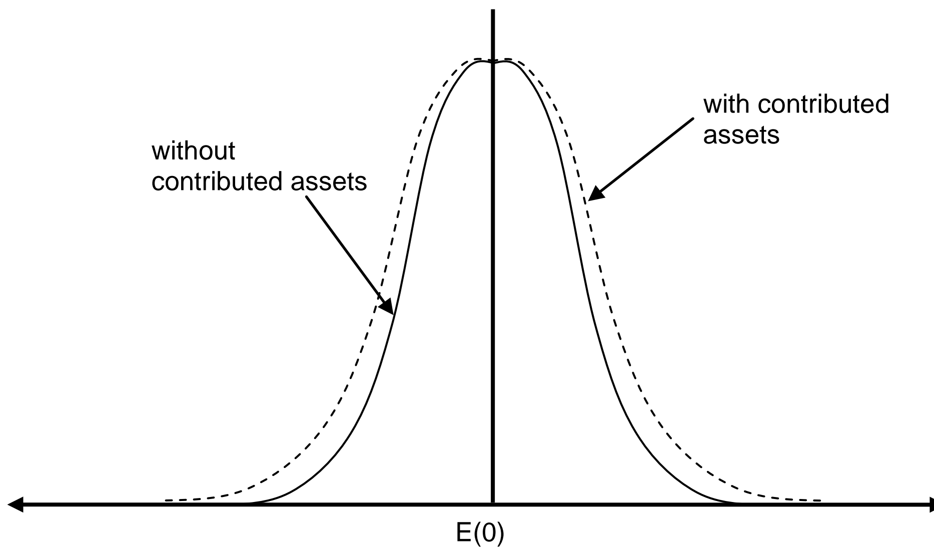
The proposed SUFA framework assigns all prudency of cost risk to Aurizon Network other than those costs associated with complying with the agreed procurement strategy. It is not clear how this risk is compensated within the existing regulatory framework given that is likely to be asymmetric. The risk is asymmetric on the basis that as the regulatory framework includes capital expenditure in the RAB at cost through an ex-post assessment. If the project was delivered at a lower delivery cost than an efficient delivery cost benchmark then the access provider is unlikely to be able to retain all or part of that cost difference. In contrast, where project is delivered at a higher cost than the benchmark and the regulator assumed the cost to be imprudent then the access provider is not entitled to recover that cost difference through access charges.

If the risk is assumed in the return on assets then the nature of this risk needs to be considered in the context of setting operating and performance risk allowance. Alternatively, if it is not currently compensated for in the regulatory framework then access charges are not likely to be commensurate with the commercial and regulatory risks of providing the service and an additional compensation amount needs to be included in the regulatory cash flows.

Symmetric Non-Systematic Risk

While as a matter of principle the expansion and increased utilisation of the facility should not materially alter the expected difference between actual costs and revenue for operational activities the distribution of those possible outcomes will consequentially widen. As illustrated in the figure below the expected return outcomes on Aurizon Network's funded assets associated with the difference between actual and compensated operating costs will be subject to a greater variance with the inclusion of contributed assets. This occurs due to the increase in operating and maintenance costs on the part of the regulatory asset base over which Aurizon Network has a full economic interest. For example, if 1 standard deviation represents 5% of the approved operating costs then the increase in operating costs with a contributed asset would lead to a larger variance in absolute dollars on the same Aurizon Network funded asset base.

Figure 1. Expected Variance between Actual and Approved Opex



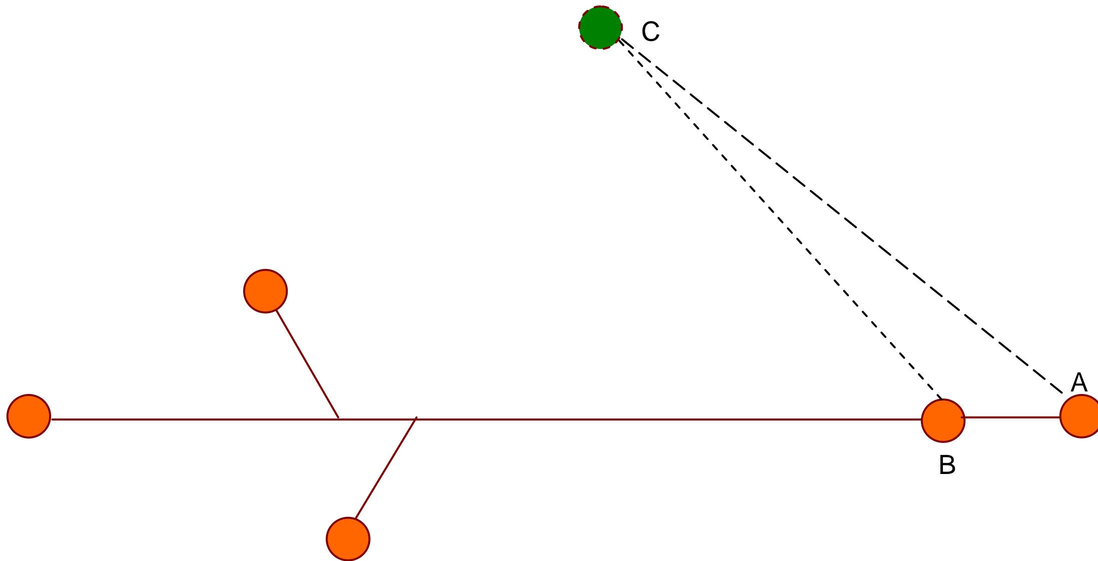
As a symmetrical distribution with an expected mean of 0 this could lead to the conclusion that compensation should not be necessary through OPRA for the increase in maintenance and operating costs associated with a SUFA investment. However, there are three problems with this conclusion:

1. In the absence of direct and reliable comparators for cost benchmarking, the regulator may be more likely to reduce the allowance than accept the proposal submitted by the business (let alone increase the allowance). In other words, the distribution of outcomes is assumed to be skewed in favour of the downside.
2. This does not have regard to whether the risks are systematic or non-systematic. The treatment of the systematic risk component of the distribution is discussed in section 3.
3. A firm will typically not be prepared to provide services even for an unbiased mean outcome of 0 (that is what incentive does a firm have to provide a service where the expected return or margin is 0)

The last point may be best demonstrated by a hypothetical, yet extreme, example. Figure 2 represents a hypothetical railway in which an extension is provided to new mines at node point C. The section between A and B is currently capacity constrained and it is not technically feasible to duplicate due to population and location constraints. Accordingly, under the terms of the declaration the service provider is required to extend its facility to provide access to the bottleneck facility between points A and B. Under the declaration in section 250 of the QCA Act, Aurizon Network as access provider would be required to permit the access seeker to fund the extension B-C and also provide railway manager services on that extension.

This can be contrasted with the circumstances which would prevail in the absence of the bottleneck A-B and a new railway was built directly from A-C. The developer of this facility would therefore need to procure or provide railway manager services to its own facility and assume all costs and risks of doing so. Accordingly, the access seekers who fund line section B-C should be in the same cost or risk position that they would have assumed if they had built and owned line section A-C.

Figure 2 Example of User Funded Extension to an Existing Rail Network



Therefore, it is a necessary condition that the service provider should be either:

- provided a margin commensurate with the incentive it would have required in order to provide the services on line section A-C; or
- protected by a regulatory framework which seeks to ensure that the service provider does not bear any cost or risk of providing the service on line section B-C.

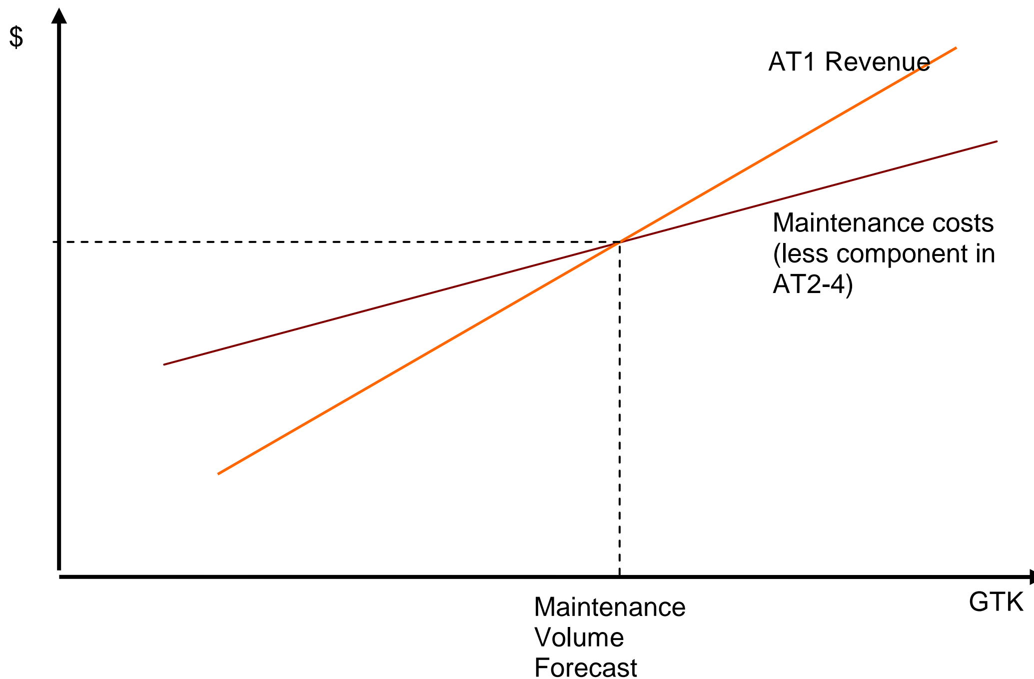
This principle is inherent in section 44W(e) of the *Competition and Consumer Commission Act 2010* (Cth) which states that the Australian Competition and Consumer Commission cannot make an access determination which has the effect of:

> *requiring the provider to bear some or all of the costs of extending the facility or maintaining extensions of the facility.*

In this example, the clear separation of the extension from the remainder of the declared service facilitates a separate agreement for the pass-through of maintenance costs. In contrast, the operation of pass-through provisions to the Trust for SUFA infrastructure enhancements which are integrated into the existing price of regulated assets would give rise to various complexities and differential treatment between SUFA and non-SUFA funded infrastructure enhancements.

A more practical example of this issue is the revenue implications of the AT1 tariff component and the assumed volume risk. Figure 3 provides an illustrative example of one of the key drivers of variance between actual and approved costs. As the AT1 revenue is outside of the revenue cap changes in volumes railed from the assumed forecasts have the effect of increasing or decreasing the maintenance allowance. However, as shown above, an increase in operating costs associated with contributed assets increases the materiality of the risk of potential variance between revenue and costs. In addition, the relationship is unlikely to be symmetrical given the probability of not achieving the forecasts is substantially greater than exceeding them. While the need for recognition and compensation for this increased risk can be addressed through changes to the regulatory framework, it does show how the risk profile and OPRA may need to change with changes in the regulatory framework over time.

Figure 3. Revenue and Cost Misalignment with AT1 Pricing



Aurizon Network considers that a margin for the provision of railway manager services which is deductible from the lease payments to the Trust is a reasonable and efficient means of addressing compensation for risk of the costs of providing the service differing from the approved operating and maintenance cost allowances. Under a competitive market the price of providing these services would determined by market forces. However, the determination and quantification of that deduction or margin is problematic. This is because there is no market based benchmarks with similar risk profiles to evaluate the reasonableness of the margin. Nevertheless, Aurizon Network considers that the reasonableness may be inferred through assessment against various comparators.

Deloitte has assessed a range of comparable benchmarks, both commercial and regulatory, in order to make inferences as to what a reasonable margin might represent. In this regard, the separation of asset ownership from operational service delivery is a common model within the Central Queensland Coal Supply Chains. Most notably:

- The Dalrymple Bay Coal Terminal is operated independently of the lessee of the terminal with a commercial margin included in the terminal handling charges. These outsourcing arrangements and associated margins have been approved by the QCA;
- The Wiggins' Island Coal Terminal will contract terminal operations to the operator of the RG Tanna Coal Terminal; and
- Surat Basin Rail is likely to outsource railway manager and asset management services.

Aurizon Network does not have sufficient information on the terms and conditions of these arrangements to assess the relativity of the commercial risks with the provision of railway manager services for contributed assets pursuant to the regulatory framework. However, Aurizon Network does accept that many of these arrangements will assume commercial risks which are greater than those being assumed under the SUFA framework.

Accordingly, Aurizon Network considers that any margin under the SUFA framework is likely to be at the lower end of the range compared to the above benchmarks. In this regard, it is anticipated that normal commercial practice will necessarily involve a minimum margin for a 'little or no risk' commercial model in order to incentivise entry into that market. The margin would commensurately increase as the service provider seeks to assume greater risk in the provision of the services.

Aurizon Network commissioned Deloitte to advise on the methodology for determining a reasonable margin for the provision of railway manager services. The Deloitte report at Appendix 1 has cited the report prepared by NERA on behalf of Envestra in regard to benchmarking contractor margins. Aurizon Network agrees with Deloitte's proposition that the lower 95% confidence bound for the range of contractor benchmark margins may be commensurate with the return a service provider would reasonably expect to obtain on a low risk service contract. The range stated in the NERA report on the benchmarking of contractor margins extends from 4.8% to 6.4% which is calculated using the following approach:

EBIT Margin = EBIT / Revenue

3 Systematic Risk Component of Operating and Maintenance Costs

The previous sections have considered asymmetric and non-systematic risks of providing the railway manager services. However, Aurizon Network notes the arguments presented in the attached Deloitte report on the operating and performance risk allowance that the business risk model used in the building block approach assumes that:

> *risk is measured and compensated through the application of a return on capital based on the relevant regulatory asset value.*

This standard approach to risk and compensation effectively assumes that the service provider is providing the function of asset owner and railway manager. However, Aurizon Network agrees with Deloitte that its validity is compromised when consideration needs to be given to the treatment of contributed assets and the requirement to deconstruct the compensation for risk inherent in the weighted average cost of capital between the asset ownership and operations.

The asset beta is assumed to have a number of fundamental drivers in terms of how the firm's cash flows correlate to those of the broader market portfolio, as shown in the formula below:

$$B_A = \sum_{i=1}^{n} B_i = B_1 + B_2 + ... + B_n$$

One of the above factors is operating leverage. The issue of operating leverage and its impacts on asset betas was considered by the Allen's Consulting Group (**ACG**) in numerous reports prepared for the QCA, including the 2005 QR Access Undertaking, 2004 DBCT Access Undertaking and 2005 Electricity Distribution Review.

Where Aurizon Network undertakes a SUFA expansion, the operating leverage in the return on the SUFA assets will differ substantially from the operating leverage on the Aurizon Network funded assets. As the cash operating costs for the Trust are negligible, the operating leverage relevant to the returns to the Trust is effectively zero.

In contrast, Aurizon Network's cash operating costs will have increased without any commensurate increase in its EBIT. As the cash operating costs increase to accommodate the additional train services associated with the user funded expansion then the operating leverage increases proportionally. The consequence being that the asset beta of the existing assets increases above that assumed in the approved WACC and the asset beta for the user funded assets falls below the benchmark regulatory WACC. Expressed in its simplest terms this is a comparison between two firms servicing the same railway industry where

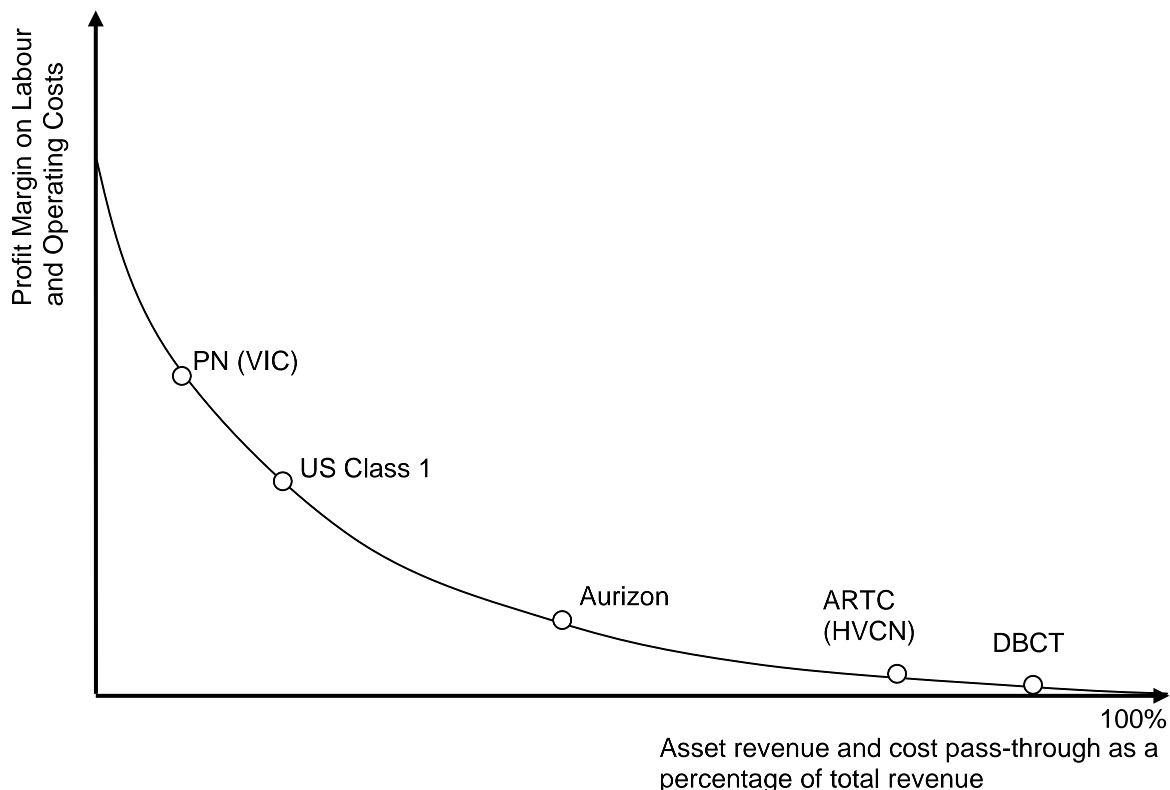
- Firm A (Aurizon Network's existing assets) has asset ownership and operations; and
- Firm B (user funders) only own assets and procures railway manager services;

Firm A will have higher operating leverage (simply because its fixed costs represent a higher proportion of its total costs) and hence a higher beta. In a competitive market the asset beta for firm B would be necessarily lower.

This supports the proposition that the asset beta which is relevant to a user funded asset is lower than the asset beta for a business which assumes both asset ownership and operations. The difference between the two asset betas represents the asset beta relevant to systematic operational risks.

The Deloitte report on OPRA diagrammatically presents the relationship between margin and operating costs. As the proportion of cash operating costs increases as a percentage of firm revenue the greater the margin required for compensation of service provision. This diagram has been extended below to include relevant benchmarks and the implications of cost pass through.

Figure 4. Relationship between the fixed costs and operating margin



The diagram is informative as it demonstrates the relativities of the various commercial and regulatory risks between regulatory benchmarks. The benchmarks are ranked on the following basis:

- The pricing order for the Victorian freight network precluded the network operator (PN) from earning a return on assets existing as of 1999 and contributed by the Victorian government under lease arrangements. Accordingly, access charges included a services margin necessary to provide the commercial incentive to provide railway manager services;
- The US Class 1 railways maintain and provide rail services on line sections which are not subject to captive shippers and are not priced at stand alone costs. Accordingly, it is expected that from a complete network perspective the operating leverage will be lower than the CQCR;
- The access undertaking for the Hunter Valley coal network includes an ex-post efficiency assessment of the actual operating costs in assessment of the compliance with the revenue limits. The mechanism operates as an effective full pass-through of costs.
- As noted in the ACG report, the DBCT coal terminal has minimal operating costs due to its outsourcing of terminal management.

Deloitte summarises the relationship between operating costs and the asset return in order to derive a functional model for the reduction in lease payments to the trust as reproduced below.

$$Asset\ Payment\ Reduction = RAB \times (1-\theta)[(R_m - R_f)]\left(\frac{E}{V}\right)\beta_E$$

Where:

RAB is the value of the SUFA Assets included in the Regulatory Asset Base

(Rm – Rf) is the equity margin;

(E/V) is the proportion of RAB which is equity funded; and

Be is the equity beta.

A more detailed derivation of the functional model is contained in the attached report. However this model for deriving the asset payment reduction includes an unknown variable theta. Aurizon Network considers that the estimation of theta is likely to require empirical analysis within and across industries in order to establish a statistically robust value. An assessment of the relationship between operating leverage and asset beta within an industry classification is required to isolate the impacts on beta. This would then also need to be repeated across multiple industry classifications to test the stability of the relationship against other correlated factors. The empirical analysis necessary to support this hypothesis has not been undertaken in support of this submission and in practice it would be difficult to obtain a reliable estimate as the analysis would need include firms that were close to identical (at least based on systematic risk factors) on all factors other than operating leverage. However, Aurizon Network consider that the results of any future analysis in this respect may provide a more robust information set for determining an operating and performance risk allowance for contributed assets.

In considering cash operating costs and their impact on operating leverage and overall business risks, matched revenues and expenses (pass through costs) should be excluded from cash operating costs. This is necessary to reflect the inherent nature of the alignment of the revenue and cost betas associated with cost pass through. Accordingly, electric energy and transmission network service costs should be excluded from cash operating costs. In addition, as we are considering the cash operating costs from the perspective without large fixed assets, the cash operating costs should also exclude return on assets (including asset charges for plant if included in the revenue cap).

The following table outlines indicative cash operating costs net of asset returns relevant to the UT3 period as published in the QCA final pricing decision of June 2010 for the 2012-13 year.

Allowable Revenue	**906,170**
Less tax	32,613
Less Depreciation	113,564
Less Return on Asset	427,353
Operating and Maintenance Costs	**332,640**
Less EC and Connection	120,818
Less Maintenance Plant Charges (MCI asset weighting of 15.9%)	29,242
Cash operating costs*	**182,580**

* Excluding return on assets.

A 4.8% margin on cash operating costs equates to approximately $8.8 million. Assuming a $4.29 billion asset base (427,353/9.96%) this represents an O&M fee of approximately 20 basis points. Holding all other parameters constant and solving for asset beta to obtain a post tax nominal WACC of 9.76% a 20 basis point reduction in WACC is commensurate with the reduction in the asset beta from 0.45 to 0.41.

4 Implementation

The analysis in the previous section has assessed a margin based on the approved operating and maintenance costs on the existing asset base. The analysis has also evaluated the proportion of the return on assets this margin would represent if the operations and maintenance were performed independently of asset ownership. Importantly this assessment also assumes that:

- the provider of the operations and maintenance is not exposed to regulatory risk;
- cash flows compensate or transfer all asymmetric risk; and
- the approved operating and maintenance costs are an unbiased estimate of expected operating and maintenance costs.

As noted earlier in this attachment, it is not clear how the asymmetric risk of unable to recover the full cost of undertaking infrastructure enhancements is compensated for in the regulatory cash flows and whether OPRA needs to incorporate an additional premium to address this risk.

A number of options would appear to be viable for the calculation and recovery of the Operating and Performance Risk Allowance. These include:

- application of a margin to incremental costs;
- application of a margin to an allocation of total maintenance and operating costs; and
- a proportion of the asset return for the contributed assets.

Aurizon Network does not support incremental costs as the basis for calculating the margin. While incremental costs may be identifiable at the commissioning of the infrastructure enhancements they become increasingly difficult to quantify and attribute to those assets over time. The concept of incremental costs also does not adequately capture the intrinsic costs of providing the additional train services. For example, the additional services may not trigger the need for an additional board in a train control centre but they may contribute to the requirement for an additional board associated with further infrastructure enhancements.

A proportion of total operating and maintenance costs provides a more appropriate cost base with which to determine the OPRA fee as it the operating and maintenance costs are highly correlated to the asset value over the economic life of the system. As the PU Holders are obtaining the benefits of the diversified cash flow risks from the system then an allocation of total operating and maintenance costs provides an appropriate balance of risk and reward with the total system assets.

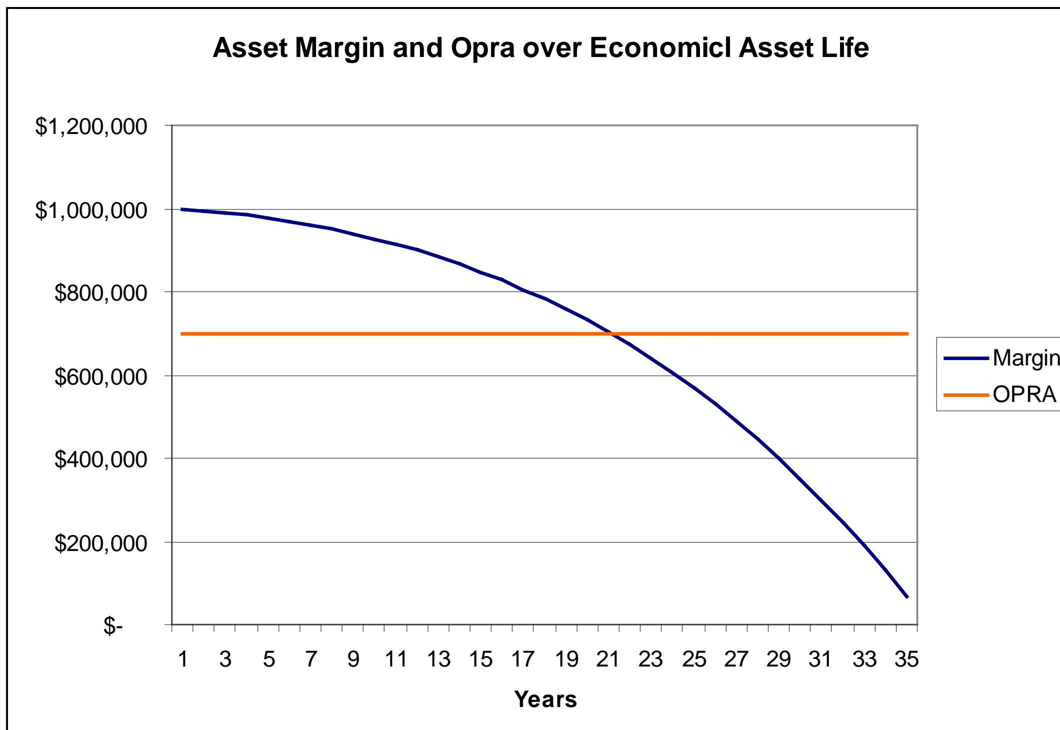
As discussed earlier in this section, the contributed assets are analogous to the construction of a new railway and being required to procure railway manager services. Therefore the allocation of total operating and maintenance costs provides the benefits of economies of scale of the existing facility and avoidance of the full stand-alone costs which would be incurred through economic duplication of the facility.

The choice of allocator should provide a stable and representative allocation over the economic life of the SUFA assets. The use of asset values would lead to an over allocation and therefore a high OPRA early in the asset life due to the relativity of the new and existing asset values. Similarly, this would under allocate operating costs later in the asset life where the maintenance of those assets has likely increased. The deduction of a proportion of the asset return will also be subject to the same under and over allocation.

The use of gross tonne kilometres (**gtk**) for the additional services is also unsuitable as expansions do not display constant returns on scale and depending on the timing of the enhancements may materially under or over attribute operating and maintenance cost for the purpose of determining the fee.

Aurizon Network considers a more aligned approach would be to determine an annuity payment for net present value of the 20 basis point asset payment reduction. This annuity would be periodically revised with changes in the risk profile of the regulatory framework. This is illustrated in the table and figure below.

	Opening Asset Value	Inflation	Depreciation	Closing Asset Value	Margin	OPRA
1	$ 500,000,000	$ 12,500,000	$ 14,642,857	$ 497,857,143	$ 1,000,000	$700,891
2	$ 497,857,143	$ 12,446,429	$ 15,008,929	$ 495,294,643	$ 995,714	$700,891
3	$ 495,294,643	$ 12,382,366	$ 15,384,152	$ 492,292,857	$ 990,589	$700,891
4	$ 492,292,857	$ 12,307,321	$ 15,768,756	$ 488,831,423	$ 984,586	$700,891
5	$ 488,831,423	$ 12,220,786	$ 16,162,974	$ 484,889,234	$ 977,663	$700,891
6	$ 484,889,234	$ 12,122,231	$ 16,567,049	$ 480,444,416	$ 969,778	$700,891
7	$ 480,444,416	$ 12,011,110	$ 16,981,225	$ 475,474,301	$ 960,889	$700,891
8	$ 475,474,301	$ 11,886,858	$ 17,405,756	$ 469,955,403	$ 950,949	$700,891
9	$ 469,955,403	$ 11,748,885	$ 17,840,900	$ 463,863,389	$ 939,911	$700,891
10	$ 463,863,389	$ 11,596,585	$ 18,286,922	$ 457,173,051	$ 927,727	$700,891
11	$ 457,173,051	$ 11,429,326	$ 18,744,095	$ 449,858,283	$ 914,346	$700,891
12	$ 449,858,283	$ 11,246,457	$ 19,212,697	$ 441,892,042	$ 899,717	$700,891
13	$ 441,892,042	$ 11,047,301	$ 19,693,015	$ 433,246,328	$ 883,784	$700,891
14	$ 433,246,328	$ 10,831,158	$ 20,185,340	$ 423,892,146	$ 866,493	$700,891
15	$ 423,892,146	$ 10,597,304	$ 20,689,974	$ 413,799,476	$ 847,784	$700,891
16	$ 413,799,476	$ 10,344,987	$ 21,207,223	$ 402,937,240	$ 827,599	$700,891
17	$ 402,937,240	$ 10,073,431	$ 21,737,404	$ 391,273,267	$ 805,874	$700,891
18	$ 391,273,267	$ 9,781,832	$ 22,280,839	$ 378,774,260	$ 782,547	$700,891
19	$ 378,774,260	$ 9,469,357	$ 22,837,860	$ 365,405,757	$ 757,549	$700,891
20	$ 365,405,757	$ 9,135,144	$ 23,408,806	$ 351,132,094	$ 730,812	$700,891
21	$ 351,132,094	$ 8,778,302	$ 23,994,026	$ 335,916,370	$ 702,264	$700,891
22	$ 335,916,370	$ 8,397,909	$ 24,593,877	$ 319,720,402	$ 671,833	$700,891
23	$ 319,720,402	$ 7,993,010	$ 25,208,724	$ 302,504,688	$ 639,441	$700,891
24	$ 302,504,688	$ 7,562,617	$ 25,838,942	$ 284,228,364	$ 605,009	$700,891
25	$ 284,228,364	$ 7,105,709	$ 26,484,916	$ 264,849,157	$ 568,457	$700,891
26	$ 264,849,157	$ 6,621,229	$ 27,147,039	$ 244,323,347	$ 529,698	$700,891
27	$ 244,323,347	$ 6,108,084	$ 27,825,715	$ 222,605,716	$ 488,647	$700,891
28	$ 222,605,716	$ 5,565,143	$ 28,521,357	$ 199,649,502	$ 445,211	$700,891
29	$ 199,649,502	$ 4,991,238	$ 29,234,391	$ 175,406,348	$ 399,299	$700,891
30	$ 175,406,348	$ 4,385,159	$ 29,965,251	$ 149,826,256	$ 350,813	$700,891
31	$ 149,826,256	$ 3,745,656	$ 30,714,382	$ 122,857,530	$ 299,653	$700,891
32	$ 122,857,530	$ 3,071,438	$ 31,482,242	$ 94,446,726	$ 245,715	$700,891
33	$ 94,446,726	$ 2,361,168	$ 32,269,298	$ 64,538,596	$ 188,893	$700,891
34	$ 64,538,596	$ 1,613,465	$ 33,076,030	$ 33,076,030	$ 129,077	$700,891
35	$ 33,076,030	$ 826,901	$ 33,902,931	$ -	$ 66,152	$700,891



5 Summary

This submission and supporting report from Deloitte provides a framework for further evaluation in order to determine a reasonable operating and performance risk allowance associated with contributed assets. A robust determination is hampered by the absence of well developed economic theories or models relating to the treatment of contributed assets in regulatory pricing regimes or the presence of reliable and relevant comparators to allow for appraisal of the reasonableness a market determined benchmark.

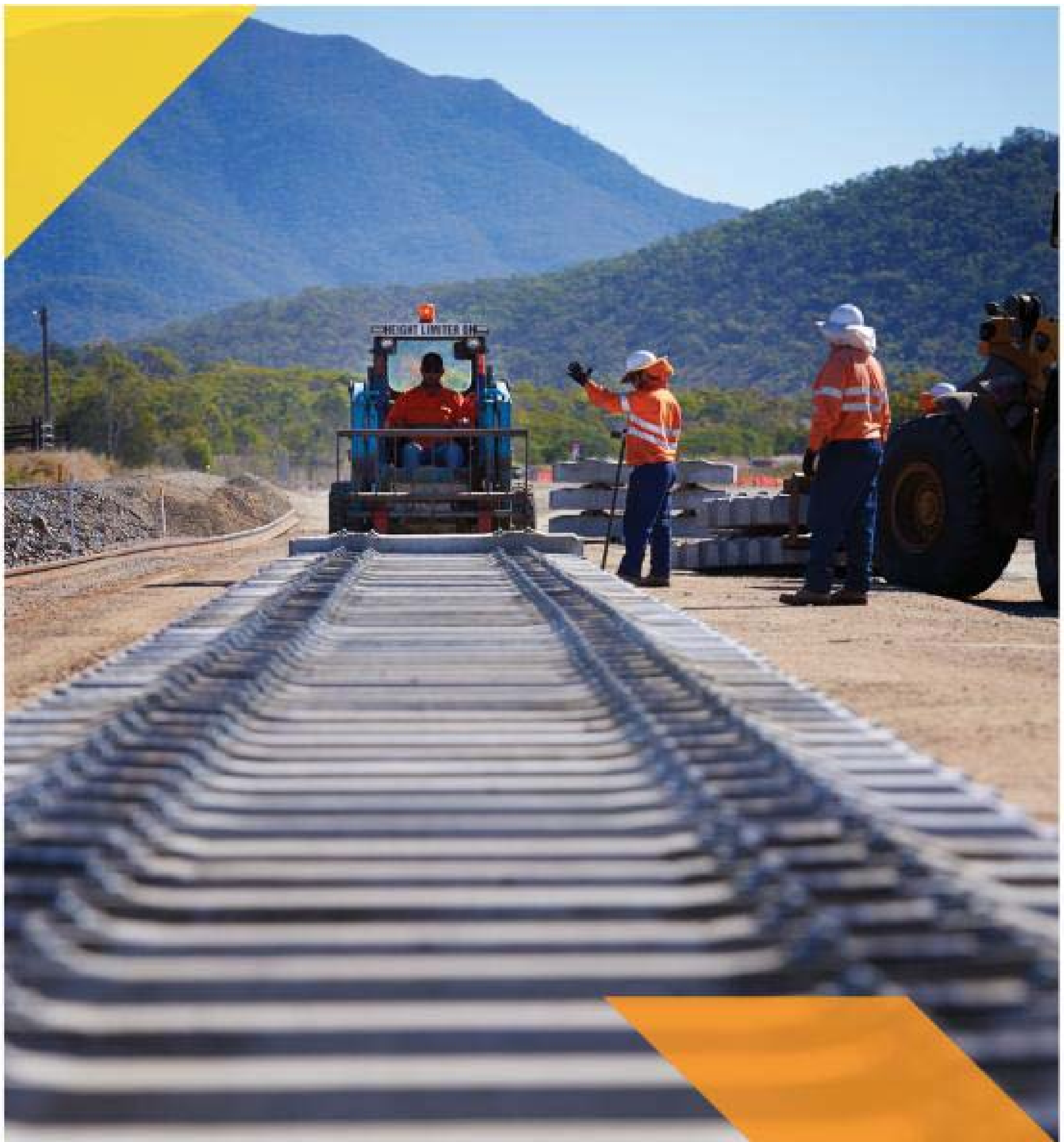
Aurizon Network considers that the establishment of a framework for evaluation of an Operating and Performance Risk Allowance will improve regulatory certainty to access seekers who may consider participating in a SUFA transaction.

AURIZON

December 2012

Standard User Funding Agreement (**SUFA**) – Regulatory Notes (Volume 3)

Attachment A: Operating Performance Risk Allowance



Deloitte.

Aurizon

Analysis of Operating and Performance Risk Allowance

13 December 2012

Deloitte.

Deloitte Access Economics

Deloitte Access Economics Pty Ltd
ACN 149 633 116

Riverside Centre
Level 25
123 Eagle Street
Brisbane QLD 4000
GPO Box 1463
Brisbane QLD 4001 Australia

Tel: +61 7 3308 7000
Fax: +61 (0) 7 3308 7003
www.deloitte.com.au

Dean Gannaway
Manager, Regulatory Policy
Aurizon
Mincom-5
192 Ann Street
Brisbane QLD 4000
Aurizon

13 December 2012

Dear Dean

Re: Analysis of Operating and Performance Risk Allowance

Attached is our report on the Operating Performance and Risk Allowance.

Yours sincerely

Mark Ingham
Director
Deloitte Access Economics Pty Ltd

Liability limited by a scheme approved under Professional Standards Legislation.

Member of Deloitte Touche Tohmatsu Limited

Deloitte.

Contents

1	Introduction	1
	1.1 Background	1
2	Economic rationale	2
	2.1 Current premise	2
	2.2 Conceptual framework	3
3	Regulatory precedents	7
	3.1 Overview	7
	3.2 Dalrymple Bay Coal Terminal	7
	3.3 Wiggins Island Coal Export Terminal	8
	3.4 Surat Basin Railway	9
	3.5 Sydney Desalination Plant	9
	3.6 Envestra	10
	3.7 Pacific National	12
	3.8 Summary of regulatory precedents	14
4	Options for Operating Margins	15
5	Conclusion	20
6	Limitation of our work	21
	General use restriction	21

Deloitte refers to one or more of Deloitte Touche Tohmatsu Limited, a UK private company limited by guarantee, and its network of member firms, each of which is a legally separate and independent entity. Please see www.deloitte.com/au/about for a detailed description of the legal structure of Deloitte Touche Tohmatsu Limited and its member firms.

Liability limited by a scheme approved under Professional Standards Legislation.

© 2012Deloitte Access Economics Pty Ltd

This is a draft document. As it is a work in progress it may be incomplete, contain preliminary conclusions and may change. You must not rely on, disclose or refer to it in any document. We accept no duty of care or liability to you or any third party for any loss suffered in connection with the use of this document.

1 Introduction

1.1 Background

Deloitte Access Economics (Deloitte) has been engaged by Aurizon to analyse the rationale for an operating margin to be included in the operating costs incurred by Aurizon Network to operate and maintain a user funded asset.

The approach that has been adopted in this analysis consists of the following steps:

- Identification of approaches and economic rationale to determining how an operating and performance risk allowance could be determined where the service provider's risks have increased as a result of contributed assets
- Review of relevant regulatory or commercial precedents for compensating a service provider for provided services with contributed assets
- Evaluation of the impact of the consequential changes on operating leverage to the service provider and to the Trust and the proportion of systematic risk attributable to operating leverage.

2 Economic rationale

2.1 Current premise

2.1.1 Aurizon Network 2010 DAU – QCA Draft Decision and their position on margins

Aurizon Network's Proposal

Aurizon Network has argued its maintenance contract with Aurizon Services is an alliance agreement, where risks are shared, and Aurizon Services is rewarded for achieving its targets. In 2009 Aurizon Network originally proposed a 15 per cent margin on maintenance costs to cover costs associated with an appropriate return on assets, corporate overheads, working capital and a margin for profits, incentives and contingencies. However the QCA rejected this in its 2009 draft decision, primarily because it considered that the maintenance contract had not been tendered and was with a related party – that is, the QCA was not confident that the proposed costs, with the margin, were efficient costs. Aurizon Network consequently proposed to reduce the margin and separate it into the following categories in its 2010 DAU:

(a) *Corporate overhead:* 5% – to cover services such as finance, employee relations, information technology, procurement costs and the activities of the chief executive

(b) *Working capital:* 0.75% – to cover the timing differences between cash outflows (e.g. wages) and cash inflows

(c) *Incentive/contingency (profit):* 5% – to provide Aurizon Services a profit incentive to meet forecasts, as Aurizon Services now bears the risk of not performing to expectations, and to provide a contingency should actual costs exceed estimates and

(d) *Incentives to invest:* 12% return on asset values – to give Aurizon Services an incentive to invest in maintenance assets such as on-track machinery[1].

QCA's Decision

In its June 2010 Draft Decision, the QCA:

(a) Accepted the 5.75% margin for corporate overheads and working capital but determined that it should only apply to direct labour costs

(b) Rejected the 5% margin for risk and profits. The QCA recognised that it might be reasonable for such a margin to be in a commercially negotiated alliance contract, however it did not consider it reasonable to have such a margin in a non-negotiated contract with a related party, and

(c) Substituted Aurizon Network's proposed 12% return on asset with the regulated WACC of 9.96%. QCA considered it reasonable for an alliance contract to contain a profit margin based on a rate of return on capital equipment and considered the regulated WACC to be appropriate.

[1] AURIZON Network's 2010 DAU - Tariffs and Schedule F, pp 76

These conclusions reflect the QCA's view that non-tendered arrangements with related parties should be costed on the same basis as if Aurizon Network had undertaken the work itself. In this situation, only the WACC would apply as there would be no additional risks that warranted compensation through any additional margin. As such, the inclusion of an operating risk/profit margin would not constitute an efficient cost.

Nevertheless, the QCA recognised that Aurizon Network would incur an increased share of Aurizon Limited's overhead costs, as its cost base would be larger with the inclusion of the costs now being incurred by Aurizon Services on its behalf[2].

2.2 Conceptual framework

2.2.1 The changing nature of regulated network businesses

The growing adoption of user funding arrangements poses unique challenges for both regulators and rail operators.

As a rail asset owner and operator operating under an access undertaking, Aurizon Network would typically be allowed to recover capital costs (i.e. the return on and depreciation associated with the assets it owns) and operating costs from its users. This is consistent with the regulatory regime which was developed at a time when regulated rail business owned and operated all their assets.

However, in recent times there has been an increase in user funding arrangements whereby third parties (including users) fund the expansion of rail assets, including shared network infrastructure. In these circumstances Aurizon Network does not own all of the assets that it operates and maintains and would not be entitled to recover any capital costs for those assets. This represents a significant shift in Aurizon's business operations and needs to be appropriately accommodated under the traditional regulatory regime and the user funding arrangements.

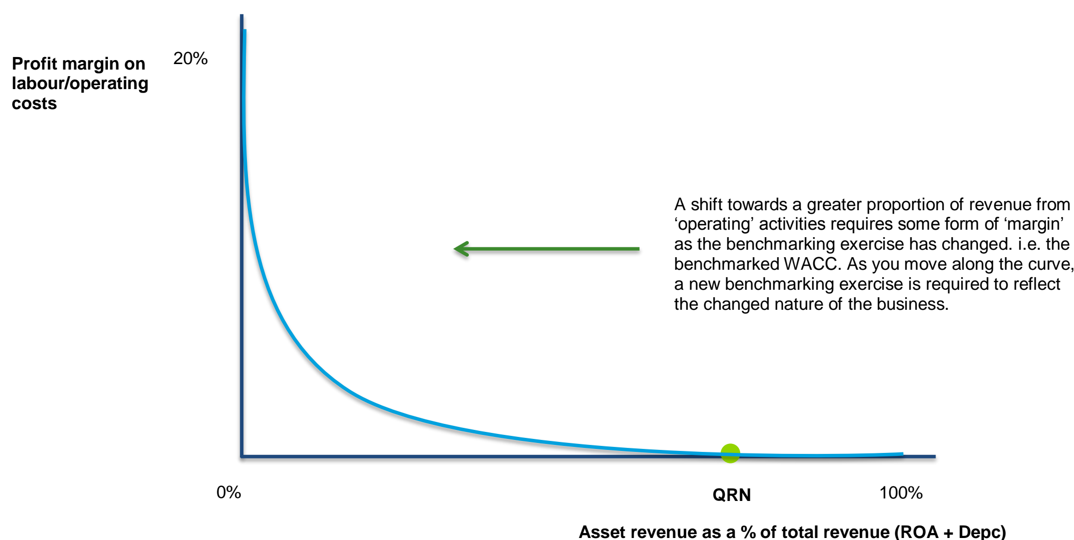
From the perspective of those assets which are subject to user funding arrangements, Aurizon Network shifts from being predominantly an asset based business that operates and maintains its own assets to being a purely service-based business whose product is the operation and maintenance of user funded assets. This presents new risks for Aurizon Network, as it needs to balance its resources between maintaining its own assets (for non-user funded users) as well as the user funded assets.

2.2.2 Theoretical perspectives on the need for operating margins

From a revenue perspective, the increased adoption of user funding arrangements means that Aurizon Networks receives a greater proportion of its annual regulated revenue allowance from operating and maintenance activities. In recognition of this, and the additional risk borne by Aurizon Network in changing to a more operating and maintenance based service provider, Aurizon Network should be allowed a return on its service product, being the provision of operating and maintenance activities.

The diagram below depicts this concept. It also brings to the fore an important consideration, being that the benchmarking activities used in determining an appropriate WACC value for Aurizon Network needs to recognise Aurizon Network's business profile. That is, benchmarking Aurizon Network against other network operators that derive most of their revenue from the recovery of capital costs is no longer appropriate.

[2] AURIZON Network's 2010 DAU - Tariffs and Schedule F, pp 76



There has been considerable analysis performed in recent years on the appropriateness of regulated network businesses charging a margin on operating and maintenance charges. In Dr Hird's report 'Critique of the AER's treatment of contractor's margins' he notes:

- In real world markets margins are paid to access the benefits of intangible assets – 'know-how', economies of scale and scope. Such matters are costly to develop or difficult to replicate. Intangible assets are of major significance to modern economies – for example Leonard Nakamura of the United States Federal Reserve Bank has argued that the annual investment in intangibles in the United States of America is over one trillion dollars a year.
- Clearly intangibles are of value, otherwise firms would not enter into contracts with the parties referred to in the NERA report. "*Firms acting rationally would only enter into the outsourcing contracts that are the subject of the NERA study (described above) if they believed that these contracts would lower their costs. Given that purchasers pay, on average, a margin of around 6% then it follows that they must expect the contractor to be able to lower costs by at least 6% relative to their own costs of providing the service in-house*."
- As such margins reflect a return on real investments/scare resources, contrary to the AER's conclusions they will not be competed away[3].

NERA was commission by Envestra to provide further justification for the inclusion of a network maintenance fee and incentive payments to APA, who is responsible for operating and maintaining Envestra's gas assets. Specifically, NERA noted that:

> … prudently incurred outsourcing contracts **will** generally include a margin on the contractor's directly incurred costs. Payment of such margins are consistent with predictions of economic theory and with observed good industry practice. The existence of such margins reflects:
>
> - The contractor's ability to provide the service at a lower cost than the purchaser could obtain elsewhere (for example, a return to the 'know how' of the contractor)
> - The required return on and return of physical and intangible assets employed by the contractor in the provision of the service
> - Efficiencies on the part of the contractor over the life of the contract (for example, where the contract allows some part of these to be retained by the contractor)

[3]Cited in Envestra's response to the AER's draft decision p.13

- The allowance required to meet the contractor's common costs
- The allowance required to self-insure against the asymmetric risks faced by the contractor[4].

2.2.3 Regulator's views on operating margins

Regulators have traditionally viewed regulated entities (such as Aurizon Network) as being predominantly asset-based and as such have considered that the firm's risks lie in the ownership, rather than the operation of those assets. For this reason, the revenue building block approach allows for a regulated return on capital (in recognition of the risk and corresponding return demanded by debt and equity holders), but has no provision for a return on operating expenses. The building block method therefore generates all the positive cashflows from asset charges, with the regulated return on capital (i.e. the WACC) based on the returns received by comparator firms with similar business models and risk profiles.

Strictly speaking, returns on operating costs are not prohibited, and in some specific instances margins for operational expenditure have been allowed to be recovered. However one of the key reasons that regulators have been reticent to allow regulated entities to recover costs associated with related party margins, or margins on operating costs more generally, is that the nature of these margins is not always transparent. This in turn makes the efficiency of these costs difficult to demonstrate. If a regulator were to approve these costs without first assessing their efficiency, then the regulator runs the risk that the overall revenues (and potentially returns) earned by the firm could be greater than that which a comparator firm would earn.

Put another way, if a regulator allows for the recovery of a margin paid to a related party, or the recovery of a margin on operating costs generally, the NPV of the revenue earned by the regulated entity will be above that derived using the traditional building block approach which assumes all operating costs are directly passed through to users at cost.

A regulated entity earning revenues (and potentially overall returns) that are greater than its comparators is not necessarily an issue in all instances. This is because the regulatory regime recognises that a hypothetical firm which is able to achieve greater than expected efficiency gains or greater market share through other means (such as innovation) should be entitled to receive higher returns than its competitors (at least in the short term). In a theoretical sense, this is consistent with what a non-regulated firm would experience.

However, a regulated entity is only allowed to retain higher than regulated returns *within* the regulatory period (i.e. if actual cost efficiencies were greater than forecast). If a regulated entity is able to demonstrate that it is likely to achieve efficiencies prior to the commencement of a regulatory period, then a regulator will seek to reflect this through lower prices to users.

Similarly, if a regulated entity argues that its operating (and hence risk) profile is such that it bears more risk than its comparators and that this risk needs to be compensated, then a regulator will seek a new set of comparator firms with similar operating and risk profiles to benchmark the firm against. In this way, the regulator would aim to prevent the firm from earning a higher return than its comparators by ensuring that the firm is benchmarked against appropriate comparators. This, in the regulator's view, would avoid the need for any additional margins aside from the WACC.

[4] http://www.google.com.au/url?sa=t&rct=j&q=aer%20envestra%202007%20nera%20outsourcing%20by%20regulated&source=web&cd=5&cad=rja&ved=0CDUQFjAE&url=http%3A%2F%2Fwww.erawa.com.au%2Fcproot%2F8526%2F2%2F20100507%2520D29662%2520DBNGP%2520Submission%25209%2520-%2520Attachment%252026%2520-%2520Outsourcing%2520By%2520Regulated%2520Businesses.PDF&ei=rTKGUP3PLNG0iQef5IHwDQ&usg=AFQjCNFjHlQ8k95Yk7zbqA1cyUjJlhpyqg, page vi
%20Benchmarking%20Study%20of%20Contractor%20Profit%20Margins%20(2002-2011).pdf, p6

2.2.4 Arguments for a margin

There is an important law in the reasoning set out above that is not addressed purely by benchmarking the firm against more appropriate comparator firms. The flaw is that regulators continue to assume that the regulated entity is predominantly asset-based, and the benchmarked margin would continue to be applied only to the entity's capital costs. Given that network businesses such as Aurizon Network will take on a greater service provision role in the future (and hence derive a greater proportion of their revenue from operating activities rather than asset investment), this regulatory approach will becomes less appropriate in the future. The application of an operating margin, in conjunction with an appropriate WACC for capital expenditure, better recognises and compensates the entity for the risk associated with moving to a more service-based business model.

As noted above, the building block method used to determine the maximum allowable revenue generates all the positive cashflows from asset charges. By comparison, the benchmark companies used to determine the appropriate WACC generate a positive cash flow from the margin achieved when their total revenues exceed their total costs (both capital and operating). These companies are therefore incentivised to minimise all costs (including the amortised cost of assets) to maximise returns from any given level of revenue. In these firms, assets are not directly linked to the revenue; rather they are linked to costs.

This is in stark contrast to regulated entities, which are highly incentivised to own and build assets because assets are directly linked to revenue. Under this business model:

- An option that results in higher operating costs but lower net cost does not provide any benefit to the regulated entity and is unlikely to be pursued if the higher cost alternative involves capital expenditure
- The regulated entity is incentivised to outsource operations and maintenance activities to minimise the regulatory risk associated with proving to the regulator that its costs are efficient.
- The operating and maintenance cost functions are incentivised to be managed on a cost pass through basis internally as they do not provide any obvious return to the business. Activities which increase cost but save capital expenditure will be discouraged as they do not offer any obvious benefit to the organisation
- Where a regulated organisation has significant internal resources for operating and maintenance activities there is the potential for a windfall gain to the regulated entity to the extent they are able to sell these businesses to a third party even if the long term implication of this approach may be an increase in total costs
- While a shortcoming of the current regulatory regime is that a return cannot be earned on the provision of operating and maintenance activities, a regulated business still has an incentive to operate or maintain and an asset that it does not own but forms part of the integrated asset that they operate. This is because the business retains all of the operational risks associated with operating an integrated asset
- There is the potential for cross-subsidisation between internal business units. This could pose regulator risks for the network business as regulators will more closely scrutinise the efficiency of forecast expenditure and costs associated with each internal business unit
- Limited or no incentive to pursue dynamic efficiency improvements through innovation as costs incurred in research and development represent an asymmetric and typically uncompensated risk that can be avoided (contrary to the objective of the pricing objectives of the Competition Principles Agreement that prices provide incentives for efficiency)

None of these factors are consistent with those of the non-regulated companies that are used to determine the benchmarked WACC that is used to derive the regulated businesses maximum allowable revenue. This suggests that relative to benchmarked companies the application of the benchmarked WACC to the total asset values distorts the value of assets to these companies. The extent of the distortion will depend on:

NPV of post-tax margin above operating costs = benchmarked ratio between business value and business revenue for a service industry

Interestingly, clause 44W(1)(e) in Part IIIA of the Competition and Consumer Act (2010) requires that the ACCC must not make a determination that would require the provider (i.e. Aurizon Network) to bear some or all of the costs of extending the facility or maintaining extensions of the facility. This suggests that it is appropriate that users pay the full cost of maintaining the user funded asset (effectively an incremental opex cost) or, where the calculation of this maintenance cost cannot be determined with sufficient accuracy, that a margin be levied to compensate for the additional risks and costs associated with maintaining the user funded assets.

In addition to these arguments, there is a body of regulatory precedent which supports the inclusion of an operating margin in the rail and other industry sectors. These precedents, and their relevance to Aurizon Network, are explored further in Chapter 3 of this report.

3 Regulatory precedents

3.1 Overview

To further assess the rationale for the inclusion of a margin on operating costs, a desktop review has been undertaken to identify any relevant regulatory and commercial precedents that have considered the issue relating to compensation for an operator providing services with contributed assets.

The desktop review has included a review of publicly available decisions by regulators within Australia. The following cases have been included in the review:

- Dalrymple Bay Coal Terminal
- Wiggins Island Coal Export Terminal
- Surat Basin Railway
- Sydney Desalination Plant
- Envestra
- Pacific National

Each of these cases is discussed in further detail below. A review has also been undertaken of the Victorian Rail Access Pricing Guidelines.

3.2 Dalrymple Bay Coal Terminal

3.2.1 Description

The Dalrymple Bay Coal Terminal (DBCT) Management subcontracts the maintenance of the terminal to DBCT Pty Ltd – the terminal operator which is owned by six of the mine users at the

terminal (however there are other users that do not have a financial interest in the terminal operator).

The Terminal's operating and maintenance costs are ultimately recovered from the users by a pass through model, meaning the costs incurred initially by the terminal operator are recovered plus a margin of 10% of operating costs from DBCT Management. In turn, DBCT Management recovers these costs from users by the existing Customer Agreements.

3.2.2 Relevance for Aurizon Network

While the QCA accepted the profit margin on operating activities as specified in its Final Decision on DBCT's Draft Access Undertaking 2004, the relevance for Aurizon Network is moderate. To understand why this is the case, the QCA's decision must first be considered in the context of the ownership of DBCT Pty Ltd. Given that:

- DBCT Pty Ltd is owned by users who have voluntarily chosen to be shareholders of DBCT Pty Ltd,
- All users (including those that are shareholders of DBCT Pty Ltd) will pay for the profit margin through the operating charges,

the operator's margin is ultimately returned, if not to all users, to users who are shareholders of DBCT Pty Ltd.

To the extent that there are users that do not have a financial interest in the terminal operator, this precedent does bear some similarity to the SUFA arrangements, because users under the SUFA do not have the ability to be shareholders in Aurizon Network and hence there is no way that the profit margin on operating activities will be returned to users. In coming to its decision, the QCA would have had regard for this in approving the profit margin on Aurizon Network's operating activities. However, it is important to note that six of the DBCT terminal users (who have a financial interest in the terminal operator) would ultimately have the operator margin returned to them and it is likely that that the QCA approved the operating margin on this basis.

3.3 Wiggins Island Coal Export Terminal

3.3.1 Description

The Wiggins Island Coal Export Terminal (WICET) project is financed and owned by industry users rather than by third party investors with the Gladstone Ports Corporation (GPC) operating the terminal for WICET under a Terminal Operating Agreement. WICET operates under a cost recovery model and as such does not earn a profit on the charges that it levies users. Instead, WICET aims to set charges such that the expected revenue is sufficient to meet the expected costs in the provision of services[5].

3.3.2 Relevance for Aurizon Network

The relevance for Aurizon Network would be strong, because the relationship between user funded users and Aurizon Network is similar to the relationship between WICET and GPC. However, at the time of preparing this report, we have not been able to access the Confidential Framework Deed and as such we are unable to comment on the agreed terms or any allowed operating margin for the provision of GPT's operating and maintenance activities to WICET.

[5] http://www.wicet.com.au/assets/docs/WICET%20Terminal%20Access%20Policy%2024%20May%202010.pdf, pg 29-32

3.4 Surat Basin Railway

3.4.1 Description

The Surat Basin Railway project is the first private rail development in Queensland in which the proponent is an investor, rather than a railway manager. This joint venture project is funded by three partners which includes Aurizon, Xstrata Coal and ATEC Rail. Surat Basin Railway will also operate and maintain the rail assets funded by the private investors.

3.4.2 Relevance for Aurizon Network

The relevance for Aurizon Network is moderate, because the Xstrata (a user) also has an interest in the Surat Basin Railway. Similar to the DBCT precedent, if operating margins were recovered from users (i.e. Xstrata and any other subsequent users who may become investor in the future) for the operation and maintenance of the Surat Basin Railway, these costs would ultimately be returned to those users.

At the time of preparing this report, we understand that a margin on the provision of operation and maintenance services has been developed however the value of the margin is not publicly known. Nevertheless, this is of relevance for Aurizon Network because there is a similar separation between the ownership and operating functions and the outsourcing of operating and maintenance activities has been tendered through competitive process.

3.5 Sydney Desalination Plant

3.5.1 Description

The Sydney Desalination Plant is currently operated and maintained by Veolia Water Australia Pty Ltd (Veolia) contracted under Sydney Desalination Plant Pty Ltd (SDP), which is a wholly owned subsidiary of Sydney Water. In return for the operator's services, SDP makes monthly service fee payments to the operator, with these service fees calculated in accordance with formulae set out in the Operation and Maintenance Contract. Under the contract, payments include variable costs that relate to the cost of treating water, fixed costs that do not vary with the volume of the water produced and an energy efficiency adjustment which depends on whether Veolia exceeds or does not meet a contracted energy efficiency target. Moreover, the contract specifies a safety incentive mechanism where Veolia will be rewarded for outstanding safety performance and penalised otherwise. Veolia is also entitled to earn a profit margin on its operations of the plant.

3.5.2 Relevance for Aurizon Network

This case is strongly relevant in determining OPRA. The division of costs between fixed and variable reflects the contractual arrangements between SDP and Veolia. This is also identical to IPART's treatment of the costs for the existing water treatment plants. The current approach on SDP's operating and maintenance cost forecast is thus accepted by IPART. Therefore, Aurizon Network will need to keep in mind how the costs are divided up between the operator and Aurizon Network as QCA will likely use this case as one of the references for the cost division methodology. The QCA is also likely to look must more favourably on any proposed margin if, at least a portion of it were linked to specific performance metrics.

3.6 Envestra

3.6.1 Description

Envestra owns gas distribution infrastructure in Victoria, Queensland and South Australia, and outsources the management of these assets to APA Group (APA group has around a 33 per cent interest in Envestra). Envestra pays a Network Management Fee (NMF) and makes Incentive Payments to APA Group under an Operating and Maintenance Agreement (OMA) for the maintenance of its gas infrastructure (this is akin to an operating margin), and Envestra sought for these costs to be recovered from its customers as part of its 2011 Access Arrangement.

It is important to note that the OMA has been in existence since 1999 and Envestra did not enter into the OMA through a competitively tendered process. The OMA was originally agreed with Origin Energy but was novated to APA in 2007 with substantially the same terms as the original agreement.

3.6.2 Relevance to Aurizon Network

There is some relevance for Aurizon Network because:

- The AER consistently rejected Envestra's proposal to recovery Incentive Payments from its customers, but allowed Envestra to recover the NMF from its Victorian gas distribution access users
- APA has a financial interest in Envestra, which would ultimately result in the NMF and Incentive Payments paid to APA being returned to Envestra

Whilst a similar relationship between Envestra and APA does not exist between Aurizon Network and user-funded users, the regulatory implications for the AER's decision warrant further consideration.

The AER's Decision

As noted above, the AER did not accept Envestra's case for recovery of an Incentive Payments paid to its network operator APA Group, but did allow the NMF to be recovered for the Victorian gas distribution business in its draft decision of September 2012.

In its 2011 Access Arrangement submissions to the AER for its South Australian and Queensland networks, Envestra provided the following justifications of the appropriateness and efficiency of these costs:

- The capital and operating expenditure based incentive mechanisms are designed to encourage APA to pursue real reductions in controllable costs and connection costs on an ongoing basis. When coupled with the cost pass-through mechanism, this incentive mechanism ensures that efficiency gains are passed through immediately to Envestra via lower operating costs and to users at the next regulatory reset, and
- The NMF, which in combination with the operating and capital expenditure based incentive mechanism and the cost pass-through mechanism outlined above, is designed to align APA's incentives with Envestra's joint objective of minimising costs and maximising revenue.

More recently, in its Access Arrangement submissions to the AER for its Victorian network, Envestra asserted that the NMF was consistent with the National Gas Rules because outsourcing enables Envestra to obtain significant scale and scope efficiencies and were Envestra not to pay the NMF, it would not be able to access these efficiencies (the alternative being to undertake all operating activities in-house at greater cost)[6].

[6] http://www.aer.gov.au/sites/default/files/Envestra_0.pdf, p 102

Further insight into the purpose of the NMF can be found in the following extracts taken from the Australian Competition Tribunal's (Tribunal) *Application by Envestra Limited (No. 2)* [2012] ACompT 3:

> "…the NMF was a payment required to access the management services of APA."
> "… the NMF is not a one-off cost to improve the efficiency of the management of the network. It is a fee that must be paid every year in order to have access to the efficiencies offered by APA. If the NMF is required to be paid in one year in order to access the efficiencies provided by APA, unless circumstances change, the NMF will have to be paid in the following year, and the year after, in order to ensure APA continues to manage the network. APA may well refuse to operate the network if Envestra ceased paying the fee. In this sense, it is not appropriate to think of the NMF as a once-off efficiency improving mechanism[7].

For the South Australia and Queensland submissions, Envestra put forward the arguments proposed by NERA (as set out earlier in this report) in support of recovering a margin in the form of the NMF and the incentive payments. For the more recent Victorian submissions, Envestra provided a March 2012 NERA report "Benchmarking study of contractor profit margins (2002–2011)" which compared the margins paid by Envestra to the APA Group to margins earned by comparable entities, using EBIT divided by Revenue as the earnings margin

For the South Australian and Queensland submissions, the AER considered the arguments put forward at that time but nevertheless decided not to approve the recovery of these costs from Envestra's customers. The AER was concerned about the relationship between Envestra and APA Group and considered that:

- Envestra's outsourcing agreement with the APA Group could not be presumed to reflect efficient terms due to the lack of competitive testing
- Further assessment of the agreement's terms and their rationale revealed that the margins were not proposed to recover costs that the AER considers legitimately recoverable under the opex forecasts under the National Gas Rules and Law
- Allowing the margins within the regulatory allowance forecasts would indefinitely withhold from consumers the benefits of derived efficiencies, which is contrary to the national gas objective[8].

However for the Victorian submissions, the AER took a different stance in its assessment of margins in the context of outsourcing arrangements. The AER was could not automatically assume that the OMA was prudent and efficient because the OMA was not tendered on a competitive basis and it was not clear whether Envestra had an incentive to agree to non-arm's length terms.

In assessing the efficiency of the costs and margins associated with the OMA, the AER noted that:

> "One consideration of whether the forecast costs incurred via the outsourcing arrangement with the APA Group are efficient is whether earning the margin above costs is efficient. The AER considers a margin is efficient if it is comparable to margins earned by similar providers in competitive markets"[9]

[7] NERA Economic Consulting 2012, p.4
[8] http://www.aer.gov.au/sites/default/files/Access%20arrangement%20final%20decision%20-%20Envestra%20(SA)%20-%20June%202011.pdf, p.xii
[9] http://www.aer.gov.au/sites/default/files/Envestra_0.pdf, p105

To this end, the AER assessed the March 2012 NERA report, which found that the NMF and incentive payments were comparable to the estimated margins of the businesses selected by NERA as part of the benchmark analysis. The AER accepted this, but expressed concern that comparing EBIT margins would not necessarily be a “like for like” comparison as the margins may be used by the comparator businesses for different purposes (i.e. for recovery of overheads and return on assets). This, combined with the large volatility in the range of margins and variances between terms and price structures meant that the AER placed less weight on the NERA report in its assessment of the efficiency of the NMF.

The AER subsequently compared the performance of Envestra to other gas distribution businesses to get a sense of whether Envestra's historical opex costs are efficient and prudent. The benchmarking exercise, which used Total Factor Productivity (TFP), Partial Factor Productivity (PFP) and Partial Productivity Indicators (PPI) as the comparison measures, revealed that the relative productivity of Envestra was reasonable when compared to other similar providers, and the AER concluded that Envestra's proposed base year opex (inclusive of the NMF) was relatively efficient. The AER summarised its conclusions on the basis that:

- While noting the limitations of the benchmarking study submitted by Envestra about the benchmarking of margins, it suggests the margin is not inconsistent with industry practice.
- Benchmarking studies using TFP, PFP and PPI suggests that Envestra's performance, while it has not improved substantially since the mid-2000s, appears reasonable when compared to other gas distribution service providers[10].

This means that in the absence of competitive testing and benchmarking with comparable service providers, merely stating to a regulator that certain services are outsourced and therefore the associated costs and margins must be efficient is not enough evidence of efficiency.

If the QCA were to take the same mindset as the AER in assessing the appropriateness and efficiency of the profit margin on operating activities, then Aurizon Network will need to clearly demonstration how the margin is consistent with the allowable operating costs set out in the applicable regulatory instruments. Aurizon Network will therefore need to be highly transparent on what costs the margin actually recovers and will need to extend this level of transparency to the terms of the operating and maintenance arrangements under the SUFA. Specifically, Aurizon Network will need to show (via benchmarking or some other suitable means) how these arrangements reflect the most economically efficient arrangements in Aurizon Network’s circumstances.

3.7 Pacific National

3.7.1 Description

Pacific National was the track manager for the intra-state country rail network in Victoria up to the end of 2006 and was regulated under the Victorian Rail Access Regime (administered by the Essential Services Commission (ESC)) through an Access Arrangement with respect of this network.

In its draft access arrangement submissions to the ESC, Pacific National proposed an operating margin of 10% of operating costs, but the ESC in its Draft Decision reduced this allowance to 8% of operating costs.

In response to the Draft Decision, Pacific National revised its operating margin to 14% of operating costs but provided no reasons or supporting information to justify the increase. The ESC again rejected Pacific National’s proposed operating margin in the Final Decision, leaving the operating margin at 8% of operating costs as per its Draft Decision.

The ESC went further to tie the operating margin to service quality standards by deciding that should

[10] http://www.aer.gov.au/sites/default/files/Envestra_0.pdf, p112

PN fail to meet its obligations to access seekers through the regulatory period in relation to network service quality standards, the ESC would look to the reduce or eliminate the operating margin in subsequent regulatory periods.

No return on assets was allowed for assets built prior to April 1999 under the Victorian Rail Access Regime. Consequently, the ESC deemed an operating margin of 8% of operating costs necessary to provide an incentive for Pacific National to manage its network where its assets were not included in the RAB. In this way, the operating margin is not in addition to a return on assets that would normally be included in the revenue building block calculation. This is also reflected in the provisions of Appendix B of the Victorian *Rail Access Pricing Guideline Draft V.2.0 (April 2009)* that relate to other non-capital costs. This section is reproduced below:

> *The [ESC] will permit an allowable margin to provide incentives associated with operating and managing the pre-30 April 1999 assets where it incurs specific costs and risks not otherwise factored into the cost benchmarks.*
>
> *The access provider will need to set out precisely how it has determined the proposed allowable margin, and to justify the parameter values applied in terms of benchmarking to margins for operating and managing similar infrastructure assets, and having regard to the specific costs and risks incurred by the access provider which this margin covers, taking account of the mitigation of risk arising from the efficiency carryover and 'unders and overs' adjustment mechanisms, and other relevant features of the pricing framework.*

3.7.2 Relevance to Aurizon Network

The Pacific National precedent is of particular relevance to Aurizon Network. This is because:

- Pacific National also operates in the Australian rail sector
- The ESC approved the inclusion of an operating margin, and tied this to Pacific National's service performance
- The exclusion of assets built prior to April 1999 from the RAB is potentially analogous to user funded assets. Similar to the SUFA user funded assets, these assets did not earn a return on or depreciation allowance despite Pacific National still being obliged to incur the cost and risk associated with operating and maintaining those assets

It is worth noting that the ESC recognised that Pacific National, as the operator and manager of the rail network, faced three categories of cost and risk:

- Operating cost risk
- Revenue risk
- A working capital requirement

The ESC also noted the following precedent for operating margins in other industry sectors at the time:

- According to information made available by the Australian Infrastructure Fund, the operator of Melbourne Airport (Australia Pacific Airports (Melbourne) Pty Ltd) receives a management fee equal to 5% of total aeronautical and non-aeronautical revenue. Of note in this instance is that Australia Pacific Airports Corporation Limited , which owns the Melbourne Airport assets, also has a controlling interest in the airport operator
- The ARTC applied an operating margin of 8% (subject to performance) for managing rail infrastructure owned by others in at least one other jurisdiction. This margin is applied to all operating and maintenance costs including allocated corporate overheads

- Agility receives a management fee equal to 3% of revenue for operating certain gas pipelines
- The ESC was advised that outsourced rail infrastructure maintenance and renewal alliance contracts typically involve a fee of 4-6% after general and administration costs[11]

This suggests that, based only on regulatory precedent, an operating margin of up to 10% of operating costs could be recovered. However, the regulatory precedent also shows that regulators have also allowed management fees (akin to an operating margin) of up to 5% of total revenue.

For a business that earns revenue from both its assets and operating activities (such as Aurizon Network), it is appropriate that an operating margin be applied to the operating costs only and not determined as a percentage of total revenue. The percentage of total revenue approach would be more applicable to a business that derived all of its revenue from operating activities. However, there is an inherent level of complexity in estimating the operating costs to which the margin will apply. It is difficult to accurately estimate the annual cost associated with maintaining just the user funded assets. As such, the operating margin should be applied to the average annual cost of maintaining the existing network on a $ per GTK basis, with this in turn applied to each user based on the length of the user funded track and tonnage as appropriate. Applying this margin to the average operating costs for all users is appropriate because Aurizon Network bears the costs and risks associated with operating and maintaining all assets, not just the additional SUFA funded assets.

The following chapter sets out possible methods for more accurately determining a value for the operating margin.

3.8 Summary of regulatory precedents

There are a number of relevant regulatory precedents where a margin has been allowed in the operating cost. A summary of the cases that have been review is shown in **Table 3-1**. In a number of cases the operating margin is commercially sensitive. However, the generally accepted operating margin is around 3-8 per cent (Essential Services Commission, pp 92).

Table 3-1: Summary of Regulatory Precedents

Dalrymple Bay Coal Terminal	10%	Accepted by the QCA
Wiggins Island Coal Export Terminal	n/a	Commercially negotiated contract
Surat Basin Railway	n/a	Commercially negotiated contract
Sydney Desalination Plant	n/a	Accepted by IPART
Envestra	n/a	Not approved by AER
Pacific National	8%	Approved by ESC

Source: various

[11] ESC 2006, p 92

4 Options for Operating Margins

4.1.1 Asset Beta and Systematic Risk

Before discussing options for establishing an appropriate operating margin, it is worth understanding the nature of risks faced by a network business in an economic sense. Broadly speaking, there are two forms of risk, being:

- Systematic Risk – this is risk which cannot be mitigated through diversification and is generally faced by all firms in the market
- Non-systematic Risk - this is which can be mitigated through diversification and is specific to the firm or to firms of a similar nature

An important means of assessing an asset's exposure to systematic risk (and hence an appropriate margin that is commensurate with this risk) is the asset beta. The asset beta measures the correlated volatility between an asset and a benchmark, where the benchmark is determined based on comparable firms in the market. Asset betas vary with the volatility of free cash flows and are driven by sensitivity to the economy and operating leverage.

In the case of Aurizon Networks, there are two cash flow scenarios or models that must be considered, being:

- The cashflows of an asset owner such as AurizonN that also operates the assets and bears the associated risks of this operation
- The cashflows of an asset owner such as the user funders who do not bear the operation risks and derive 100% of their revenue from asset charges

To the extent that the different models generate different cash flows, then the two models may give rise to different asset betas. The model which has cash flows exhibiting less correlation with the market-derived benchmark and lower operating leverage will have the lower beta. Operating leverage is a measure of fixed costs to total costs. For example, a company with a high proportion of fixed costs is said to have a high operating leverage, and subsequently, a more volatile earnings profile.

4.1.2 Developing an appropriate margin

Two options have been developed for the purposes of recovering an opex margin for the opex associated with operating and maintaining the user funded assets, being:

- Option 1, which involves levying an operating margin and reduce the asset beta
- Option 2, which reducing the asset payments to the user funded users in lieu of an opex margin

Both options yield the same outcomes from a user funded user's perspective but provide Aurizon Network with different means of recovering the opex margin. These options are discussed below.

Option 1

Option 1 involves:

- Levying an operating margin on the user funded users, payable to Aurizon Network under the SUFA arrangements
- Reducing the asset beta and hence the expected rent payable by the user funded users to the Unit Trust under the SUFA arrangements
- No changes to the asset payments paid to user funded users under the SUFA arrangements
- No changes to the tariffs paid by non-user funded users to Aurizon Network

Option 2

Option 2 involves:

- No changes to the tariffs paid by user funded users to Aurizon Network under the SUFA arrangements
- No changes to the expected rent payable by the user funded users to the Unit Trust under the SUFA arrangements
- Reducing the asset payments paid to user funded users under the SUFA arrangements
- No changes to the tariffs paid by non-user funded users to Aurizon Network

The magnitude of the reduction to the asset payment is equal to the value of the operating margin as defined in option 1 (and is calculated in the same manner).

$$Asset\ Payment\ Reduction = RAB \times (1-\theta)[(R_m - R_f)]\left(\frac{E}{V}\right)\beta_E$$

For both options, the reduction to the expected rent or the asset payment is based on a reduction to the asset beta (relative to the regulated used in the return on asset calculation for the user funded users. The value of the operating margin is equal to the magnitude of the reduction to the expected rent.

The reduction in the asset beta is in recognition of the lower risk associated with the user funded assets which have been incorporated in the Aurizon Network asset base. The asset risk is lower because:

- Aurizon Network bears little to no asset stranding risk
- Aurizon Network bears little to no volume risk
- Aurizon Network bears little to no funding risk as users guarantee funding to the equivalent of 100% of the target cost

Benchmarking would need to be performed to determine an appropriate asset beta that recognises the lower asset risk, and the outcomes of this benchmarking would need to be demonstrated to the QCA.

However under the user funding arrangement Aurizon Network now assumes the role of asset operator and maintainer for those assets and as such faces additional resourcing risks associated with having to operate and maintain user funded assets as well as non-user funded assets. A margin on the average opex associated with operating and maintaining user funded assets is appropriate to compensate for this additional risk. Benchmarking would need also to be performed to determine an appropriate opex margin that is commensurate with a rate of return for businesses that are essentially service focused and earn very little income from tangible assets.

As well as performing the benchmarking exercise, appropriate regard needs to be had for the regulatory precedent, which suggests a range of margins up to 10% of operating costs.

In considering regulatory precedents, it is worth noting that a range of margins were presented in the March 2012 NERA report "Benchmarking study of contractor profit margins (2002–2011)". This report considered a range of Australian comparator firms that providing services to network infrastructure assets (gas pipelines, electricity networks, water distribution, rail networks and telecommunication networks). The report identified that the 95% per cent confidence interval for the benchmark EBIT margin of these firms lay between 4.8%-6.4%.

Whilst the use of the lower bound of the EBIT margin range (i.e. 4.8%) may be considered to be the floor value of the market entry incentive fee required to entice a service provider into the market, it is important to note the AER's concern in the Envestra Victoria gas distribution Draft Decision that comparing EBIT margins would not necessarily be a "like for like" comparison as the margins may be used by the comparator businesses for different purposes (i.e. for recovery of overheads and return on assets). Aurizon Network could adopt 4.8% of operating costs to be the lower bound for an operating margin, but would need to provide significant evidence of how the recovery of operating costs for SUFA funded assets are similar to the earnings of the comparator firms considered by NERA.

Development of method for setting the minimum operating margin

Regardless of the outcome of the benchmarking exercise, Aurizon Network should ensure that the opex margin always recovers *at least* the value of the reduction in the return on assets that results from reducing the asset beta. If it does not, then Aurizon Network would be in a less favourable position than if it funded the asset itself and earned the regulated WACC on those assets.

It is therefore important that a process for calculating this minimum margin be determined. The follow section sets out the methodology for calculating the minimum opex margin by setting the opex margin such that it exactly recovers the reduction in the return on assets as a result of the lower asset beta.

However, while it is unlikely that benchmarked opex margin would be lower than the minimum opex margin, it would be difficult to argue to a regulator that the minimum opex margin is efficient and should be applied if the benchmarked margin is in fact lower than the minimum opex margin. In this situation, the regulator would seek to apply the benchmarked (i.e. lower) margin and Aurizon Network would need to demonstrate why it is sufficiently different from the benchmarked firms to support an argument that a higher opex margin is efficient.

The remainder of this section sets out the mathematical reasoning behind the minimum opex margin calculation. This proposed methodology ensures that the opex margin always recovers *at least* the value of the reduction in the return on assets that results from reducing the asset beta

The formal definition of asset beta is expressed as follows:

$$\beta_A = \frac{E}{E + D(1-T)}\beta_E + \frac{D(1-T)}{E + D(1-T)}\beta_D$$

Typically, the debt beta is very small, and as such has been set to zero for the purposes of this analysis:

$$\beta_A = \frac{E}{E + D(1-T)}\beta_E$$

Let the reduction to the asset beta in recognition of the lower risk associated with the user funded assets be defined as follows:

$$\beta_{A\ Reduced} = \frac{\theta E}{E + D(1-T)}\beta_E$$

Where θ is the percentage reduction in the asset beta relative to the asset beta of the non-user funded assets. θ is a positive number less than or equal to 1.

The formal definition of the equity beta (under the CAPM model) is expressed as follows:

$$\beta_E = \left(1 + \frac{D}{E}(1 - T)\right)\beta_A$$

Hence the reduced equity beta in recognition of the lower asset beta is expressed as:

$$\begin{aligned}
\beta_{E\ Reduced} &= \left(1 + \frac{D}{E}(1 - T)\right)\beta_{A\ Reduced} \\
&= \left(1 + \frac{D}{E}(1 - T)\right)\frac{\theta E}{E + D(1 - T)}\beta_E \\
&= \left(\frac{E + D(1 - T)}{E}\right)\frac{\theta E}{E + D(1 - T)}\beta_E \\
&= \theta\beta_E
\end{aligned}$$

The reduction in the return on asset revenue building block for user funded users directly as a result of the reduced asset beta is expressed as follows:

$$\begin{aligned}
\Delta ROA &= ROA_{Original} - ROA_{Reduced\ Beta} \\
&= WACC \times RAB - WACC_{Reduced} \times RAB \\
&= RAB \times \left(\left[R_f + \beta_E\left(R_m - R_f\right)\right]\left(\frac{E}{V}\right) + R_d\left(\frac{D}{V}\right)\right) - RAB \\
&\quad \times \left(\left[R_f + \beta_{E\ Reduced}\left(R_m - R_f\right)\right]\left(\frac{E}{V}\right) + R_d\left(\frac{D}{V}\right)\right) \\
&= RAB \times (\beta_E - \beta_{E\ Reduced})\left[\left(R_m - R_f\right)\right]\left(\frac{E}{V}\right) \\
&= RAB \times (\beta_E - \theta\beta_E)\left[\left(R_m - R_f\right)\right]\left(\frac{E}{V}\right) \\
&= RAB \times (1 - \theta)\left[\left(R_m - R_f\right)\right]\left(\frac{E}{V}\right)\beta_E
\end{aligned}$$

The operating margin (expressed as percentage of opex) is determined such that the reduction in the return on asset revenue building block is equal to value recovered by the opex margin as follows:

$$Opex \times (\%Margin) = RAB \times (1 - \theta)\left[\left(R_m - R_f\right)\right]\left(\frac{E}{V}\right)\beta_E \times 100\%$$

$$\%Margin = \left(\frac{RAB \times (1 - \theta)\left[\left(R_m - R_f\right)\right]\left(\frac{E}{V}\right)\beta_E}{Opex}\right) \times 100\%$$

4.1.3 Evaluating Theta

There is no direct means for calculating theta as theta represents the relative change in asset beta that occurs when shifting from a highly asset-based business model towards a more service-based model.

Hence deriving a value for theta requires selecting comparable service-based firms and determining the asset beta using those comparator firms, then dividing the result by the current asset beta being used by Aurizon Networks in its regulated WACC.

This method will effectively determine a "starting point" for the value of theta. Given that the selection of comparable service-provider firms is unlikely to exactly align with Aurizon Networks' operating and risk profile, there is likely to be considerable variance in the value of theta. One possible method of dealing with this variation is to determine values of theta using different groups of comparators (i.e. firms grouped by industry sector, size and geographical spread, etc) and then calculating a weighted average of the results. The weightings would depend on the relative levels of importance or relevance that Aurizon Network places on the groupings and this could act to mitigate the variance inherent in choosing a wide selection of comparator firms.

5 Conclusion

Under the user funding arrangement Aurizon Network assumes the role of asset operator and maintainer for assets which is does not own. A margin on the average opex associated with operating and maintaining the user funded assets is appropriate to compensate for this additional risk.

Regulatory precedent suggests that the upper bound for an operating margin would be 10% of operating costs (based on the operating margin allowed for the DBCT). A lower bound of 4.8% of operating costs (based on the NERA report of March 2012) could be adopted for the operating margin, however regulatory precedent suggests that Aurizon Network would need to provide significant evidence of how the recovery of operating costs for SUFA funded assets are similar to the earnings of the comparator firms considered by NERA in determining the value of 4.8%. The final value will depend on a benchmarking exercise that would focus on differences in the nature of maintenance work between the gas and rail sector where the majority of the benchmarks have been developed.

Regardless of the outcome of the benchmarking exercise, Aurizon Network should ensure that the opex margin always recovers *at least* the value of the reduction in the return on assets that results from reducing the asset beta. If it does not, then Aurizon Network would be in a less favourable position than if it funded the asset itself and earned the regulated WACC on those assets.

6 Limitation of our work

General use restriction

This report is prepared solely for the internal use of Aurizon Network. This report is not intended to and should not be used or relied upon by anyone else and we accept no duty of care to any other person or entity. The report has been prepared for the purpose set out in our engagement letter dated 26 September 2012. You should not refer to or use our name or the advice for any other purpose.