



QRC submission – part 2

QCA Consultation Paper
UT5 maintenance issues

20 June 2018

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Resourcing Queensland's future

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(submitted via QCA online submission form)

Dear Mr Millsteed

Charles

The Queensland Resources Council (**QRC**) provides this submission on behalf of its Rail Working Group members to the Queensland Competition Authority (**QCA**) in response to the QCA consultation paper on 'Aurizon Network's 2017 draft access undertaking: maintenance allowance and practices' (**Consultation Paper**).

On 1 June 2018, the QRC provided the first part of its submission on the Consultation Paper, which addressed the QCA's comments on the maintenance cost allowance (Item 1.1 and 1.2 of the Consultation Paper). This submission addresses the balance of the Consultation Paper, being principally the changes to the access undertaking that have been necessitated by Aurizon Network's maintenance practices.

The QRC's coal producer members remain deeply concerned about the ongoing impacts of Aurizon Network's changed operation and maintenance practices.

Aurizon Network has consistently claimed these changes were required to align its operation and maintenance practices with the QCA's draft decision. As has been confirmed by the Consultation Paper, this is a deliberate and total misrepresentation of that draft decision.

Aurizon Network's claim that the retrospectivity of any QCA final decision justifies its decision to implement changed practices immediately and without any industry consultation fails to acknowledge the role Aurizon Network has itself played in resisting and delaying the UT5 regulatory process (largely caused by significant delays by Aurizon Network during the UT4 regulatory process). For example, Aurizon Network only submitted the first draft of UT4 60 days before the expiry of UT3 and the commencement of the UT4 regulatory period.

In the QRC's submission dated 20 April 2018, the QRC highlighted a number of significant impacts of Aurizon Network's behaviour. In the time that has elapsed since the QRC provided this submission, there has been no abatement of Aurizon Network's poor conduct. Aurizon Network, through its inflexible maintenance regime, is continuing to reduce the number of useable train services, erode customer confidence and diminish the international reputation of the Queensland coal industry.

Aurizon Network has demonstrated a willingness to pursue a higher regulatory outcome in relation to revenue with complete disregard of the cost to industry and the state.

The QRC reiterates that it is wholly supportive of the regulatory process. Specifically, the QRC welcomes the QCA's initiative to consult on the introduction of robust accountability mechanisms into Aurizon Network's 2017 Draft Access Undertaking (**UT5**) that will prevent the reoccurrence of Aurizon Network's unilateral, monopolistic and damaging conduct.

It is the industry's view that the introduction of such accountability mechanisms are critical to ensuring the effective operation of, and open access to, this monopoly infrastructure asset into the future. To date, Aurizon Network has demonstrated a complete disregard for its customers and the regulatory process in responding to the QCA's draft decision.

As outlined above, the QRC is wary of Aurizon Network's demonstrated history of resisting and delaying regulatory processes. The QRC is hopeful that on this occasion Aurizon Network will engage constructively with the QCA and provide it with the additional information it requires to reach an informed final decision on UT5. The QRC offers its full support to the QCA as it continues to progress towards this decision.

Thank you for the opportunity to provide a submission. If you have any questions about this submission, please contact Andrew Barger at QRC on 3316 2502 or andrewb@qrc.org.au.

Yours sincerely



Ian Macfarlane
Chief Executive

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1 Background

This submission is provided by the Queensland Resources Council (**QRC**) in response to the consultation paper released by the Queensland Competition Authority (**QCA**) on 29 May 2018 in relation to 'Aurizon Network's 2017 draft access undertaking: maintenance allowance and practices' (**Consultation Paper**).¹

The QRC's submission on the Consultation Paper is provided in two parts. On 1 June 2018, the QRC provided the first part of its submission.² That submission addressed the QCA's comments on the maintenance cost allowance (Item 1.1 and Item 1.2 of the Consultation Paper). This submission addresses the balance of the Consultation Paper, being principally the changes required to the undertaking to address the impacts of Aurizon Network's maintenance practices.

Through the Consultation Paper, the QCA seeks further information from stakeholders in relation to a number of matters that will inform its final decision on Aurizon Network's 2017 Draft Access Undertaking (**UT5**). Specifically, in item 1.3 onwards of the Consultation Paper, the QCA has requested stakeholder comments on:

- Transition from actual costs to efficient costs, while maintaining network service level standards - 'network performance incentive' (**Item 1.3**);
- Transition from actual costs to efficient costs, while maintaining network service level standards - 'maintenance performance monitoring framework' (**Item 1.4**);
- Calculation of non-coal allocations towards network maintenance (**Item 1.5**);
- Obligations to maintain the network and minimise disruptions to train services (**Item 2.1**);
- Reporting requirements to assist access holders to identify reasons for disruption to train services (**Item 2.2**);
- Aurizon Network's Board and maintenance matters (**Item 2.3**);
- Supply chain co-ordination obligations with regard to the planning and scheduling of maintenance activities (**Item 2.4**); and
- Adjustments to Aurizon Network's revenue-cap arrangements (**Item 2.5**).

The QRC thanks the QCA for the opportunity to make this submission in light of the significant and ongoing impact that Aurizon Network's improper maintenance practices are having on the QRC's members. Specifically, the QRC welcomes the opportunity to propose robust accountability mechanisms for UT5 to deny Aurizon Network the opportunity to repeat such conduct in the future.

The QRC is the peak representative organisation of the Queensland minerals and energy sector. The QRC's membership encompasses minerals and energy exploration, production and processing companies and associated service companies. The QRC works on behalf of members to ensure that Queensland's resources are developed profitably and competitively and in a socially and environmentally sustainable way.

¹ See QCA Consultation Paper dated 29 May 2018.

² See 'QRC submission on UT5 maintenance matters' dated 1 June 2018 available at <http://www.qca.org.au/getattachment/6892ea34-b870-45fe-8171-9ebc000aac56/QRC-submission-on-UT5-maintenance-matters.aspx>.

All operating Queensland coal producers are members of the QRC. A number of coal mining companies in the development and operating phase are also members of the QRC.

This submission has been prepared in close consultation with a number of the QRC members.

2 Summary

Aurizon Network has consistently asserted that its changes in maintenance practices are 'prescribed' by the UT5 Draft Decision. Despite constant appeals from industry to Aurizon Network to revert to its previous practices (on the basis that this assertion is plainly incorrect and unfounded), Aurizon Network has maintained its position. Aurizon Network has maintained a position that it openly acknowledges will have a significant impact on its customers, having stated on numerous occasions that the changes would result in:

- degradation of supply chain performance;
- reduction in overall system capacity; and
- reduction in system throughput by approximately 20 million tonnes per annum.

The connections which Aurizon Network has attempted to create between Aurizon Network's conduct and the QCA's preliminary assessment of an appropriate maintenance allowance in the UT5 Draft Decision were severed when the Consultation Paper unequivocally confirmed that:

- the UT5 Draft Decision 'did not prescribe that Aurizon Network change its maintenance programme nor the operation of its maintenance practices';
- the UT5 Draft Decision 'did not represent any final views'; and
- importantly, the QCA is 'favourably disposed to accepting Aurizon Network's revised claim for direct maintenance costs, subject to it providing sufficient justification and evidence'.

On this basis, industry requested Aurizon Network to immediately and permanently restore its previous maintenance and operating practices.³ To date, Aurizon Network has not provided this confirmation.

To the contrary, Aurizon Network has continued its campaign to disrupt access in order to extract a more favourable result in relation to revenue. In a letter received by the QRC from Aurizon Network on 14 June 2018, Aurizon Network expressly stated that:

[Aurizon Network's] decision making is affected not only by the maintenance allowance but by the total allowable revenues and the need to protect its legitimate business interests in the light of the reduced return on capital. That is a critical issue driving the reappraisal of every aspect of [Aurizon Network's] below rail operations.⁴

Aurizon Network's improper conduct justifies significant changes to the undertaking to ensure that Aurizon Network cannot misuse its monopoly power again.

The QRC has proposed a number of amendments to the access undertaking in response to each of the items listed by the QCA in its Consultation Paper. In summary, these amendments propose:

³ See letter from QRC to Aurizon Network dated 30 May 2018.

⁴ See letter from Michael Riches to Ian Macfarlane dated 14 June 2018.

- more stringently defined obligations in relation to supply chain coordination, including requirements to maximise the alignment of maintenance work across the elements of each supply chain;
- a clearer articulation of the standards which Aurizon Network must comply with in conducting its maintenance activities, including express requirements to minimise the disruption of maintenance work on train services;
- greater transparency over decisions made by Aurizon Network in relation to planning and scheduling maintenance by introducing additional supply chain performance reporting requirements;
- additional avenues for independent review of Aurizon Network's compliance with its maintenance and supply chain coordination obligations, including broad audit rights and certification obligations; and
- changes to Aurizon Network's revenue cap arrangements to preclude Aurizon Network's ability to recover revenue in circumstances where it has intentionally performed a wrongful act or omission.

3 Outline of the QRC's submission

The QRC's part two submission is comprised of:

- Overview of ongoing impacts of maintenance changes;
- Transition from actual costs to efficient costs, while maintaining network service level standards - 'network performance incentive' (**Item 1.3**);
- Transition from actual costs to efficient costs, while maintaining network service level standards - 'maintenance performance monitoring framework' (**Item 1.4**); and
- Calculation of non-coal allocations towards network maintenance (**Item 1.5**);
- Obligations to maintain the network and minimise disruptions to train services (**Item 2.1**);
- Reporting requirements to assist access holders to identify reasons for disruption to train services (**Item 2.2**);
- Aurizon Network's Board and maintenance matters (**Item 2.3**);
- Supply chain co-ordination obligations with regard to the planning and scheduling of maintenance activities (**Item 2.4**); and
- Adjustments to Aurizon Network's revenue-cap arrangements (**Item 2.5**);
- Glossary; and
- Attachment 1: partial mark up of UT5 against Aurizon Network's 2017 Draft Access Undertaking and the QCA's UT5 Draft Decision.

4 Overview of ongoing impacts of maintenance changes

On 20 April 2018, the QRC provided its submission to the QCA on the ‘Capacity implications of Aurizon Network’s changed maintenance practices’.

The submission expressed, among other things, the QRC’s significant concerns about Aurizon Network’s misuse of its monopoly powers, including:

- changing its maintenance practices for the purpose of hindering access (with a view to creating leverage for a commercial negotiation in relation to the QCA’s decision on the WACC);
- failing to appropriately coordinate with other parts of the coal chain in relation to maintenance activities (both planned and unplanned); and
- refusing to constructively engage with industry in a manner that would help customers to better understand the extent and nature of the changes and minimise their impacts.

In the time that has passed since the QRC lodged this submission with the QCA, there has been no abatement of Aurizon Network’s conduct. To the contrary, the impacts of Aurizon Network’s maintenance practices are being felt more broadly throughout each of the coal systems in the Central Queensland Coal Network (**CQCN**).

Further, correspondence received from Aurizon Network in the period post submission confirms the QRC’s prior concerns, with Michael Riches stating, among other things, that ‘[Aurizon Network] will also continue the practices we have advised previously that are focussed on **giving priority to maintenance activities rather than train services**’ (emphasis added).⁵

In recent months, a number of customers have advised of the following continued impacts of Aurizon Network’s changed maintenance practices:

- **Misalignment of system closures and planned maintenance work:** long term maintenance plans (including the most recent Critical Asset Alignment Calendars (**CAACs**)) have been unilaterally amended by Aurizon Network on short notice, such that system closures and other planned maintenance work is no longer aligned across each of the elements of the supply chain.
- **Impacts of maintenance work on train services in the day of operations:** Aurizon Network has continued to implement changes to the way in which it undertakes maintenance work in the day of operations. For example, with respect to ballast and formation defect repairs, on Aurizon Network’s own advice, ‘wherever possible, Aurizon Network will now undertake permanent rectification works to ballast and formation defects and failures **at the time the defect or failure is identified**’ (emphasis added).⁶ Previously, Aurizon Network would use temporary rectification works until permanent rectification works could be undertaken and ‘planned for a time that minimises the impact on train services and optimises throughput’.⁷ Aurizon Network’s revised approach

⁵ See letter from Aurizon Network to all customers, rail and port operators and CQCN supply chain stakeholders dated 21 May 2018.

⁶ See letter from Aurizon Network to all customers, rail and port operators and CQCN supply chain stakeholders dated 21 May 2018.

⁷ See letter from Aurizon Network to all customers, rail and port operators and CQCN supply chain stakeholders dated 21 May 2018.

means that maintenance is undertaken regardless of the impact on scheduled train services.

- **Continued reduction in the number of available or useable train paths:** there has been a consistent decline in the number of available or useable train paths, which has continued to impact a number of coal producers' coal sales. For example, data obtained from a relevant customer reveals that in May and June 2018, it has continued to be unable to rail the volume of coal necessary to meet its contractual entitlements (despite having more than sufficient tonnes at the relevant mine). This has also resulted in considerable stockpiling at both mines and ports across the CQCN.
- **Lack of reliable operational information:** there continues to be a lack of transparency and significant information asymmetry in relation to Aurizon Network's changes in maintenance and operational practices. This is preventing customers and rail operators from being able to provide reliable forecasting in relation to future production capabilities.

The impacts of Aurizon Network's behaviour are not sustainable and require robust changes to the drafting of UT5 to discourage such damaging conduct from being repeated in the future.

5 Item 1.3: Network performance incentive

The QCA have sought stakeholder feedback on the development of an incentive to encourage Aurizon Network and customers to work together to realise inefficiencies and cost savings.

5.1 QRC's views

Generally speaking incentive mechanisms are difficult to make work. They can be manipulated, sometimes reward under-performance, often do not achieve their purpose, and can result in inappropriate focus on a measured parameter at the expense of other important considerations. For example:

- an incentive based on reducing speed restrictions may result in excessive maintenance outages and premature asset replacement); and
- an incentive rewarding performance in excess of contracted capacity could result in a reluctance to contract the full capacity of the system.

An incentive mechanism in relation to maintenance may be especially difficult because of the significant information asymmetry between customers and Aurizon Network. This asymmetry affects customers' ability to help determine the performance level, as well as assess performance. These comments are of course made in the context of the current draft of the undertaking.

The QRC understand that the purpose of the performance incentive would be to encourage performance. In the context of the current issues where Aurizon Network are blatantly not complying with obligations, an incentive may be a matter to be considered in the future. Industry's immediate concern is in ensuring that the undertaking is amended in a way that ensures that Aurizon Network can no longer undertake disruptive maintenance practices. In other words, in the QRC's view, the amendments to the undertaking should be focussed on the scope of Aurizon Network's obligations.

If a performance incentive were to be considered it should have the following features:

- (a) reward genuinely exceptional performance and not compliance with a required standard (and certainly not under-performance). Alternatively, if all variation from a base standard is to be rewarded, the mechanism should be reciprocal;
- (b) it should be measurable;
- (c) it should be transparent;
- (d) it must address unintended consequences (see examples above); and
- (e) it must be administered by an independent third party.

QRC has considered suggesting that Aurizon Network be required to submit proposed performance incentives as a 'deferred process' under UT5. However, this process was adopted for performance incentives under UT3, and for SUFA under UT3 and UT4, and failed in each case. Given the likelihood that UT5 will be approved well into its term, a deferred process is unlikely to be effective.

Therefore, we propose that the QCA should seek proposals on this matter during the term of UT5, conduct a consultation process, and release a discussion paper which sets out its preliminary thinking on incentive mechanisms. Aurizon Network could, if it chose to do so, take these suggestions into account when developing UT6.

6 Item 1.4: Maintenance performance monitoring framework

The QCA has asked whether it would be appropriate to implement a maintenance performance monitoring framework which provides transparency about trade-offs which Aurizon Network may make between maintenance and network and system availability.

6.1 QRC's views

More information can only be a good thing. The more transparency the greater the likelihood that the network and system can be optimised for the benefit of all stakeholders, including Aurizon Network. The QRC have not proposed drafting for this provision.

7 Item 1.5: Calculation of non-coal allocations towards network maintenance

The QCA has asked for stakeholder comments on the calculation of non-coal allocations towards Aurizon Network's maintenance costs.

7.1 QRC's views

The QRC requests that the QCA perform a holistic assessment of how Aurizon Network's Regulated Asset Base (**RAB**), operating costs and maintenance costs are calculated to fairly reflect the impact of non-coal services. The QRC's position is as follows:

- in relation to the RAB, the QRC considers that there should be an appropriate allocation of a portion of the RAB to non-coal services to reflect that portion of capacity in the network that is not available for use by coal services;
- in relation to Aurizon Network's operating costs, the QCA should consider how those costs have been calculated and allocate those costs including as between

coal and non-coal services consistent with that method of calculation (and not that portion of capacity that has been reserved for non-coal services); and

- in relation to Aurizon Network's maintenance costs, the QCA should ensure that maintenance allowances reflected in reference tariffs over the long term relate to the traffic of coal services (and not that portion of maintenance costs which is caused by the operation of non-coal services).

8 Item 2.1: Obligations to maintain the network and minimise disruption to train services

The QCA has sought stakeholder comments on the scope of Aurizon Network's obligations to maintain the network and minimise disruption to train services.

8.1 Why it is necessary to expand on the maintenance obligations in the undertaking

The access agreements and access undertaking contain a number of obligations which expressly or impliedly touch on Aurizon's maintenance obligations.

It is important to note that the access agreements and access undertaking have developed slowly over time based on older generations of access agreements and access undertakings. As is to be expected, the documents are not as clear nor as modern as would be the case if the parties were starting from a blank page today.

It is also important to note that the access agreements and access undertaking are drafted on the basis that Aurizon Network will act in good faith and will seek to deliver Access. The access undertaking and access agreements do not contemplate a circumstance in which Aurizon Network would act in a way as to adversely affect the provision of Access or disrupt the provision of Access. Aurizon Network's actions have fundamentally shifted the balance of what an appropriate access undertaking should look like. For example, Aurizon Network contracts capacity on the basis of capacity assessments which it undertakes in accordance with the terms of the relevant undertaking. Those capacity assessments must allow for 'reasonable' maintenance but do not contemplate Aurizon Network undertaking maintenance in a way that is intended to negatively impact on the provision of Access.

It is also important to recognise that there is a gross imbalance of information held by Aurizon Network and information held by access holders and customers. For example, where there is a change in scheduling or availability of a train path in most circumstances access holders, operators and customers will not have the underlying details which gave rise to the change. This information imbalance provides significant practical protection to Aurizon Network. The information imbalance creates a need to be more specific about Aurizon Network's obligations.

Historically, matters relating to the provision of Access have largely been contained in access agreements. There is merit in addressing the maintenance obligations in the undertaking to a greater extent because:

- (a) Aurizon Network are using maintenance as a weapon. This has elevated its importance.
- (b) Including additional maintenance obligations in the undertaking will more easily enable customers to bring an action (where those customers do not hold an access agreement).

- (c) Improvements implemented via changes in the Standard Access Agreement will only take effect when new Access Agreements, including renewals, are entered into. This means that the improvements would take effect for different customers at different times, and would not be fully effective until the last of the existing agreements have expired.

8.2 The changes that ought to be made to the undertaking

The QRC have proposed a new clause 7A.7 in the undertaking. In that drafting the QRC have proposed a clearer statement of the standard of the maintenance obligation. That standard should reflect good industry practices.

The QRC also consider that the undertaking should expressly acknowledge that in undertaking maintenance work Aurizon Network should strive to reasonably minimise disruption to train services. That statement is necessary because it goes to the heart of Aurizon Network's current improper practices.

In addition the undertaking should make it plain that to the extent that there is a contest between non-essential maintenance work and loss of train services Aurizon Network should seek to prioritise train services.

All relevant stakeholders should have the ability to commence a dispute under the dispute resolution provisions of the access undertaking where there is a concern that Aurizon Network has not complied with these new obligations.

9 Item 2.2: Reporting requirements to assist access holders to identify reasons for disruption to train services

The QCA has asked for stakeholder views on whether reporting obligations should be enhanced to provide increased transparency and accountability about the carrying out of maintenance works and the associated impacts on train services.

9.1 Why it is necessary to create additional reporting requirements on Aurizon Network under UT5

As it outlined in the QRC's submission on Item 2.1 of the Consultation Paper, there is a significant asymmetry in the amount of essential operational information that is held by Aurizon Network and its Access Holders and Customers respectively. This asymmetry has been exacerbated by Aurizon Network's maintenance changes, which have entailed further obfuscation about both the nature and impact of its operating practices. Further, this asymmetry is deliberate and consistent with Aurizon Network's broader monopolistic strategy, with Michael Riches being quoted in the Australian Financial Review as follows:

We didn't give detail to customers in significant advance of the decision we made, **nor will we in relation to further changes that we have to make** (emphasis added).⁸

This behaviour is plainly improper and necessitates stronger accountability mechanisms in the access undertaking.

Customers have broadly expressed concerns in relation to a lack of transparency over the reasons (or lack thereof) provided in relation to:

⁸ See the Australian Financial Review article by Matthew Stevens dated 12 February 2018.

- (a) where train services are cancelled, why those services were cancelled;
- (b) where train services were not scheduled in accordance with Train Service Entitlements (**TSEs**), why those services were not scheduled; and
- (c) importantly, whether Aurizon Network's failure to do (a) and (b) was attributable to its broader inability to adequately coordinate maintenance activities across the supply chain.

The current drafting of the undertaking places relatively generous obligations on Aurizon Network in terms of train scheduling (in accordance with the Network Management Principles) and performance reporting under Part 10. Most importantly, the access undertaking does not require Aurizon Network to disclose any of detailed underlying reasons for train services being cancelled or not scheduled. Without this information, it is difficult for customers to assess whether Aurizon Network is meeting, and is indeed capable of meeting, its contractual requirements.

While the System Rules go some way to providing additional detail about the procedures underlying train scheduling and planning, even these are limited. For example, in the 'Cancellation Cause Identification' process,⁹ there is a high level classification of the 'cancellation cause' to one of a number of the elements of the supply chain such as 'Port', 'Mine', 'Aurizon Network' or 'Other'. This analysis does not shed any light on the root causes for cancellation, nor how the interaction between the supply chain (and a misalignment of maintenance activities) may have led to the service being cancelled.

Importantly, the System Rules are also subject to constant review and amendment by Aurizon Network under clause 7A.2. This reinforces the need to introduce a more robust reporting mechanism into the substantive obligations of the access undertaking.

9.2 The changes that ought to be made to the undertaking

The QRC have proposed the insertion of a new clause 10.8 into the access undertaking which imposes an additional monthly reporting obligation. This obligation will require Aurizon Network to provide additional scheduling and supply chain performance information.

In that drafting, the QRC have included a number of detailed reporting obligations for Aurizon Network that will afford customers greater insight and transparency over:

- (a) the reasons why certain train services were cancelled or not scheduled;
- (b) whether train paths considered to be 'available' by Aurizon Network were in fact 'useable' as system paths (taking into account the need to align to mainline paths, branch lines, dwells and port capacity to facilitate optimal supply chain performance); and
- (c) importantly, Aurizon Network's efforts (or lack thereof) to perform its planning and scheduling obligations in accordance with its broader obligations to coordinate across the supply chain, and act in line with industry best practice.

The QRC also consider that the undertaking should expressly require Aurizon Network to provide an unredacted copy of this report to the QCA so that it has greater regulatory oversight over Aurizon Network's actions.

⁹ See section 5.2 of the System Rules.

10 Item 2.3: Aurizon Network's board and maintenance matters

The QCA has asked for views on the extent to which the undertaking provides an appropriate level of board involvement. In particular, the QCA has asked whether the Aurizon Network board should certify Aurizon Network's maintenance obligations and related performance outcomes.

10.1 QRC's views

The Aurizon Network board owe a duty to act in a way consistent with the best interests of the company. Presumably to some extent that includes ensuring that the company complies with its obligations. That duty has not to date tempered the actions of Aurizon Network. Accordingly, generally speaking, the QRC do not consider that the Aurizon Network board operate in a way as to encourage compliance.

The above said, the QRC see merit in the Aurizon Network board providing a certification for the purposes of the undertaking. For that certification to have any utility:

- (a) The certification would need to be given in respect of relevant obligations. That is, the obligations would need to be meaningful and specific. In other words, the certification would only be of utility if the maintenance obligations in the undertaking were materially enhanced.
- (b) The certification would need to be by the directors personally in their capacity as a director. If the certification were given by the company it would be of no value.

The QRC have drafted a proposed certification at clause 7A.7.4.

The QRC also considers there is merit in requiring the Aurizon Network board to provide a certification of each Capacity Assessment carried out under clause 7A.4 of UT5. Capacity Assessments include an assessment of the impact of maintenance on the capacity of the network and inform the basis on which Aurizon Network contracts capacity. The QRC have not proposed drafting for this provision, but the drafting would largely mirror that contained in the proposed clause 7A.7.4.

1.2 Broad audit rights

In addition to the board certification obligation, the QRC consider it appropriate that there be a compliance audit which confirms Aurizon Network's compliance with its maintenance obligations. Such an audit is necessary because:

- (a) of the information asymmetry; and
- (b) Aurizon Network have displayed a willingness to breach its obligations in order to better its position.

A compliance audit serves to provide greater confidence that Aurizon Network will comply with its obligations. A compliance audit also serves to assist in remedying the information asymmetry.

The QRC's proposed compliance audit drafting is contained at clause 7A.7.2 and 7A.7.3.

11 Item 2.4: Supply chain coordination obligations with regard to planning and scheduling of maintenance activities

The QCA has sought stakeholder views regarding the appropriateness of Aurizon Network's coal supply chain coordination obligations. Specifically, the QCA has requested further information on whether these obligations provide supply chain participants with sufficient information about Aurizon Network's maintenance activities and enable it to coordinate maintenance with rail and port operators.

11.1 Why it is necessary to amend and expand on the supply chain coordination obligations in the undertaking

Prior to the announcement of its maintenance changes, Aurizon Network was consistent with its obligations more favourably disposed towards working flexibly with the supply chain when planning and scheduling its maintenance activities. On its own admission, Aurizon Network stated in its 12 February 2018 Australian Stock Exchange (ASX) announcement that:

Previously Aurizon Network accommodated varied work times and the scope of works to meet customers' requirements, allowing trains to pass during the work schedule (emphasis added).¹⁰

Aurizon expressly acknowledged that:

Flexibility maximises the throughput of coal services for customers.¹¹

Aurizon Network has since repeatedly stated that, in response to the UT5 Draft Decision, it will 'prioritise lowest-cost maintenance over flexibility'¹² to the detriment of supply chain performance including throughput. Aurizon Network has expressly stated that it can implement this change in line with its contractual and regulatory obligations to current and prospective customers.

It is Aurizon Network's view that working flexibly with the coal supply chain is a *benefit* it has provided to customers and not an *obligation* owed to customers. Aurizon Network views coordination as a benefit that it can unilaterally take away when supply chain coordination and flexibility no longer align with its commercial objectives.

Aurizon Network's monopolistic attitude necessitates a clearer articulation of Aurizon Network's obligations with respect to supply chain coordination in the access undertaking.

The current drafting of the access undertaking requires Aurizon Network to act 'reasonably' with respect to its efforts to coordinate maintenance activities across the supply chain, including in its engagement with Supply Chain Groups. Aurizon Network's express refusal to cooperate with the supply chain with respect to planning maintenance is not reasonable. Aurizon Network's decision to ignore requests from Supply Chain Groups, such as Gladstone Coal Exporters Executive (GCEE),¹³ to minimise disruption to train services is not reasonable.

Further, the access undertaking does not contemplate a scenario where Aurizon Network deliberately undermines opportunities for supply chain coordination as a form of commercial leverage. However, consistent with its threats, and as is outlined elsewhere

¹⁰ See Aurizon Holdings' ASX announcement dated 12 February 2018.

¹¹ See Aurizon Holdings' ASX announcement dated 12 February 2018.

¹² See Aurizon Holdings' ASX announcement dated 12 February 2018.

¹³ See GCEE letter dated 8 March 2018

in this submission, Aurizon Network continues to make a number of last minute changes to long term planned maintenance that deny opportunities for supply chain coordination.

Aurizon Network's recent actions therefore require that Access Holders and Customers be afforded a greater degree of certainty with respect to the specific actions Aurizon Network must perform under the undertaking in order to comply with its supply chain coordination obligations.

11.2 The changes that ought to be made to the undertaking

The QRC has proposed a number of amendments to clause 7A.3 which more stringently define Aurizon Network's obligations to 'reasonably facilitate cooperation between all elements of the Supply Chain' and 'to seek to maximise the performance of those Supply Chains'.

In that drafting, the QRC has proposed a more expansive objective with respect to supply chain coordination. The QRC considers that Aurizon Network should be required to perform its obligations under the access undertaking with a view to maximising the scheduling of trains and throughput of the relevant coal systems. Aurizon Network should also be required to act in the best interests of the supply chain (including all participants from mine, to rail, to port). This statement is important as Aurizon Network has previously relied on the lack of any requirement to do so in justifying its improper practices.¹⁴

The QRC has also proposed more comprehensive obligations that Aurizon Network must comply with when scheduling and planning maintenance activities, which include:

- (a) maximising the alignment of possessions and other maintenance work, such that closures are aligned, as far as possible, between each of the elements of the supply chain; and
- (b) minimising the disruption caused by possessions and maintenance work on the performance of the supply chain.

Creating more robust coordination obligations on Aurizon Network will assist in remedying the current power imbalance between Aurizon Network and industry.

12 Item 2.5: Adjustments to Aurizon Network's revenue-cap arrangements

The QCA is seeking stakeholder comments about whether amendments are required to the materiality threshold in relation to Aurizon Network's revenue-cap arrangements.

12.1 QRC's views

The revenue cap arrangements are drafted on the assumption that Aurizon Network will operate in a way which is intended to deliver contracted capacity entitlements. The revenue cap adjustment allows Aurizon Network to recover a shortfall in revenue where it has failed to recover the Allowable Revenue. This mechanism was developed on an assumption that no longer stands.

¹⁴ See QE letter to HSF dated 23 April 2018: *AN's position remains, as detailed in its response to the Draft Decision, that the maintenance allowance proposed is based on some errors in calculation and on the adoption of practices that are not in its view in the best interests of the supply chain, albeit that they are maintenance practices that can be adopted while without offending against AN's obligations in access undertaking or any access agreements.*

Aurizon Network's recent actions demonstrate a clear intention to change operating and maintenance practices so as to adversely impact the capacity of the network. Aurizon Network's actions are deliberate and wrongful. It cannot be the case that Aurizon Network is able to recover revenue which it has otherwise lost because of a decision to knowingly adversely affect the capacity of the network. The maximum allowable revenue cannot be a guarantee of the revenue which Aurizon Network can earn in these circumstances.

Given the above, the revenue cap arrangements under UT5 should be amended to prevent such a perverse outcome from occurring. More specifically, the total actual revenue that Aurizon Network can recover should exclude any revenue reasonably attributable to any wrongful act or omission of Aurizon Network which act or omission was intentional and deliberate. This should be the case whether or not Aurizon Network was aware that the act or omission was wrongful at the time the act or omission was undertaken. There should be no materiality threshold that applies in these circumstances. This proposal has been made as it adds no risk to Aurizon Network. Including a test which depends on an intentional and deliberate act of Aurizon Network means the circumstances in which Aurizon Network will be prevented from recovering lost revenue are entirely within Aurizon Network's control.

In deciding whether to approve any revenue adjustment amounts, the QCA should also have the power to undertake a reasonable estimate of the revenue attributable to an intentional and deliberate wrongful act or omission of Aurizon Network and include that estimate in the calculation of total actual revenue. Allowing the QCA greater powers in this respect will ensure Aurizon Network is not able to evade the intended disciplinary effect of this adjustment.

In addition to the improvements described above, the QCA should also consider the sterilisation of capacity that has already occurred during the term of UT5 but prior to the approval of UT5 in setting the revenue allowance for UT5. The QRC considers Aurizon Network should not receive revenue relating to the capital costs (return on capital or depreciation) of the capacity which has been (and continues to be) withheld from productive use by Aurizon Network in implementing its changed operating and maintenance practices since February 2018. Given any improvements to the drafting of UT5 are unlikely to achieve this outcome in respect of the period of time which has already elapsed prior to approval of UT5, the QRC recommends the QCA takes these effects into consideration when approving the revenue allowances for the term of UT5.

Glossary of terms

Any capitalised term used in this submission not defined in the table below, has the meaning given to it in UT4 or UT5 (as relevant).

Term	Meaning
ASX	Australian Stock Exchange
Aurizon Network	Aurizon Network Pty Ltd
CAAC	Critical Asset Alignment Calendar
Consultation Paper	The consultation paper released by the QCA on 29 May 2018.
CQCN	Central Queensland Coal Network
GCEE	Gladstone Coal Exporters Executive
HSF	Herbert Smith Freehills
QCA	Queensland Competition Authority
QRC	Queensland Resources Council
RAB	Regulated Asset Base
SUFA	Standard User Funding Agreement
UT4	Aurizon Network's 2016 access undertaking approved by the QCA on 11 October 2016
UT5	Aurizon Network's 2017 draft access undertaking
WACC	Weighted Average Cost of Capital

Attachment 1 - QRC partial mark up of UT5

QRC partial mark-up of UT5 in response to QCA Consultation Paper – 20.06.18

[Note: This drafting is focused on specific sections and does not seek to update all clause references (and other consequential amendments) throughout the Undertaking beyond those sections. Specifically, this drafting addresses:

- Obligations to maintain the network and minimise disruption to train services [see new clause 7A.7 and new definition of ‘Best Operating Practice’];
- Reporting requirements to assist access holders to identify reasons for disruption to train services [see new clause 10.8];
- Aurizon Network’s Board and maintenance matters [see clause 7A.7.2 and clause 7A.7.3 regarding ‘Independent compliance audit’ and clause 7A.7.4 regarding ‘Certification by Aurizon Network’s board of directors’];
- Supply chain co-ordination obligations with regard to the planning and scheduling of maintenance activities [see amendments to clause 7A.3]; and
- Adjustments to Aurizon Network’s revenue cap arrangements [see amendments to Schedule F].

[This section is marked up against Aurizon Network’s 2017 Draft Access Undertaking.]

7A.3 Supply Chain coordination

- (a) Aurizon Network must ~~(to the extent it is reasonable to do so)~~ participate in:
- (i) each Supply Chain Group in relation to:
- (A) the coordination and effective performance of a relevant Supply Chain; and
- (B) if applicable, the development of a Supply Chain Master Plan; ~~and~~
- (ii) _____ discussions with other service providers and participants in the Supply Chain ~~with a view to~~ to ensure the coordination of maintenance activities in the relevant Supply Chain; ~~and~~
- ~~(ii)(iii) _____ - the development and implementation of productivity improvement initiatives (including the use of any Trains that vary from the characteristics required by the Reference Train Service) with other service providers and participants in the Supply Chain to improve the efficiency and performance of the relevant Supply Chain.~~
- (b) Without limiting the nature of Aurizon Network’s participation, if requested by a Supply Chain Group (acting reasonably), Aurizon Network must if it has capacity to do so and believes the request is reasonable:

- (i) participate in the development of and undertake regular reviews of that Supply Chain Group's master plan;
 - (ii) review options for the development of Capacity being investigated by the Supply Chain Group and advise if and how any option is likely to impact on the Network Management Principles, System Operating Parameters or System Rules for the relevant Coal System; and.
 - (iii) if requested by the Supply Chain Group, investigate operational changes that could increase Capacity in the relevant Coal System, including by conducting a review of the relevant System Operating Parameters under **clause 7A.5**.
- (c) Subject to the terms of this Undertaking, Aurizon Network must, in respect of each Supply Chain,:
- (i) reasonably facilitate ~~an appropriate balance between~~ cooperation between all elements of Supply Chains (in respect of which Access forms a part) to seek to maximise the performance of those Supply Chains ~~and the other matters set out in clause 2.2 of this Undertaking~~; and
 - (ii) _____ act in a way that is not inconsistent with Part 2.
- (d) _____ Aurizon Network must, in performing its obligations under this Undertaking:
- (i) _____ use its best endeavours to maximise the scheduling and throughput of Trains on the Rail Infrastructure by:
 - (A) _____ coordinating across all elements of the relevant Supply Chain and with each other service provider and participant in the Supply Chain;
 - (B) _____ maximising the number of Train Paths that are useable as System Paths; and
 - (C) _____ maximising (to the extent relevant to the Rail Infrastructure) performance (including throughput) of the Supply Chain; and
 - (ii) _____ act in the best interests of the Supply Chain,
including but not limited to:
 - (i) _____ coordinating to the extent possible the activities comprising Maintenance Work across all elements of the relevant Supply Chain to maximise the alignment of Possessions and Maintenance Work with the closure or maintenance of, or any other outages or unavailability of, other elements of the Supply Chain;
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(ii) minimising changes to the timing of planned system closures to allow for effective planning by other service providers and participants in the relevant Supply Chain; and

~~(ii)~~(iii) minimising the disruptive impact of Possessions and Maintenance Work on the performance (including throughput) of the Supply Chain.

~~(d)~~(e) If:

- (i) a Supply Chain Group identifies an operational change to its Coal System which change may improve Capacity in the relevant Coal System; and
- (ii) Aurizon Network decides not to implement the change, Aurizon Network will provide the Supply Chain Group with its reasons for not implementing the change.

~~(e)~~(f) Aurizon Network will not be obliged to:

- (i) undertake any activity referred to in **clause 7A.3(a)** or **clause 7A.3(b)** unless the reasonable cost of undertaking that activity is recoverable by Aurizon Network on the terms of this Undertaking; and
- (ii) make any binding commitment or to take any action as a result of its participation and discussions referred to in **clause 7A.3(a)**.

Part 12 Definitions and Interpretation:

Best Operating Practice the meaning given to that term in **clause 7A.7.1(b)**.

7A.7 Maintenance Work principles

7A.7.1 Compliance with Best Operating Practice

(a) Aurizon Network must:

- (i) provide or procure Maintenance Work;
- (ii) schedule and plan Maintenance Work and Possessions; and
- (iii) undertake Maintenance Work, whether planned or unplanned,

in accordance with Best Operating Practice.

(b) For the purpose of **clause 7A.7.1(a)**, Best Operating Practice means carrying out any undertaking in a manner which:

- (i) is consistent with Good Engineering Practices;
- (ii) is consistent with **clause 7A.3**;

- (iii) maximises the availability of Train Paths that are useable as System Paths (including in respect of return journeys) in accordance with **clause 7A.7.1(c)**; and
 - (iv) minimises to the extent reasonable the disruption and delay caused by Maintenance Work and Possessions on Aurizon Network's ability to make Rail Infrastructure available for the efficient operation of Train Services in accordance with any Access Holder's Train Service Entitlements.
 - (c) In the event of a conflict regarding the availability of a System Path between Maintenance Work (whether as part of a Possession or otherwise) and Train Services, Aurizon Network must give priority to Train Services, except to the extent that prioritising Train Services would:
 - (i) cause risk or unreasonable cost to Aurizon Network; or
 - (ii) otherwise not comply with applicable Safeworking Procedures and Safety Standards.
 - (d) For the avoidance of doubt, any change to the operating and maintenance costs allowance approved by the QCA does not in any way alter Aurizon Network's obligations under this **clause 7A.7.1**.

7A.7.2 Independent compliance audit

- (a) Despite any other provisions of this Undertaking that require the conduct of an audit, at any time the QCA, an Access Holder, Access Seeker, Customer or Train Operator may request Aurizon Network in writing to, and on receipt of that request Aurizon Network must, engage an Auditor to undertake an audit, in accordance with **clause 7A.7.3**, in relation to whether Aurizon Network has complied with its obligations under **clause 7A.7.1**.
- (b) The audit will be conducted in accordance with this **clause 7A.7.3**.
- (c) The Auditor will compile an audit report identifying:
 - (i) whether Aurizon Network has complied in all material respects with its obligations which were the subject of the requested audit and if not, details as to the relevant non-compliance; and
 - (ii) the process adopted for the conduct of the audit.
- (d) To the extent approved by the QCA, costs incurred by the Auditor (or Auditors) in conducting an audit under this **clause 7A.7.2** will be borne by the QCA, subject to **clause 7A.7.2(e)**.
- (e) To the extent that any costs incurred by the Auditor are the direct result of any abnormality caused by Aurizon Network, Aurizon Network will be responsible for paying that portion of the Auditor's costs.

7A.7.3 Audit process

An audit process under **clause 7A.7.2** must be conducted in accordance with the following process:

- (a) Aurizon Network will appoint an Auditor (or Auditors) who will be available to conduct audits required in accordance with **clause 7A.7.3**:
- (b) the Auditor must:
 - (i) be independent of Aurizon Network and all other Aurizon Parties;
 - (ii) be appropriately qualified and experienced;
 - (iii) be subject to professional standards of ethics and independence; and
 - (iv) be approved by the QCA. Once approved, the approval will be effective for the Term, subject to the QCA having a right to require the appointment of a replacement Auditor;
- (c) the Auditor will have a duty of care to the QCA, Access Holder, Access Seeker, Customer or Train Operator in the provision of the audit and, in the event of a conflict between the Auditor's obligations to Aurizon Network and its duty of care to the QCA, Access Holder, Access Seeker, Customer or Train Operator, the Auditor's duty of care to the QCA, Access Holder, Access Seeker, Customer or Train Operator will take precedence;
- (d) prior to commencing an audit, the Auditor must agree on an audit plan with Aurizon Network, document that audit plan, and obtain the QCA's approval of the audit plan;
- (e) the audit plan will:
 - (i) consist of a proposed work program for the execution of and scope of the audit, including audit costs (which are payable by Aurizon Network);
 - (ii) where necessary, contain any procedural controls necessary to ensure the independence of the Auditor;
 - (iii) provide for the establishment of an audit liaison group, comprising the Auditor, Aurizon Network, and the QCA, Access Holder, Access Seeker, Customer or Train Operator, during the course of the audit, to provide a forum for the resolution of any audit issues that arise; and
 - (iv) include a process for consultation with the QCA during the audit to ensure that the audit addresses the matters and standards required by the QCA for the particular audit being conducted. The QCA may consult with Access Holders, Access Seekers, Customers and Train Operators over the matters and standards to be addressed in, and required of, the audit;

- (f) Aurizon Network must provide any relevant information the Auditor reasonably requires for the purpose of conducting the audit, within a nominated timeframe that is determined by the Auditor to be reasonable after consultation with Aurizon Network;
- (g) the Auditor may be required to enter into a confidentiality deed with Aurizon Network in relation to any information provided by Aurizon Network, to the effect that it must keep the information confidential and only use that information for the purpose of conducting the audit and completing the audit report, provided however that the Auditor will be entitled to provide all information obtained as a result of the audit to the QCA, Access Holder, Access Seeker, Customer or Train Operator;
- (h) any drafts of an audit report that are provided to Aurizon Network by the Auditor must, at the same time, be provided to the QCA, Access Holder, Access Seeker, Customer or Train Operator;
- (i) the Auditor will provide Aurizon Network, the relevant Access Holder, Access Seeker, Customer or Train Operator and the QCA a copy of:

 - (i) the audit report; and
 - (ii) any letter or report from the Auditor accompanying the audit report which explains the audit findings in greater detail,
 - (iii) both of which the QCA may, if it considers it appropriate to do so, publish to parties thought appropriate by the QCA having regard to the scope of the audit and its findings;
- (j) Aurizon Network must:

 - (i) prepare and provide to the QCA, Access Holder, Access Seeker, Customer or Train Operator an implementation plan; and
 - (ii) use reasonable endeavours,

to implement the Auditor's recommendations in the audit report or any other letters or reports provided under **clause 7A.7.3(i)**, including recommendations in relation to implementing new policies, practices or procedures directed to ensuring Aurizon Network satisfies the obligations set out in this Undertaking, as soon as reasonably practicable after receiving the Auditor's recommendations, except to the extent the non-implementation is approved by the QCA;
- (k) following the provision of an audit report under **clause 7A.7.3(i)** and receipt of Aurizon Network's implementation plan under **clause 7A.7.3(j)**:

 - (i) the QCA may, at its discretion, request that Aurizon Network provide evidence that it has used reasonable endeavours to implement any or all of the recommendations made by the Auditor in the relevant audit report in accordance with the implementation plan prepared under **clause 7A.7.3(j)**; and

- (ii) if Aurizon Network cannot provide such evidence to the satisfaction of the QCA (in its discretion), the QCA may direct Aurizon Network use reasonable endeavours to take the necessary actions required to implement the relevant recommendations within a specified timeframe; and
- (l) if Aurizon Network fails to comply with a direction issued by the QCA under **clause 7A.7.3(k)**, on request from the QCA, Aurizon Network must provide all the documents and information in its possession that relate to its failure to comply with the direction given under **clause 7A.7.3(k)** to the QCA.

7A.7.4 Certification by Aurizon Network's board of directors

- (a) Despite any other provisions of this Undertaking, an Access Holder may at any time request that Aurizon Network's board of directors certify that Aurizon Network has complied with its obligations under **clause 7A.3** and **clause 7A.7.1** by certifying as accurate any of the performance or cost reports provided under **Part 10** of this Undertaking, including the Monthly report provided under **clause 10.8**;
- (b) If in providing a certification required by this Undertaking Aurizon Network's board of directors relies on information or professional or expert advice, given or prepared by:
 - (i) Aurizon Network Personnel whom Aurizon Network's board of directors believes on reasonable grounds to be reliable and competent in relation to the matters concerned;
 - (ii) a professional adviser or expert in relation to matters that Aurizon Network's board of directors believes on reasonable grounds to be within the person's professional or expert competence; and
 - (iii) the reliance was made:
 - (A) in good faith; and
 - (B) after making an independent assessment of the information or advice, having regard to Aurizon Network's board of directors' knowledge of Aurizon Network and the complexity of the structure and operations of Aurizon Network; and
 - (iv) the reasonableness of Aurizon Network's board of directors' reliance on the information or advice arises in legal proceedings or an arbitration to determine whether Aurizon Network's board of directors has performed with due care and diligence in providing the certification.

Aurizon Network's board of directors' reliance on the information or advice is deemed to be reasonable unless the contrary is proved.

10.8 Provision of additional scheduling and Supply Chain performance information

- (a) Without limiting any other reporting obligations on Aurizon Network under this Undertaking, Aurizon Network must provide Access Holders, their Customers (if applicable) and Train Operators with a Monthly report containing the additional scheduling and Supply Chain performance information detailed in **clause 10.8(c)**:
 - (i) as soon as reasonably practicable, and by no later than 10 Business Days after the end of the relevant Month; and
 - (ii) subject to **clause 10.8(b)**, in a form that does not:
 - (A) reveal the identity of any individual Access Holder, Customer or Train Operator; and
 - (B) disclose any information that is commercially sensitive to an Access Holder, Customer or Train Operator.
- (b) For the purpose of **clause 10.8(a)(ii)**, any Access Holder, Customer or Train Operator may provide its prior written consent to Aurizon Network for its identity and commercially sensitive information to be disclosed in the Monthly report.
- (c) The Monthly report required by **clause 10.8(a)** must include the following information:
 - (i) for any Train Service that was cancelled, the underlying reasons for that Train Service being cancelled, including:
 - (A) whether the Train Service was cancelled due to:
 - (1) Maintenance Work or Possession(s) on the relevant Train Path(s); or
 - (2) a failure to sufficiently align Mainline Paths, Dwell, branch lines and port unloading facilities to create Train Path that was useable as a System Path (including in respect of a return journey);
 - (B) if the Train Service was cancelled due to Possession(s):
 - (1) the type of Possession (whether a Planned Possession, Urgent Possession or Emergency Possession) and the reasons for classifying the Possession as that type of Possession; and
 - (2) the circumstances giving rise to the need for that Possession, including detailed underlying reasons for the Possession;

- (C) if the Train Service was cancelled due to Maintenance Work (that falls outside of a Possession), a detailed outline of the circumstances giving rise to the need for that Maintenance Work;
 - (D) detailed information evidencing Aurizon Network's compliance with its obligations under **clause 7A.3** and **clause 7A.7.1**; and
 - (E) to the extent possible, the steps that Aurizon Network proposes to implement, or has implemented, to re-schedule the Train Service;
 - (ii) for any Train Service that was not scheduled in accordance with the relevant Access Holders' Train Service Entitlements, the underlying reasons for that Train Service not being scheduled, including:
 - (A) whether the Train Service was not scheduled due to:
 - (1) Maintenance Work or Possession(s) on the relevant Train Path(s); or
 - (2) a failure to sufficiently align Mainline Paths, Dwell, branch lines and port unloading facilities to create a Train Path that is useable as a System Path (including in respect of a return journey);
 - (B) if the Train Service was not scheduled due to Possession(s):
 - (1) the type of Possession (whether a Planned Possession, Urgent Possession or Emergency Possession) and the reasons for classifying the Possession as that type of Possession; and
 - (2) the circumstances giving rise to the need for that Possession, including detailed underlying reasons for the Possession;
 - (C) if the Train Service was not scheduled due to Maintenance Work (that falls outside of a Possession), the circumstances giving rise to the need for that Maintenance Work; and
 - (D) detailed information evidencing Aurizon Network's compliance with its obligations under **clause 7A.3** and **clause 7A.7.1**;
 - (iii) for any Maintenance Work and Possession(s):

(A) the hours scheduled for that Maintenance Work or Possession(s) (if applicable);

(B) the actual hours spent carrying out that Maintenance Work or Possession(s) (including any hours additional to those that were scheduled); and

(C) when (days and times) that Maintenance Work or Possession(s) was performed.

(d) Aurizon Network must promptly provide the Monthly report required under **clause 10.8(a)** to the QCA on an unredacted basis, and by no later than the timeframe provided under **clause 10.8(a)(i)**.

Schedule F

Reference Tariff

1 General provisions

1.1 Purpose

This **Schedule F** will be used for the following purposes:

- (a) Aurizon Network's formulation of Access Charges for a Train Service to which a Reference Tariff applies; and
- (b) where Access Charges, and related provisions, in an Access Agreement that were originally determined based on this **Schedule F** or **Schedule F** of an Applicable Undertaking, to allow for the adjustment of those Access Charges, and related provisions, in accordance with that Access Agreement for consistency with this **Schedule F** (as amended or replaced from time to time).

1.2 Application of Reference Tariffs

The Reference Tariffs in this **Schedule F**:

- (a) apply to coal carrying Train Services from the Commencing Date to the Terminating Date; and
- (b) are based on a Reference Train Service.

1.3 General characteristics of Reference Train Services

The Reference Train Service in respect of the Reference Tariffs:

- (a) **(Commodity)** carries only bulk coal;¹
- (b) **(Operational characteristics)** meets the following criteria:
 - (i) the additional Reference Train Service criteria listed in relation to the applicable Reference Tariff (for example, in **clauses 7.1, 8.1, 9.1, 10.1, and 11.1**);
 - (ii) complies with the maximum speeds permitted on the Nominated Infrastructure as specified in the relevant Preliminary Information;
 - (iii) complies with Aurizon Network's Rollingstock Interface Standards applicable to the Nominated Infrastructure;
 - (iv) is otherwise compatible with the Nominated Infrastructure described in the relevant Preliminary Information and

¹ In defining bulk coal, no differentiation is to be made between coal qualities or types, or between the end use markets of the coal.

- requires no additional expenditure by Aurizon Network to implement varied Below Rail controls identified in the IRMP;
- (v) operates in accordance with nominated sectional running times specified in the relevant Preliminary Information;
 - (vi) uses bottom dump wagons with the “KWIK DROP” door operating mechanism; and
 - (vii) uses measures to minimise coal spillage and leakage and coal dust emissions en route that are consistent with the Coal Loss Mitigation Provisions in **Schedule J**;
- (c) **(Below Rail Services)** only requires services from Aurizon Network that are Below Rail Services and that Below Rail Services comprised in Access are provided in accordance with this Undertaking;
 - (d) **(Conditions of Access)** operates in accordance with an Access Agreement on substantially the same terms as a Standard Access Agreement applicable to coal carrying Train Services, where the differences from the Standard Access Agreement do not give rise to a material increase in cost or risk; and
 - (e) **(Train Service Entitlement)** has a Train Service Entitlement:
 - (i) based on Trains being available for operation 24 hours per day and 360 days per year; and
 - (ii) specified in terms of Cyclic Traffic which will:
 - (A) operate in accordance with the distribution set out in the MTP;
 - (B) have regard to Planned Possessions and any other matters agreed between Aurizon Network and other service providers in the relevant Supply Chain; and
 - (C) comply with the applicable scheduling procedures as set out in the Network Management Principles.

2 Reference Tariff

2.1 Composition of Reference Tariff

The Reference Tariff is a charge in relation to Train Services that have operated, calculated in accordance with **clause 2.2** and, if applicable, **clause 2.3** (including Adjustment Charges) with specified Reference Tariff inputs and, if applicable, any System Premiums or System Discounts.

2.2 Calculations for Reference Train Services

- (a) Subject to **clause 2.3**, a charge for Reference Train Services is calculated as:
-

$$\left(AT_1 \times \frac{gtk}{1000} \right) + (AT_2 \times rtp) + \left(AT_3 \times \frac{ntk}{1000} \right) + (AT_4 \times nt) + \left(AT_5 \times \frac{egtk}{1000} \right) + \left(EC \times \frac{egtk}{1000} \right) + (QCALevy \times nt)$$

where:

AT₁ is the incremental maintenance tariff specified as the AT₁ input for the nominated Reference Train Service as specified for the relevant Reference Tariff (for example, as specified in **clauses 7.2, 8.2, 9.2, 10.2 and 11.2**, as applicable);

AT₂ is the incremental capacity tariff specified as the AT₂ input for the nominated Reference Train Service as specified for the relevant Reference Tariff (for example, as specified in **clauses 7.2, 8.2, 9.2, 10.2 and 11.2**, as applicable);

AT₃ is an allocative tariff specified as the AT₃ input for the nominated Reference Train Service as specified for the relevant Reference Tariff (for example, as specified in **clauses 7.2, 8.2, 9.2, 10.2 and 11.2**, as applicable);

AT₄ is an allocative tariff specified as the AT₄ input for the nominated Reference Train Service as specified for the relevant Reference Tariff (for example, as specified in **clauses 7.2, 8.2, 9.2, 10.2 and 11.2**, as applicable);

AT₅ is the electric access tariff specified as the AT₅ input for the nominated Reference Train Service as specified for the relevant Reference Tariff (for example, as specified in **clauses 7.2 and 8.2**, as applicable); and

EC is the electric energy charge which is initially (from the Commencing Date) as specified as the EC input for the nominated Reference Train Service as specified for the relevant Reference Tariff (for example, as specified in **clauses 7.2 and 8.2**, as applicable), and after the Approval Date as otherwise published by Aurizon Network on the Website on or about each 31 May during the Term after Aurizon Network seeks and obtains the QCA's approval (in accordance with **clause 2.2(f)**) for a new electric energy charge (taking into account any over or under recovery in the previous Year),

provided that the above calculation is subject to the addition of any applicable Adjustment Charge from time to time (including, if necessary, on a pro rata basis with other Train Services that have the same origin and destination and Access Holder and are run during same Billing Period, as the nominated Reference Train Service).

For clarity, the rtp for a Reference Train Service equals one.

- (b) The amounts of the AT₁, AT₂, AT₃, AT₄, AT₅, EC and the QCA Levy inputs (including the System Discounts and System Premiums, if

applicable) specified for the relevant Reference Tariff and any Adjustment Charge are GST exclusive.²

- (c) For the purposes of this **Schedule F**, a Train Service is a one way Train Service, that is, the journey from the Nominated Loading Facility to the Nominated Unloading Facility is one Train Service, and the return journey from the Nominated Unloading Facility to the Nominated Loading Facility is a second Train Service.
- (d) To the extent that the calculation of gtk and nt for a Train Service require a weight for the relevant Train or any Rollingstock comprised in that Train, weights may be nominal or actual weights, or a combination of nominal and actual weights provided that, unless otherwise agreed by Aurizon Network:
 - (i) any nominal weights will be as set out or calculated in the relevant Access Agreement or, otherwise, as agreed or approved by Aurizon Network, in relation to the calculation of gtk or nt, as applicable; and
 - (ii) actual weight will only be used where:
 - (A) the gross weight (in tonnes) of loaded or partly loaded wagons needs to be determined;
 - (B) there is a functioning weighbridge or weightometer (verified under the *National Measurement Act 1960* (Cth)) located en route between the origin and destination for the Train Service;
 - (C) Aurizon Network has agreed that the weighbridge or weightometer can be used to weigh wagons for the purpose of calculating Access Charges; and
 - (D) the relevant wagons can actually be weighed by that weighbridge or weightometer.
- (e) When Aurizon Network publishes the EC, it must separately identify the level of the Environment Compliance Charge within the EC.
- (f) The QCA may approve an EX for the purposes of **clause 2.2(a)** if it considers that the EC is reasonable and the consequential adjustments to [Allowable Revenues] [and Reference Tariffs] (if any) are calculated properly.

2.3 Calculations for a Cross System Train Service

- (a) For a Cross System Train Service, the Reference Train Service description for each applicable Reference Tariff for each relevant Coal System will be applied to the extent that the Train Service is using

² An amount for GST will be added to the total calculated Access Charge, in accordance with the provisions of the applicable Access Agreement, at invoicing.

that Coal System and the calculation under **clause 2.2** will be adjusted by applying the following:

- (i) AT_1 will be the AT_1 component of the Reference Tariff for:
 - (A) the Origin Tariff, for the gtk attributable to the Origin System; and
 - (B) the Destination Tariff, for the gtk attributable to the Destination System;
 - (ii) AT_2 will be determined as follows:
 - (A) the AT_2 component of the Reference Tariff in the Origin System will be applicable to the Train Paths used in the Origin System, but only if the Train Service operates on capacity constrained corridors of the Origin System as identified in **clause 2.3(b)**; and
 - (B) the AT_2 component of the Reference Tariff in the Destination System will be applicable in accordance with **clause 2.2**;
 - (iii) AT_3 will be the AT_3 input for the relevant Reference Tariffs for:
 - (A) the Origin Tariff, for the ntk attributable to the Origin System; and
 - (B) the Destination Tariff, for the ntk attributable to the Destination System; and
 - (iv) AT_4 will be the AT_4 input for the Origin Tariff;
 - (v) AT_5 and EC will be determined as the AT_5 and EC components of the Reference Tariff for:
 - (A) the Origin System, for the egk attributable to the Origin System; and
 - (B) the Destination System, for the egk attributable to the Destination System; and
 - (vi) the QCA Levy component of the Reference Tariff in the Destination System will be applicable in accordance with clause 2.2, applied to the nt for the Train Service.
- (b) For the purposes of **clause 2.3(a)(ii)**, unless otherwise approved by the QCA, the Rail Infrastructure comprising railways between:
- (i) Coppabella and the Hay Point Junction;
 - (ii) Newlands and Abbot Point; and
 - (iii) Burngrove and the port of Gladstone (including domestic coal terminals in the vicinity of Gladstone),
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is regarded as capacity constrained Rail Infrastructure.

- (c) For the purpose of **clause 2.3(a)**, if a Cross System Train Service loads in the Blackwater System and unloads in the Newlands System, then the Goonyella to Abbot Point System is deemed to be the Destination System for that Cross System Train Service.

3 Calculations for Take or Pay

3.1 Overview

- (a) The Take or Pay payable to Aurizon Network will be calculated in a manner consistent with this **clause 3**.

3.2 Application of historical Take or Pay arrangements

- (a) A different manner of calculation may apply to a Take or Pay depending on the Applicable Undertaking in force at the time that the relevant Access Agreement was entered into.
- (b) This **clause 3.2** describes the application of the Take or Pay obligations contained in Access Agreements that were originally entered into in accordance with the 2001 Undertaking, 2005 Undertaking and/or 2008 Undertaking, given that the Take or Pay obligations reference the undertaking in force at the time of their application.
- (c) Where the Access Holder has a Take or Pay with Aurizon Network under an Access Agreement named in Column 1 (**2001/05/08 Access Agreement**), the Take or Pay will be calculated in accordance with Column 2, subject to the adjustments made in Column 3 of the corresponding row in the following table:

Column 1	Column 2	Column 3
<p>An Access Agreement that was executed or renewed on or after 20 December 2001 but prior to 30 June 2006.</p> <p>A New Access Agreement where the relevant Old Access Agreement was executed or renewed</p>	<p>Clause 3.2, Part A, Schedule F of the 2001 Undertaking</p>	<p>Where the calculation refers to:</p> <ul style="list-style-type: none"> (a) the System Gtk; or (b) gtk in circumstances where that gtk relates to Train Services other than solely those under the relevant Access Agreement, <p>then exclude any gtk attributable to any Train Services where the Access Charges for those Train Services are set based on an Expansion Tariff.³</p>

³ Access Agreements for coal carrying Train Services executed or renewed on or after 20 December 2001 but prior to 30 June 2006 (**UT1 Access Agreements**) will have Access Charges for Train Services in a Coal System set based on the relevant System Reference Tariff for that Coal System. Train Services under a UT1 Access Agreements will not have Access Charges set based on any Expansion Tariff for that Coal System. The relevant System Gtk or gtk should be limited to those Train Services whose Access Charges are set based on the same System Reference Tariff as the relevant Train Services for which a Take or Pay is being calculated. In the same way, the Monthly System Forecasts for each Coal System only relate to Train Services whose Access Charges are set by based on the relevant System Reference Tariff.

Column 1	Column 2	Column 3
on or after 20 December 2001 but prior to 30 June 2006.		<p>The references to System GtK, System Forecast, and gtk in this row have the meanings given to those terms under the 2001 Undertaking.</p> <p>Where the calculation refers to the System Forecast, then that System Forecast is a reference to the Monthly System Forecast for the relevant Coal System set out in clause 12 of Schedule F.</p>
<p>An Access Agreement that was executed or renewed on or after 30 June 2006 but prior to 23 October 2008.</p> <p>A New Access Agreement where the relevant Old Access Agreement was executed on or after 30 June 2006 but prior to 23 October 2008.</p>	Clause 2.2, Part B, Schedule F of the 2005 Undertaking	<ol style="list-style-type: none"> 1. A reference in that calculation to the "System GtK", or to gtk in circumstances where that gtk relates to Train Services other than solely those under the relevant Access Agreement, excludes any gtk attributable to any Train Services where the Access Charges for those Train Services are set based on an Expansion Tariff⁴. 2. A reference in that calculation to the "System Forecast" is a reference to the GtK Forecast for the relevant System Reference Tariff. 3. A reference to "Paragraph 7.4.4(f) of the Undertaking" is a reference to clause 12.4(f) of this Undertaking. 4. A reference to "Total Actual Revenue" is a reference to Total Actual Revenue as defined under this Undertaking.
<p>An Access Agreement that was executed or renewed on or after 23 October 2008 but prior to 1 October 2010.</p> <p>A New Access Agreement where the relevant Old Access Agreement was executed on or 23 October 2008 but prior to 1 October 2010.</p>	Clause 2.2, Part B, Schedule F of the 2008 Undertaking	<ol style="list-style-type: none"> 5. A reference to "Individual Coal System Infrastructure" is a reference to the System Reference Tariff that is used to set the Access Charges for the relevant Train Services, subject to item 7 below. 6. A reference to "System Allowable Revenue" is a reference to Allowable Revenue as defined under this Undertaking. 7. A reference to "Access Agreements in relation to that Individual Coal System Infrastructure" is a reference to Tariff Based Access Agreements in relation to the relevant System Reference Tariff. 8. A reference to "the Total Revenue for that Individual Coal System Infrastructure" is a reference to "the Total Revenue" in relation

⁴ Access Agreements for coal carrying Train Services executed or renewed under the 2005 Undertaking or 2008 Undertaking (except for a Customer initiated transfers of UT1 Access Agreements) (**UT2 Access Agreements**) will have Access Charges for Train Services in a Coal System set based on the relevant System Reference Tariff for that Coal System. Train Services under UT2 Access Agreements will not have Access Charges set based on any Expansion Tariff for that Coal System. The relevant System GtK or gtk should be limited to those Train Services whose Access Charges are set based on the same System Reference Tariff as the relevant Train Services for which a Take or Pay is being calculated.

Column 1	Column 2	Column 3
		to the relevant System Reference Tariff.

3.3 Application of new Take or Pay arrangements

- (a) This **clause 3.3** describes the application of the Take or Pay obligations contained in Access Agreements that were originally entered into in accordance with the 2010 Undertaking, the 2016 Undertaking and this Undertaking. Nothing in this **clause 3.3** applies to a 2001/05/08 Access Agreement. (Note: Take or Pay in the context of new Expansions is addressed in **clause 3.3(n)** below.)
- (b) Subject to **clause 3.3(n)** which applies to Take or Pay in the context of Expansions, where the Access Holder has a Take or Pay with Aurizon Network under an Access Agreement that is not a 2001/05/08 Access Agreement, the Take or Pay will be calculated as follows:
- (i) first, the maximum potential Take or Pay will be calculated based on **clauses 3.3(d) to (f)**; and
 - (ii) second, **clause 3.3(h)** will be applied to determine whether any Take or Pay liability exists; and
 - (iii) third, if Take or Pay liability exists, for the purpose of calculating Tariff Take or Pay in relation to a System Reference Tariff and to that extent only, the maximum potential Take or Pay will be adjusted by applying each of:
 - (A) **clause 3.3(j) (Mine capping)**; and
 - (B) **clause 3.3(k) to (m) (Tariff capping)**,
as applicable and in that order to determine the actual Take or Pay payable to Aurizon Network.
- (c) In relation to Take or Pay charges in the context of a Pre-Approval Date Coal Access Agreement where the Access Holder is not a Train

Operator, Take or Pay charges will be payable under that Access Agreement (including in relation to the non-operation of Train Services under any relevant train operations agreement). Take or Pay charges will not be payable to Aurizon Network by a Train Operator under a train operations agreement relevant to that Access Holder.

(d) Subject to **clauses 3.3(h) to (m)**, Take or Pay charges applicable to an Access Holder will be:

- (i) determined for each Year;
- (ii) invoiced for each Year following completion of that Year; and
- (iii) calculated as the amount which is 100% of the amount calculated as:

$$\left(AT_2 \times rtp \times NTS \right) + \left(AT_3 \times \frac{ntk}{1000} \right) + \left(AT_4 \times nt \right)$$

where:

- (A) each of AT_2 , AT_3 and AT_4 inputs for that Access Holder's Access Charges at the rate applicable in that Year;
- (B) the nt and ntk (as applicable) are calculated by:
 - (1) the aggregate nt and ntk (as applicable) that would have been achieved for the relevant Year had the full contracted entitlement been railed for the relevant Train Services; less
 - (2) the aggregate nt and ntk (as applicable) not railed for the relevant Year due to the non-operation of Train Services for an Aurizon Network Cause; less
 - (3) the aggregate nt and ntk (as applicable) railed for the relevant Year; and
- (C) NTS is calculated as:
 - (1) the number of Train Services that the Access Holder would have operated for the relevant Year had the full contracted entitlement been railed for the relevant Train Services; less
 - (2) the number of those Train Services that either:
 - were not able to be operated solely as a result of an Aurizon Network Cause; or

- were operated (whether loaded or empty) during that Year,

provided always that the amount of Take or Pay for a relevant Year must not be less than zero.

(e) To calculate nt and ntk for the purpose of **clause 3.3(d)(iii)(B)(1) and (2)**, Aurizon Network must:

- (i) identify from the Access Agreement the number of Train Services that would have operated had the full contracted entitlement been used; and
- (ii) determine the number of Train Services that did not operate under that contracted entitlement due to an Aurizon Network Cause, provided that if an Access Holder has more than one Access Agreement for the same origin to destination pair, Aurizon Network must allocate those Train Services as between the relevant Access Agreements in the order in which those Access Agreements were executed (unless the relevant Access Holder has nominated a different order, in which case that order must be applied),

and calculate the nt and ntk by using a train payload as reasonably determined by Aurizon Network in respect of the relevant Reference Tariff.

(f) For the purpose of calculating Take or Pay charges, the calculation will be based on the origin and destination specified in the relevant Train Service Entitlement (provided that the Nominated Loading Facilities of RG Tanna Terminal and Barney Point will be treated as the same destination for the purposes of such a calculation).

(g) For the purpose of calculating Take or Pay charges, an Access Holder's entitlement to operate Train Services is, without limitation, determined by reference to the Train Services that could have been operated in accordance with the Access Holder's Train Service Entitlement including even if:

- (i) where the Access Holder is not a Train Operator:
 - (A) the Access Holder has not nominated a Train Operator to utilise Access Rights relevant to all or any of the Train Services;
 - (B) either:
 - (1) the Access Holder must ensure a Train Operator does not operate; or
 - (2) Aurizon Network suspends the right of the Access Holder to have a Train Operator operate,

all or any of the Train Services; or

- (C) under the relevant train operations deed, either:
 - (1) the relevant Train Operator must not operate; or
 - (2) Aurizon Network suspends the right of the relevant Train Operator to operate, all or any of the Train Services; or
- (ii) where the Access Holder is a Train Operator, the Access Holder must not operate, or Aurizon Network suspends the right of the Access Holder to operate, all or any of the Train Services,

except to the extent of any express exceptions specified in the Access Holder's Access Agreement for the purpose of calculating Take or Pay charges where the Access Holder is taken to not have an entitlement to operate Train Services.

Take or Pay trigger

- (h) For the purpose of calculating Tariff Take or Pay in relation to a System Reference Tariff and to that extent only, the Tariff Take or Pay for a Year is not payable for that Year where the aggregate of the gtk for all coal carrying Train Services, to the extent that the Access Charges for those Train Services are set by reference to the relevant Reference Tariff, operated for that Year exceeds the amount calculated as:
 - (i) 100% of the Gtk Forecast identified for that Year for that Reference Tariff; less
 - (ii) the gtk not achieved due to the non-operation of Train Services for an Aurizon Network Cause.
- (i) Where Tariff Take or Pay for a System Reference Tariff is being determined, **clauses 3.3(j)** and **(m)** only apply where Tariff Take or Pay is payable after **clause 3.3(h)** has been applied.

Mine capping

- (j) If:
 - (i) Train Services operated in relation to an origin to destination in respect of a person (**End User**) who is either the Customer for those Train Services or the Access Holder for those Train Services (but who has no Customer) under an Access Agreement, exceed the Train Service Entitlement in that Access Agreement (**Exceeded Agreement**); and
 - (ii) there is another Access Agreement (excluding Access Agreements executed or renewed prior to 1 October 2010, and New Access Agreements where the relevant Old Access Agreement was executed or renewed within the same period) (**Other Agreement**) with Train Service Entitlements
-

for that same origin to destination and that End User that have not been exceeded,

then the Take or Pay liability under the Other Agreement will be reduced by the amount of the additional revenue from Access Charges for AT₂₋₄ from those excess Train Services under the Exceeded Agreement but only to the extent that both that Take or Pay liability and those Access Charges are set by reference to the same Reference Tariff. For clarity:

- (iii) where the additional revenue is greater than the Take or Pay liability under one or more Other Agreements, that additional revenue may be used to reduce the Take or Pay liability under those Other Agreements (where there is more than one Other Agreement, the reduction will be pro-rated, on the basis of the total revenue from AT₂₋₄ that Aurizon Network is entitled to earn over the relevant Year under each of those Other Agreements, assuming Train Services were operated with a Nominal Train Payload); and
- (iv) the additional revenue from an Exceeded Agreement can only be used for a reduction of Take or Pay liability under this **clause 3.3(j)** in respect of the Year in which that additional revenue arose and cannot be accrued, rolled over or otherwise used to reduce a Take or Pay liability for any other Year.

Tariff capping

- (k) **Clause 3.3(l)** must only be applied after **clause 3.3(j)** (if applicable) has been applied.
 - (l) Subject to **clause 3.3(m)**, and to **clause 3.3(j)** (if applicable) having first been applied, where the Total Actual Revenue for AT₂₋₄ in relation to Access Charges set by reference to the relevant Reference Tariff less the aggregate amount of Tariff Take or Pay that Aurizon Network is entitled to earn from all Access Agreements executed or renewed on or after 30 June 2006 (other than any new or varied Access Agreement to the extent entered or varied as part of transferring Access Rights from existing Access Agreements in place on the day immediately prior to 30 June 2006 under a provision of the Access Agreement which permits the transfer of Access Rights) (**Total Revenue**) is:
 - (i) greater than or equal to the Allowable Revenue for AT₂₋₄ in relation to the relevant Reference Tariff, Tariff Take or Pay is not payable for that Year under those Access Agreements (**Full Take or Pay Agreements**); or
 - (ii) less than the Allowable Revenue for AT₂₋₄ in relation to that Reference Tariff:
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- (A) Aurizon Network must calculate the aggregate amount of Tariff Take or Pay that Aurizon Network is entitled to earn from all Full Take or Pay Agreements (**Total Actual Take or Pay**); and
- (B) if the Total Actual Take or Pay exceeds the amount by which the Allowable Revenue for AT₂₋₄ in relation to the relevant Reference Tariff exceeds the Total Revenue from Access Charges set by reference to the relevant Reference Tariff (**Maximum Take or Pay Amount**), then:
 - (1) Aurizon Network must calculate for each relevant Access Holder, the proportion that the Access Holder's Tariff Take or Pay amount bears to the Total Actual Take or Pay (**Proportion**); and
 - (2) each relevant Access Holder's Tariff Take or Pay amount will be reduced to equal that Access Holder's Proportion of the Maximum Take or Pay Amount.
- (m) In determining what Aurizon Network would be entitled to earn for the purposes of **clause 3.3(I)**, Aurizon Network is deemed to have contracted on the terms of the relevant Standard Access Agreement (as defined under the Applicable Undertaking) that applied on the date of execution or renewal of an Access Agreement, except for:
 - (i) those Access Agreements which have been altered by agreement from that form in a manner consistent with the terms of any Approved Undertaking or approval of the QCA, in which case Aurizon Network's entitlement will be calculated in accordance with the terms of such Access Agreements; and
 - (ii) a New Access Agreement to the extent entered into as part of transferring Access Rights from an Old Access Agreement executed under the 2001 Undertaking, under a provision of the Access Agreement which permits the transfer of Access Rights, in which case Aurizon Network's entitlement to Tariff Take or Pay amounts will be calculated on the basis that Aurizon Network has contracted on the terms of the relevant Standard Access Agreement (as defined under the 2001 Undertaking) that applied on the date of execution of that Old Access Agreement.

Take or Pay for Expansions

- (n) In relation to Take or Pay in the context of an Expansion Tariff:
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- (i) The Take or Pay amount for an Access Holder that is required to pay an Expansion Tariff will be calculated in accordance with:
 - (A) the formulae in **clause 3.3(d)(iii)**; plus
 - (B) $AT5 \times egtk / 1000$;
 where the egtk is calculated by:
 - (C) the aggregate egtk that would have been achieved for the relevant Year had the full contracted entitlement been railed for the relevant Train Services; less
 - (D) the aggregate egtk not railed for the relevant Year due to the non-operation of Train Services for an Aurizon Network Cause; less
 - (E) the aggregate egtk railed for the relevant Year;
 provided always that the amount of Take or Pay for the Year must not be less than zero.
- (ii) In order to calculate egtk for the purposes of this clause, Aurizon Network will:
 - (A) identify from the Access Agreement the number of Train Services that would have operated had the full contracted entitlement been used;
 - (B) determine the number of Train Services that did not operate under that contracted entitlement due to an Aurizon Network Cause; and
 - (C) convert this to egtk by using the Nominal Train Payload for the relevant Reference Tariff as reasonably determined by Aurizon Network.
- (iii) For the avoidance of doubt:
 - (A) there is no Take or Pay trigger test – ie, **clause 3.3(h)** does not apply; and
 - (B) there are no capping mechanisms – ie, **clauses 3.3(j) to 3.3(m)** do not apply.

4 Annual review of Reference Tariffs

4.1 Requirement for annual review of Reference Tariffs

- (a) Prior to the beginning of each Year during the Term (except for the first Year) each Reference Tariff will be adjusted by Aurizon Network to reflect the variations to the applicable Allowable Revenue:
 - (i) for the relevant Year due to an adjustment to Second Year Allowable Revenue under **clause 4.4**; and
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- (ii) for the relevant Year and each subsequent Year during the Term in accordance with **clause 4.1(b)**.
- (b) Aurizon Network will submit to the QCA by 28 February of each Year during the Term:
 - (i) a revised Gtk Forecast for each Reference Tariff for the next Year;
 - (ii) details of the methodology, data and assumptions used to estimate the revised Gtk Forecast; and
 - (iii) the proposed adjustments, for each Reference Tariff, arising from any difference between the relevant revised Gtk Forecast and the Gtk Forecast used for the purpose of determining the Allowable Revenue for that Reference Tariff, to:
 - (A) the Allowable Revenue for the Reference Tariff for each subsequent Year during the Term; and
 - (B) the Reference Tariff for the next Year.
- (c) If, after receiving a submission under **clause 4.1(b)**, the QCA considers that an error has been made in the proposed revised Gtk Forecast or adjustments to Allowable Revenue or Reference Tariffs, then:
 - (i) the QCA will endeavour to notify Aurizon Network within forty (40) Business Days, providing details of the error and how the proposal needs to be amended in order for the QCA to approve it; and
 - (ii) after receiving that notice, Aurizon Network must within ten (10) Business Days either:
 - (A) show why it does not consider that the error has been made; or
 - (B) resubmit a corrected version of the submission.
- (d) The QCA may approve the revised Gtk Forecast, Allowable Revenues and Reference Tariffs if it considers that the revised Gtk Forecast is reasonable and the consequential adjustments to Allowable Revenues and Reference Tariffs are calculated properly.
- (e) If Aurizon Network does not make a submission under **clause 4.1(b)** in respect of a Year by 28 February, then no adjustments to the Gtk Forecast, Allowable Revenues or Reference Tariffs for that Year will be made under this **clause 4.1**.

4.2 Allowable Revenue

- (a) Subject to **clause 4.2(b)**, the Allowable Revenue:
 - (i) for AT_{2-4} in relation to a Reference Tariff for a Year, is the total revenue from AT_{2-4} arising from all Tariff Based Access
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Agreements in relation to that Reference Tariff that Aurizon Network is entitled to earn over the relevant Year as specified in the Reference Tariff (for example, as specified in **clauses 7.3, 8.3, 9.3, 10.3 and 11.3 of Schedule F**, as applicable), as amended from time to time, and as adjusted or varied in accordance with this **Schedule F** (but, for clarity, excluding any Adjusted Allowable Revenue); and

- (ii) for the AT₅ component of Access Charges in relation to a Reference Tariff for a Year, is the total revenue from the AT₅ component of Access Charges arising from all Tariff Based Access Agreements in relation to that Reference Tariff that Aurizon Network is entitled to earn over the relevant Year as specified in the Reference Tariff (for example, as specified in **clauses 7.3 and 8.3 of Schedule F**, as applicable) as amended from time to time, and as adjusted or varied in accordance with this **Schedule F**.
- (b) Unless otherwise agreed with the QCA, when calculating Allowable Revenue in relation to the Origin Tariff and the Destination Tariff for a Cross System Train Service, regardless of when the Cross System Train Service commenced:
- (i) for the Allowable Revenue for AT₂₋₄:
 - (A) the sum of the following components of Access Charges that Aurizon Network would be expected to earn in respect of a forecast Cross System Train Service:
 - (1) the AT₂ components calculated based on the relevant Destination Tariff and on **clause 2.3(a)(ii) of Schedule F**; and
 - (2) 50% of the AT₃ components calculated based on the relevant Destination Tariff, will be allocated to Allowable Revenue for the Destination Tariff; and
 - (B) all other Access Charges attributable to AT₂₋₄ which Aurizon Network would be expected to earn in respect of a forecast Cross System Train Service calculated based on the Origin Tariff applicable to that Cross System Train Service, will be allocated to the Allowable Revenue of the Origin Tariff; and
 - (ii) for the Allowable Revenue for AT₅, the AT₅ component of Access Charges that Aurizon Network would be expected to earn in respect of a forecast Cross System Train Service, calculated based on:
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- (A) the Origin Tariff and the egtk in the Origin System, will be allocated to the Allowable Revenue for the Origin Tariff; and
- (B) the Destination Tariff and the egtk in the Destination System, will be allocated to the Allowable Revenue for the Destination Tariff.

4.3 Calculation of Revenue Adjustment Amounts

Obligation to calculate Revenue Adjustment Amounts

After the end of each Year, Aurizon Network will calculate for that Year for each Reference Tariff:

- (a) an AT_{2-4} Revenue Adjustment Amount for that Reference Tariff by subtracting:
 - (i) the Adjusted Allowable Revenue for AT_{2-4} (calculated under **clause 4.3(c)**) for that Reference Tariff; from
 - (ii) the Total Actual Revenue for AT_{2-4} (calculated under **clause 4.3(d)**) in relation to that Reference Tariff,for that Year; and
- (b) an AT_5 Revenue Adjustment Amount for that Reference Tariff by subtracting:
 - (i) the Adjusted Allowable Revenue for AT_5 (calculated under **clause 4.3(c)**) for that Reference Tariff; from
 - (ii) the Total Actual Revenue for AT_5 (calculated under **clause 4.3(g)**) in relation to that Reference Tariff,for that Year.

Calculation of Adjusted Allowable Revenue

- (c) The Adjusted Allowable Revenue for AT_{2-4} or the AT_5 component of Access Charges in relation to a Reference Tariff is the sum of the following components of the applicable Allowable Revenue (as relevant to the applicable Allowable Revenue):
 - (i) the component relating to the recovery of Aurizon Network's maintenance costs, adjusted to reflect the difference between:
 - (A) the actual MCI value for the relevant Year; and
 - (B) the forecast MCI value that was used for the purpose of determining the relevant Reference Tariff for the relevant Year;
 - (ii) the component relating to the recovery of Aurizon Network's operating costs, excluding those costs referred to in **clause 4.3(c)(i)**, adjusted to reflect the difference between:
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- (A) the actual CPI and WPI values for the relevant Year; and
 - (B) the forecast CPI and WPI values that was used for the purpose of determining the relevant Reference Tariff for the relevant Year (respectively);
 - (iii) the components relating to the recovery of Aurizon Network's costs associated with the connection of Aurizon Network's electrical traction system to an electricity transmission or distribution network, adjusted to reflect the difference between:
 - (A) the actual costs for the relevant Year; and
 - (B) the forecast costs used for the purpose of determining the relevant Reference Tariff for the relevant Year;
 - (iv) the components relating to the recovery of Aurizon Network's costs for the cost of audits required under this Undertaking by the QCA for the relevant Year, but only to the extent that the QCA has approved in writing the relevant audit costs as efficiently incurred and such costs are not already recoverable by Aurizon Network elsewhere in this Undertaking;
 - (v) the components relating to the recovery of Aurizon Network's costs for the cost of any Conditions Based Assessment required under this Undertaking by the QCA for the relevant Year, but only to the extent that the QCA has approved in writing the relevant Condition Based Assessment costs as efficiently incurred and such costs are not already recoverable by Aurizon Network elsewhere in this Undertaking;
 - (vi) the component relating to the recovery of Aurizon Network's costs for ground penetrating radar measurement, but only to the extent that these costs have been prudently and efficiently incurred and are not already recoverable by Aurizon Network elsewhere in this Undertaking;
 - (vii) the components relating to the payment by Aurizon Network of rebates relating to the capital components of Access Charges attributable to the use of all or part of specified assets relating to the relevant Reference Tariff (other than under a User Funding Agreement), adjusted to reflect the difference between:
 - (A) the actual payment of rebates made under those agreements for the applicable assets; and
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- (B) the forecast payments of those rebates used for the purpose of determining the relevant Reference Tariff for the relevant Year;
- (viii) the components relating to the recovery of Aurizon Network's costs relating to, or arising out of compliance with this Undertaking that were not allowed for in the determination of the relevant Reference Tariff, but only to the extent that the QCA has approved in writing the relevant costs as efficiently incurred and such costs are not already recoverable by Aurizon Network elsewhere in this Undertaking; and
- (ix) all components excluding those costs referred to in any of **clauses 4.3(c)(i) to (viii)**.

Calculation of Total Actual Revenue for AT₂₋₄

- (d) The Total Actual Revenue for AT₂₋₄ in relation to the relevant Reference Tariff is the sum of:
 - (i) total revenue from AT₂₋₄, including all revenue from Overload Charges and any Ancillary Revenues relating to maintaining connections to Private Infrastructure (except to the extent that costs associated with maintaining connections to any Private Infrastructure are not specifically allowed for in the relevant Reference Tariff), for coal carrying Train Services, in relation to the relevant Reference Tariff that operated in the Year, that Aurizon Network would have earned (regardless of what it actually earned or collected), if that revenue were calculated consistent with the following:
 - (A) for a Train Service that is:
 - (1) consistent with the relevant Reference Train Service; and
 - (2) is not a Cross System Train Service, the AT₂, AT₃ and AT₄ components of the relevant Reference Tariff;
 - (B) for a Cross System Train Service that is consistent with the relevant Reference Train Service (to the extent that the relevant Reference Tariff applies), that part of the AT₂, AT₃ and AT₄ components of the relevant Reference Tariff allocated consistently with the method used in the calculation of the relevant Allowable Revenue under **clause 4.2(b)**;
 - (C) for a Train Service that varies from the relevant Reference Train Service due to it not complying with:
 - (1) **clause 1.3(b)(v)**, the AT₂ component of the Access Charge (where the Access

- Charge varies from the Reference Tariff under **clause 6.2.3(c)** of this Undertaking and the AT₃ and AT₄ components of the relevant Reference Tariff; or
- (2) any other part of **clause 1.3(b), (d) or (e)** (other than **clause 1.3(b)(v)** – with which it complies), the AT₂, AT₃ and AT₄ components of the relevant Reference Tariff; or
- (D) for a Train Service where the QCA has otherwise approved an Access Charge that differs from the relevant Reference Tariff, the amount of the AT₂, AT₃ and AT₄ components of the relevant Access Charge;
- (ii) the amount of all Take or Pay and, subject to **clause 4.3(e)**, Relinquishment Fees and Transfer Fees which Aurizon Network would be entitled to be paid in the relevant Year under Tariff Based Access Agreements, for coal carrying Train Services, in relation to the relevant Reference Tariff (or, for a Cross System Train Service, to the extent the relevant Reference Tariff applies to the setting of Access Charges for that Cross System Train Service) calculated on the basis that Aurizon Network is deemed to have contracted on the terms of the relevant Standard Access Agreement (as defined under the Applicable Undertaking) that applied on the date of execution or renewal of an Access Agreement, except for:
- (A) those Access Agreements which have been altered from the relevant Standard Access Agreement in accordance with any Approved Undertaking or as approved by the QCA, for which Aurizon Network's entitlement to Take or Pay amounts, Relinquishment Fees or Transfer Fees will be calculated in accordance with the terms of those Access Agreements; and
- (B) a New Access Agreement to the extent entered into as part of transferring Access Rights from an Old Access Agreement executed under the 2001 Undertaking, under provisions of the Access Agreement which permits the transfer of Access Rights, which has not been renewed after 30 June 2006, for which Aurizon Network's entitlement to Take or Pay amounts, Relinquishment Fees and Transfer Fees will be calculated on the basis that Aurizon Network has contracted on the terms of the relevant Standard Access Agreement (as defined
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under the 2001 Undertaking) that applied on the date of execution of that Old Access Agreement; and

(iii) all revenue from AT₂₋₄ that Aurizon Network would have been entitled to earn under a Tariff Based Access Agreement in relation to the relevant Reference Tariff during the relevant Year but for:

(A) Aurizon Network's wrongful act or omission which act or omission was intentional and deliberate whether or not Aurizon Network was aware that the act or omission was wrongful; or

~~(iii)~~ (B) -Aurizon Network's breach of that Access Agreement or negligence in the provision of Below Rail Services to the extent that such events of breach or negligence resulted in the non-provision of 5% or more of the total number of Train Services for any single origin-destination pair during the relevant Year (provided that, where Access Rights are held by a party that is not a Train Operator, the 5% threshold is measured across the number of Train Services for each single origin to destination pair under that Access Agreement, not any relevant train operations deed),

less any interest comprised in those amounts representing interest paid or payable to Aurizon Network in relation to Access Charges (including any Adjustment Charges). Where clause 4.3(d)(iii)(A) applies in respect of a breach of an Access Agreement, clause 4.3(d)(iii)(A) applies to the exclusion of clause 4.3(d)(iii)(B).

- (e) Subject to the QCA's approval, Aurizon Network may reduce the amount of any Relinquishment Fee or Transfer Fee used to calculate Total Actual Revenue for a Year if its inclusion will have a material effect on the AT₂₋₄ Revenue Adjustment Amount.
- (f) If Aurizon Network reduces the amount of any Relinquishment Fee or Transfer Fee under **clause 4.3(e) of Schedule F**, then the amount of the reduction must be carried forward to a following Year, including a return on capital amount, calculated by reference to the Discount Rate over the period starting on the first day of the Year in which the Relinquishment Fee or Transfer Fee is received and ending on the first day of the Year in which the Relinquishment Fee or Transfer Fee is included in the calculation of Total Actual Revenue.

Calculation of Total Actual Revenue for the AT₅ component of Access Charges

- (g) The Total Actual Revenue for the AT₅ component of Access Charges in relation to the relevant Reference Tariff is the sum of:

- (i) total revenue from the AT₅ component of Access Charges arising from all Tariff Based Access Agreements, for coal carrying Train Services, in relation to the relevant Reference Tariff that Aurizon Network has actually earned over the relevant Year (whether or not actually collected by Aurizon Network), calculated using:
- (A) for a Train Service for which **clause 6.9.1(b)** of this Undertaking applies, the amount of the AT₅ component of the relevant Access Charges; or
 - (B) if **paragraph (A)** does not apply:
 - (1) for a Cross System Train Service that is consistent with the relevant Reference Train Service, the AT₅ component of the relevant Reference Tariff allocated consistently with the method used in the calculation of the relevant Allowable Revenue under **clause 4.2(b)**; or
 - (2) where **paragraph (1)** does not apply, the AT₅ component of the relevant Reference Tariff; and
- (ii) all revenue from the AT₅ component of Access Charges that Aurizon Network would have been entitled to earn under a Tariff Based Access Agreement in relation to the relevant Reference Tariff during the relevant Year but for:
- (A) Aurizon Network's wrongful act or omission which act or omission was intentional and deliberate whether or not Aurizon Network was aware that the act or omission was wrongful; or
 - (B) -Aurizon Network's breach of that Access Agreement or negligence in the provision of Below Rail Services to the extent that such events of breach or negligence resulted in the non-provision of 5% or more of the total number of Train Services for any single origin-destination pair during the relevant Year (provided that, where Access Rights are held by a party that is not a Train Operator, the 5% threshold is measured across the number of Train Services for each single origin to destination pair under that Access Agreement, not any relevant train operations deed),

less any interest comprised in those amounts representing interest paid or payable to Aurizon Network in relation to Access Charges (including any Adjustment Charges). Where clause 4.3(g)(ii)(A)

[applies in respect of a breach of an Access Agreement, clause 4.3\(g\)\(ii\)\(A\) applies to the exclusion of clause 4.3\(g\)\(ii\)\(B\).](#)

Approval of Revenue Adjustment Amounts

- (h) Aurizon Network will submit to the QCA by 30 September after the end of each Year of the Term details of the methodology, data and assumptions used to calculate the Revenue Adjustment Amounts for that Year under this **clause 4.3** and **clause 4.4** provided that if, in that September, Adjustment Charges have not yet been approved relating to the relevant Year, then Aurizon Network is only required to submit the relevant information within thirty (30) days after those Adjustment Charges have been approved.
- (i) The QCA may give Aurizon Network a notice requiring Aurizon Network to submit the Revenue Adjustment Amounts, if Aurizon Network fails to do so under **clause 4.3(h)**.
- (j) The QCA may grant Aurizon Network an extension of the time for submitting, or resubmitting, the Revenue Adjustment Amounts if:
- (i) Aurizon Network provides a written request to the QCA for an extension of time; and
 - (ii) the extension of time is reasonable or necessary.
- If an extension of time is granted, Aurizon Network will submit the Revenue Adjustment Amounts within the time specified by the QCA.
- (k) The QCA may calculate Revenue Adjustment Amounts that are consistent with the requirements specified in this **clause 4.3**:
- (i) if Aurizon Network does not comply with a notice from the QCA under **clause 4.3(h)** or **4.3(n)(ii)**; or
 - (ii) if the QCA, under **clause 4.3(n)(ii)**, refuses to approve the Revenue Adjustment Amounts resubmitted by Aurizon Network.
- (l) Where Aurizon Network submits the Revenue Adjustment Amounts under **clause 4.3(h)**, the QCA may, to the extent it considers it appropriate to do so:
- (i) publish details of the Revenue Adjustment Amounts; and
 - (ii) invite and consider comments from stakeholders regarding the Revenue Adjustment Amounts.
- To the extent that such comments are provided, the QCA must give Aurizon Network a reasonable period to respond to those comments.
- (m) The QCA will approve any Revenue Adjustment Amounts if the QCA is reasonably satisfied that they have been calculated in accordance with this **clause 4.3**.
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- (n) If the QCA:
- (i) approves the Revenue Adjustment Amounts, the QCA will give Aurizon Network a notice stating the reasons for the QCA's decision; or
 - (ii) refuses to approve the Revenue Adjustment Amounts, the QCA will give Aurizon Network a notice:
 - (A) stating the reasons for its refusal and the way in which it considers that the Revenue Adjustment Amounts should be amended; and
 - (B) requiring Aurizon Network to amend the Revenue Adjustment Amounts in that way and to resubmit the Revenue Adjustment Amounts to the QCA within thirty (30) days after Aurizon Network receives that notice.
- (o) Aurizon Network must comply with a notice under **clause 4.3(n)(ii)**.
- (p) The QCA may approve Revenue Adjustment Amounts resubmitted by Aurizon Network or developed by the QCA under **clause 4.3(j)**, if it is satisfied that they:
- (i) are consistent with the matters specified under **clause 4.3(l)**; and
 - (ii) if a notice has been issued under **clause 4.3(n)(ii)**, have been amended or developed in accordance with that notice.
- (q) Despite any other provision in this Undertaking, in deciding whether to approve any Revenue Adjustment Amounts (and in requiring Aurizon Network to amend any Revenue Adjustment Amounts in any notice given under **clause 4.3(n)(ii)**) the QCA will include an amount of revenue (in calculating the Total Actual Revenue for the AT₂₋₄ component of Access Charges or the the Total Actual Revenue for the AT₅ component of Access Charges) that the QCA estimates acting reasonably is attributable to Aurizon Network's wrongful act or omission in accordance with clause 4.3(d)(iii)(A) or clause 4.3(g)(ii)(A) (as applicable). The QCA may require Aurizon Network to include an amount of revenue in calculating the Total Actual Revenue for the AT₂₋₄ component of Access Charges or the the Total Actual Revenue for the AT₅ component of Access Charges in accordance with this clause 4.3(q) whether or not Aurizon Network's Revenue Adjustment Amounts included any amount of revenue in accordance with clause 4.3(d)(iii)(A) or clause 4.3(g)(ii)(A).
- ~~(q)~~ (r) Despite any other provision of this Undertaking, to the extent that:
- (i) Adjustment Charges have been approved for a Year;
 - (ii) Aurizon Network is entitled or obliged to recover or reimburse those Adjustment Charges from or to Access Holders;
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- (iii) Aurizon Network is obliged under this Undertaking to calculate Revenue Adjustment Amounts in respect of that Year; and
- (iv) in recovering or reimbursing the Adjustment Charges, the Adjustment Charges are included in an invoice relating to a Billing Period in the Year in which the relevant Revenue Adjustment Amounts are required to be calculated,

then, the Total Actual Revenue for AT_{2-4} or AT_5 for each relevant Coal System for that Year and the Year in which the relevant Revenue Adjustment Amounts are required to be calculated must be adjusted to take account of the Adjustment Charges (but excluding the interest component of those Adjustment Charges).

4.4 Revenue adjustment

- (a) Where a Revenue Adjustment Amount has been approved by the QCA under **clause 4.3**:
 - (i) the equivalent Allowable Revenue to that used in the calculation of that Revenue Adjustment Amount for the relevant Reference Tariff for the Year after the Year in which that Revenue Adjustment Amount was calculated (that is, the **Second Year Allowable Revenue**) must be adjusted in accordance with this **clause 4.4**; and
 - (ii) the Allowable Revenue for all subsequent Years must also be adjusted to reflect the actual change in the MCI, CPI and WPI as used in the calculation of the approved Revenue Adjustment Amount.
 - (b) A Second Year Allowable Revenue will be adjusted as follows:
 - (i) for an AT_{2-4} Revenue Adjustment Amount, by subtracting from the relevant Second Year Allowable Revenue:
 - (A) that AT_{2-4} Revenue Adjustment Amount; and
 - (B) a return on capital amount, calculated by reference to the Discount Rate as applied to the AT_{2-4} Revenue Adjustment Amount over the period starting on the first day of the Year in which the Revenue Adjustment Amount is calculated and ending on the last day of the Year following that Year; and
 - (ii) for an AT_5 Revenue Adjustment Amount, by subtracting from the relevant Second Year Allowable Revenue:
 - (A) that AT_5 Revenue Adjustment Amount; and
 - (B) a return on capital amount, calculated by reference to the Discount Rate as applied to the AT_5 Revenue Adjustment Amount over the period starting on the
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first day of the Year in which the Revenue Adjustment Amount is calculated and ending on the last day of the Year following that Year.

- (c) Where a Second Year Allowable Revenue is adjusted under this **clause 4.4**, Aurizon Network must vary the relevant Reference Tariff as part of the adjustment of the relevant Reference Tariff under **clause 4.1(a)**.

5 Reference Tariff variations

5.1 Obligation to submit Reference Tariff variations

- (a) Aurizon Network:
- (i) may submit a Reference Tariff variation to the QCA, where Aurizon Network considers that the variation will promote efficient investment by either Aurizon Network or another person in the Supply Chain; or
 - (ii) must submit a Reference Tariff variation to the QCA, subject to **clause 5.6**:
 - (A) within sixty (60) days after:
 - (1) Aurizon Network becomes aware that an Endorsed Variation Event has occurred or a Review Event has occurred or will occur; or
 - (2) a notice being given to Aurizon Network by the QCA under **clause 5.1(b)**; or
 - (B) by 28 February prior to each Year of the Term, in accordance with **clause 4.1(a)** (if applicable).
- (b) The QCA may give Aurizon Network a notice requiring Aurizon Network to submit a Reference Tariff variation if Aurizon Network fails to submit a Reference Tariff variation within sixty (60) days, subject to **clause 5.6**, after the QCA determines, and notifies Aurizon Network, that an Endorsed Variation Event or a Review Event has occurred.
- (c) The QCA may develop a Reference Tariff variation that is consistent with the requirements specified in this **clause 5**:
- (i) if Aurizon Network does not comply with a written notice given by the QCA under **clause 5.1(b)** or **clause 5.5(e)(ii)** for it to submit, or resubmit, a Reference Tariff variation; or
 - (ii) if the QCA refuses to approve a Reference Tariff variation resubmitted by Aurizon Network in accordance with a notice given by the QCA under **clause 5.5(e)(ii)**.
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- (d) A Reference Tariff variation under this **clause 5** will include a revised Gtk Forecasts and Allowable Revenues to the extent applicable to that Reference Tariff variation.

5.2 Endorsed Variation Events

The occurrence of any of the following events is an Endorsed Variation Event:

- (a) a Change in Law or a Change in Relevant Taxes occurs, that either alone or in combination with all other Changes in Law or Changes in Relevant Taxes that have occurred since the Commencing Date, would cause a change in the costs reflected in the AT₃, AT₄, and/or AT₅ input of the relevant Reference Tariff of greater than 2.5% excluding the impact of any Change in Law or Change in Relevant Taxes that have previously resulted in a variation of the Reference Tariff;
- (b) a change in the pricing of one or more Distribution Entities and/or Transmission Entities that, either alone or in combination with all other changes in the pricing of relevant Distribution Entities and/or Transmission Entities that have occurred since the Commencing Date and that have not previously resulted in a variation of the Reference Tariff, would cause a change in the costs reflected in the AT₅ input of the relevant Reference Tariff of greater than 2.5%; or
- (c) the QCA Levy input of a relevant Reference Tariff is reviewed (taking into account any over or under recovery of fees via the QCA Levy component of Access Charges in the previous Year) following the QCA's announcement of its fees for the provision of regulatory services for the rail industry.

5.3 Review Event

The occurrence of a Force Majeure Event – of the type set out in either **paragraph (e), (l) or (m)** of the definition of that term – affecting Aurizon Network, to the extent that Aurizon Network has incurred or will incur additional Incremental Costs of greater than \$1 million that have not previously resulted in a variation of the relevant Reference Tariff, is a Review Event in respect of which Aurizon Network has given written notice to the QCA of Aurizon Network's intention to propose a variation to that Reference Tariff under this **clause 5**.

5.4 Requirements for submissions

Where Aurizon Network submits a Reference Tariff variation, the variation must:

- (a) nominate the Reference Tariff to be varied;
 - (b) include details of the methodology, data and assumptions used to vary the Reference Tariff;
 - (c) for a variation under **clause 5.1(a)(i)**, include information on:
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- (i) the matters set out in **clause 6.6** (Pricing limits) of this Undertaking; and
- (ii) why Aurizon Network considers that the variation of the Reference Tariff will promote efficient investment by either Aurizon Network or another person in the Supply Chain; and
- (d) for a variation in respect of an Endorsed Variation Event or a Review Event, evidence that the Endorsed Variation Event or Review Event has occurred or will occur.

5.5 Approval process

- (a) The QCA may publish details of Aurizon Network's proposed Reference Tariff variation and invite and consider comments from stakeholders regarding the proposed variation.
- (b) The QCA must give Aurizon Network a reasonable opportunity to respond to any comments from stakeholders that the QCA considers regarding the proposed variation. The QCA must consider all such responses from Aurizon Network.
- (c) The QCA may approve Aurizon Network's proposed Reference Tariff variation if the QCA is satisfied that:
 - (i) for a variation in respect of an Endorsed Variation Event:
 - (A) the Endorsed Variation Event has occurred; and
 - (B) the variation of the Reference Tariff is consistent with the change in the forecast cost resulting from the Endorsed Variation Event (including incremental maintenance and incremental capital costs), calculated as if all other assumptions originally used for the determination of Reference Tariffs are held constant;
 - (ii) for a variation in respect of a Review Event:
 - (A) the Review Event has occurred or will occur; and
 - (B) the variation of the relevant Reference Tariff:
 - (1) is consistent with the change in the cost resulting from or that will result from the Review Event; and
 - (2) reflects the impact of the relevant Review Event on the financial position of Aurizon Network (including the impact of incremental maintenance and incremental capital costs); and
 - (iii) for a variation in respect of either an Endorsed Variation Event or a Review Event, whether the proposed variation has been calculated as if all other Reference Tariffs were

also being recalculated due to the Endorsed Variation Event or Review Event (as applicable).

- (d) If the QCA approves a Reference Tariff variation:
 - (i) the QCA will give Aurizon Network a notice stating the reasons for the QCA's decision;
 - (ii) the Reference Tariff variation will apply, where the variation arose as a result of:
 - (A) an Endorsed Variation Event:
 - (1) from the first day of the Month immediately following the date of the occurrence of the Endorsed Variation Event; or
 - (2) where the date of the occurrence of the Endorsed Variation Event is the first day of a Month, from that date;
 - (B) an adjustment of Reference Tariffs under **clause 4.1**, from 1 July of the Year following the Year in which the variation was submitted; or
 - (C) a Review Event, from the date approved by the QCA (being a date that may be before, on or after the date on which the QCA approved that Reference Tariff variation); and
 - (iii) Aurizon Network must:
 - (A) publish details of the Reference Tariff variation on the Website; and
 - (B) advise Access Holders and Access Seekers, in respect of the relevant Reference Train Service, of the Reference Tariff variation.
 - (e) If the QCA refuses to approve a Reference Tariff variation, the QCA will give Aurizon Network a notice:
 - (i) stating the reasons for its refusal and the way in which the QCA considers that the variation should be amended; and
 - (ii) if that variation was required to be submitted by Aurizon Network under this **clause 5** in respect of an Endorsed Variation Event or a Review Event, requiring Aurizon Network to vary the Reference Tariff in the way the QCA considers it appropriate and to resubmit the variation to the QCA within twenty (20) Business Days after Aurizon Network receiving the notice, subject to **clause 5.6**.
 - (f) Aurizon Network must comply with a notice given under **clause 5.5(e)**.
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- (g) When considering whether to approve a resubmitted Reference Tariff variation or a Reference Tariff variation developed by the QCA under **clause 5.1(c)**, the QCA must take into account:
 - (i) the matters specified under **clause 5.5(c)** (as applicable); and
 - (ii) if applicable, whether the variation has been amended or developed in accordance with the QCA's prior decision (if any) to refuse to approve the relevant Reference Tariff variation.
- (h) For the purposes of **clause 5.1**:
 - (i) a Reference Tariff variation submitted by Aurizon Network or developed by the QCA under **clause 5.1** must include a review of Allowable Revenue and GtK Forecast to the extent applicable to that variation; and
 - (ii) the QCA in approving a variation of a Reference Tariff must also approve the corresponding variation of the applicable Allowable Revenue and GtK Forecast.

5.6 Extensions of time

- (a) The QCA may grant Aurizon Network an extension of the time for submitting, or resubmitting, a Reference Tariff variation if:
 - (i) Aurizon Network provides a written request to the QCA for an extension of time which includes the reasons why Aurizon Network requires the extension of time; and
 - (ii) the extension of time is reasonable or necessary.
- (b) If the QCA grants Aurizon Network an extension of time under **clause 5.6(a)**, Aurizon Network must submit or resubmit the Reference Tariff variation within the time specified by the QCA.

6 Adjustment Charges

6.1 Calculation of Adjustment Charges

- (a) Subject to **clause 6.3**, if:
 - (i) this Undertaking specifies that a Reference Tariff is applicable or effective from a date prior to the date on which that Reference Tariff was approved by the QCA; or
 - (ii) a variation of a Reference Tariff (including a variation approved under **clause 5**) is applicable or effective from a date prior to the date on which the variation was approved by the QCA,

Aurizon Network is entitled to recover from or will reimburse to, as applicable, each relevant Access Holder (or, if applicable, Train

Operator if it pays a component of the Access Charges the amount **(Adjustment Amount)** which is the sum of:

- (iii) the aggregate of the differences, for each relevant Access Holder (or, if applicable, Train Operator) for each calendar Month (or part thereof) since the date on which the Reference Tariff or the variation of the Reference Tariff was to apply or take effect (**Effective Date**) until the date on which that Reference Tariff was approved by the QCA or the variation of the Reference Tariff was made, as applicable, between:
 - (A) the Access Charges paid or payable by that Access Holder (or, if applicable, Train Operator) in respect of the Train Services operated by or for that Access Holder (or, if applicable, Train Operator) during that calendar Month (or part thereof); and
 - (B) the Access Charges that would have been paid or payable by that Access Holder (or, if applicable, Train Operator) in respect of those Train Services if the Access Charges were calculated in accordance with the Reference Tariff or the variation of the Reference Tariff referred to in **clause 6.1(a)(i)** or **(ii)** on and from the Effective Date; and
- (iv) the aggregate of the interest calculated in accordance with **clause 6.1(b)** in respect of the amount of each difference comprising the amount calculated in accordance with **clause 6.1(a)(iii)**,

by making adjustments to the Access Charges (**Adjustment Charge**) payable by Access Holders (or, if applicable, Train Operator if it pays a component of the Access Charges so as to recover or reimburse, as applicable, the Adjustment Amount (subject to the provisions of this Undertaking). To the extent that the Access Holder (or, if applicable, Train Operator) has not paid the original Access Charge to which an Adjustment Charge relates, then the Adjustment Charge may be set off against the amount payable by the Access Holder (or, if applicable, Train Operator).

- (b) The interest referred to in **clause 6.1(a)(iv)** must be calculated:
 - (i) in respect of the amount of each difference comprising the amount calculated under **clause 6.1(a)(iii)**;
 - (ii) on the basis that the interest:
 - (A) accrues and is charged from day to day; and
 - (B) is capitalised at the end of each Month and will thereafter itself bear interest;
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- (iii) at the rate equal to, for interest accruing in a Month:
 - (A) the mid-point of the one Month Bank Bill Swap Rate as published by the Australian Financial Markets Association (or its successor) for the Business Day immediately prior to the 21st day of the previous Month; or
 - (B) if that rate is no longer published, the rate will be an appropriate equivalent rate determined by Aurizon Network, acting reasonably; and
- (iv) for the period commencing on the date when the Access Charges used to calculate the applicable difference in accordance with **clause 6.1(a)(iii)(A)** were due and payable and ending on the date when the Adjustment Charge is to be due and payable,

provided that if Aurizon Network is required to reimburse an Adjustment Charge, then no interest will be calculated to the extent that the Access Holder (or, if applicable, Train Operator) has not paid the original Access Charge to which the Adjustment Charge relates.

6.2 Approval of Adjustment Charges

- (a) Aurizon Network:
 - (i) may, if it submits a Reference Tariff variation under **clause 5.1** and that variation is proposed to apply or take effect on a date prior to the date on which the QCA will approve the variation; or
 - (ii) must, if:
 - (A) the QCA approves a Reference Tariff variation under **clause 5.1** and that variation applies or takes effect on a date prior to the date on which the QCA approves the variation (and subject to **clause 6.2(a)(i)**); or
 - (B) this Undertaking specifies that a Reference Tariff is applicable or effective from a date prior to the date on which that Reference Tariff was approved by the QCA,
- submit to the QCA proposed Adjustment Charges.
- (b) Where Aurizon Network submits proposed Adjustment Charges to the QCA under **clause 6.2(a)**:
 - (i) Aurizon Network's submission must, without limitation:
 - (A) identify, subject to **clause 6.3(a)**, the Access Holders (or, if applicable, Train Operator) in respect of whom the proposed Adjustment Charges are to be applied;
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- (B) set out the proposed Adjustment Charges for each Access Holder (or, if applicable, Train Operator) including details of how those proposed Adjustment Charges were calculated;
 - (C) indicate the Billing Period(s) in respect of which the proposed Adjustment Charges are to be applied; and
 - (D) if applicable, how the proposed Adjustment Charges are to be allocated for the purposes of calculations under **clause 4.3**;
 - (ii) if the QCA considers it appropriate, the QCA may publish details of Aurizon Network's submission of proposed Adjustment Charges and invite and consider comments from stakeholders regarding the proposed Adjustment Charges; and
 - (iii) the QCA must approve:
 - (A) the Access Holders (and, if applicable, Train Operators) in respect of whom the Adjustment Charges are to apply;
 - (B) the Adjustment Charges that are to apply to each Access Holder (and, if applicable, Train Operator);
 - (C) the Billing Period(s) in respect of which the Adjustment Charges will be applied; and
 - (D) if applicable, how the Adjustment Charges must be allocated for the purposes of calculations under **clause 4.3**,

if the proposed Adjustment Charges submitted by Aurizon Network (excluding any interest component) constitute no more of a recovery or no less of a reimbursement of any under or over recovery of Access Charges by Aurizon Network that relate to each Access Holder (or, if applicable, Train Operator), and any interest component was calculated under **clause 6.1(b)(iii)(B)**.
 - (c) Aurizon Network must comply with an approval of the QCA given under **clause 6.2(b)(iii)** or **6.2(f)** including in applying the Adjustment Charge approved for each Access Holder to the calculation of Access Charges payable by that Access Holder (or, if applicable, Train Operator).
 - (d) If the QCA refuses to approve Aurizon Network's submission for an Adjustment Charge, the QCA must give Aurizon Network a notice:
 - (i) stating the reasons for its refusal and the way in which the QCA considers the proposed Adjustment Charge should be amended so as to constitute (excluding any interest
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- component) no more of a recovery or no less of a reimbursement of any under or over recovery of Access Charges by Aurizon Network that relate to each Access Holder (or, if applicable, Train Operator); and
- (ii) requiring Aurizon Network to vary the proposed Adjustment Charge in the way the QCA considers it appropriate and resubmit the amended proposal to the QCA within thirty (30) days of Aurizon Network receiving the notice.
- (e) Aurizon Network must comply with a notice given under **clause 6.2(d)**.
 - (f) The QCA must approve a resubmitted proposal for Adjustment Charges, if the resubmitted proposal has been amended or developed in accordance with the QCA's notice given under **clause 6.2(d)** and the QCA is satisfied that the proposed Adjustment Charges resubmitted by Aurizon Network (excluding any interest component) constitute no more of a recovery or no less of a reimbursement of any under or over recovery of Access Charges by Aurizon Network that relate to each Access Holder (or, if applicable, Train Operator).

6.3 Application to Access Holders and Train Operators

- (a) An Adjustment Charge may only apply to:
 - (i) an Access Holder (**New Access Holder**) that did not run, or cause a Train Operator to run; or
 - (ii) a Train Operator (**New Train Operator**) that did not operate, the Train Services to which that Adjustment Charge relates (**Past Train Services**) if:
 - (iii) the Access Holder who ran (or caused a Train Operator to run) or the Train Operator who operated (as applicable), the Past Train Services no longer has (or, at the time when the Adjustment Charges are to be applied, will have ceased to have) a rail haulage agreement with the Customer relating to the Past Train Services or in respect of Train Services with the same origin and destination as the Past Train Services;
 - (iv) either:
 - (A) the New Access Holder or New Train Operator (as applicable) has a rail haulage agreement with the person who was the Customer referred to in **clause 6.3(a)(iii)** (including that Customer's successors and assigns) in respect of Train Services with the same origin and destination as the Past Train Services; or
 - (B) the New Access Holder was that Customer (or is that Customer's successor or assign); and

- (v) either:
 - (A) for a New Access Holder, the New Access Holder has been granted Access Rights with the same origin and destination as the Past Train Services; or
 - (B) for a New Train Operator, the New Train Operator's Train Operations Deed includes right to operate Train Services with the same origin and destination as the Past Train Services.
 - (b) No Adjustment Charge will apply to an Access Holder who ran the Past Train Services if that Access Holder has, at the time when the Adjustment Charges are to be applied, ceased to have a rail haulage agreement with the Customer for the Past Train Services (including that person's successors and assigns) in respect of Train Services with the same origin and destination as the Past Train Services provided that with the cessation of that rail haulage agreement, the applicable Access Rights were either relinquished or expired.
 - (c) For clarity:
 - (i) where:
 - (A) an Access Holder does not have a Train Operator; and
 - (B) if that Access Holder had a Train Operator, Adjustment Charges would be applied to that Train Operator in accordance with **clause 6.2(a)**,any such Adjustment Charge will apply to the Access Holder; or
 - (ii) where:
 - (A) a Past Train Service was or was entitled to be operated under an Access Agreement by a relevant Train Operator (**Past Train Operator**);
 - (B) there is no New Access Holder; and
 - (C) either the Access Holder, at the time when the Adjustment Charges are to be applied:
 - (1) does not have a Train Operator under that Access Agreement; or
 - (2) has a Train Operator but that person is not the Past Train Operator,any such Adjustment Charge will:
 - (D) if there is no Train Operator, apply to the Access Holder; or
 - (E) otherwise, apply to the relevant Train Operator.
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- (d) The calculation of Access Charges under an Access Agreement must be reviewed and varied to provide for the payment of Adjustment Charges in respect of the relevant Access Holder (or, if applicable, Train Operator) including:
- (i) that the Access Charges payable by the Access Holder (or, if applicable, Train Operator) must include any applicable Adjustment Charge from time to time in relation to or in connection with any variation of a Reference Tariff that applies or takes effect on a past date or any Reference Tariff that this Undertaking states is applicable or effective from a past date; and
 - (ii) that an Adjustment Charge must be applied to the calculation of the amount of the invoice for charges payable by the Access Holder (or, if applicable, Train Operator) under the Access Agreement for the relevant Billing Period.

7 Blackwater System – System Reference Tariff

7.1 Additional Reference Train Service criteria

In addition to **clause 1.3**, the Reference Train Service to which this **clause 7** applies must also satisfy the following criteria:

- (a) **(Coal System)** operates in the Blackwater System;
- (b) **(Operational characteristics)** meets the following criteria:
 - (i) a maximum Comparative Length of 1709 metres, unless operating from Minerva where it will be 1240 metres;
 - (ii) a maximum axle load of 26.5 tonne for a wheel configuration consistent with M220⁵ loading, or otherwise generates a loading equivalent to M220, except that Train Services operating from Minerva will have a maximum axle load of 20 tonne – with loading in excess of this maximum axle load dealt with in accordance with the relevant Load Variation Table; and
 - (iii) uses diesel or electric traction, except operating from Minerva where it will only use diesel traction.
- (c) **(Conditions of Access)** where its Access Agreement has an “Average Below Rail Transit Time Threshold” (as defined under the relevant Standard Access Agreement) or another equivalent threshold or performance level relating to Aurizon Network (**Threshold**) and that Threshold is no less than 127%;

⁵ As specified in the ANZRC Railway Bridge Design Manual 1974.

- (d) **(Loading Facilities)** uses the following Nominated Loading Facilities and does not exceed the following Loading Times:

Nominated Loading Facilities⁶	Loading Time (hours) per return trip
Yarrabee (Boonal)	3.8
Jellinbah (Boonal)	4.6
Boorgoon	3.8
Curragh	3.3
Ensham	3.2
German Creek	3.0
Gregory	3.0
Kestrel (Gordonstone)	3.3
Kinrola	3.15
Koorilgah	5.0
Minerva	2.3
Oaky Creek	2.6
Rolleston	4.3
Yongala	3.2
Lake Vermont	3.0

- (e) **(Unloading Facilities)** uses the following Nominated Unloading Facilities and does not exceed the following Unloading Times:

Nominated Unloading Facilities⁷	Unloading Time (hours) per return trip
Barney Point	5.0
Cement Australia	6.0
Comalco Refinery	6.0

⁶ Diagrams showing the location of the Nominated Loading Facilities for a nominated Reference Train Service are included in the Preliminary Information for the relevant Coal System.

⁷ Diagrams showing the location of the Nominated Unloading Facilities for a nominated Reference Train Service are included in the Preliminary Information for the relevant Coal System.

Nominated Unloading Facilities ⁷	Unloading Time (hours) per return trip
Gladstone Power Station	4.3
Golding/RG Tanna Terminal	2.6
Queensland Alumina Ltd (QAL) ⁸	8.9
Stanwell Power Station	2.3
Wiggins Island Coal Export Terminal	1.5 ⁹

(f) **(Dwell Period)** has Dwell periods not exceeding the following:

	Dwell period (hours) per return trip
Inclusive of Train examination	9.2
Excluding Train examination	3.2

7.2 Reference Tariff inputs

(a) Subject to **clause 7.2(c)**, the Reference Tariff inputs are:

Reference Tariff input	2017/18 [^] (\$)	2018/19 (\$)	2019/20 (\$)	2020/21 (\$)
AT ₁	0.93	0.95	0.97	0.99
AT ₂	2,187.59	2,214.28	2,241.29	2,268.64
AT ₃	7.71*	7.53*	7.48*	7.43*
AT ₄	2.62	2.57	2.55	2.61
AT ₅	3.31	3.26	3.26	3.26
EC	0.77	0.79	0.80	0.81
QCA Levy	0.02929	0.02965	0.03001	0.03038

* This amount must be adjusted by subtracting the System Discount under **clause 7.2(b)** where the System Discount, applies to the relevant Train Service.

[^] To be updated upon QCA approval of 2015-16 revenue cap.

⁸ The Unloading Time for the QAL refinery represents the time the Train Service is off the Rail Infrastructure on the relevant Private Infrastructure.

⁹ For services from the North Coast Line 0.7 hours.

- (b) The System Discounts for Train Services to or from Nominated Loading Facilities or Nominated Unloading Facilities are:

Nominated Unloading Facilities	System Discount (\$/ntk)			
	2017/18	2018/19	2019/20	2020/21
Stanwell Power Station	2.70	2.64	2.62	2.60

- (c) The Reference Tariff inputs referred to below in relation to a Nominated Loading Facility replace the equivalent Reference Tariff inputs in **clause 7.2(a)** for any Train Service using that Nominated Loading Facility:

Nominated Loading Facility	Reference Tariff input	2017/18 (\$)	2018/19 (\$)	2019/20 (\$)	2020/21 (\$)
Rolleston	AT ₃	9.00	7.82	7.73	7.43

- (d) For clarity, where a Train Service operating in the Blackwater System is a Cross System Train Service, the Reference Tariff inputs set out above relating to that Train Service are subject to **clause 2.3**.

- (e) The Nominal Train Payload for:

- (i) a Train Service (other than a Cross System Train Service or a Train Service referred to in **clause 7.2(e)(iii)**) to which the Reference Tariff in this **clause 7** applies, is a nominal nt of 8,211 tonnes;
- (ii) a Cross System Train Service where the Destination System is the Blackwater System, is a nominal nt of 8,211 tonnes;
or
- (iii) a Train Service (other than a Cross System Train Service) that has Minerva as a Nominated Loading Facility, is a nominal nt of 5,831 tonnes.

7.3 Gtk Forecast and Allowable Revenues

Year	Gtk Forecast (,000 gtk)	Allowable Revenue – AT ₂₋₄ (\$)	Allowable Revenue – AT ₅ (\$)
2017/18 ¹	38,500,357	411,018,335	96,614,424
2018/19	39,384,679	405,287,283	97,428,007

Year	Gtk Forecast (,000 gtk)	Allowable Revenue – AT ₂₋₄ (\$)	Allowable Revenue – AT ₅ (\$)
2019/20	39,603,874	403,033,865	98,113,879
2020/21	39,675,500	404,497,734	98,429,832

(1) To be updated upon QCA approval of 2015-16 revenue cap.

8 Goonyella System – System Reference Tariff

8.1 Additional Reference Train Service criteria

In addition to **clause 1.3**, the Reference Train Service to which this **clause 8** applies must also satisfy the following criteria:

- (a) **(Coal System)** operates in the Goonyella System;
- (b) **(Operational characteristics)** meets the following criteria:
 - (i) a maximum Comparative Length of 2082 metres;
 - (ii) a maximum axle load of 26.5 tonne for a wheel configuration consistent with M220¹⁰ loading, or otherwise generates a loading equivalent to M220 – with loading in excess of this maximum axle load dealt with in accordance with the relevant Load Variation Table; and
 - (iii) uses diesel or electric traction.
- (c) **(Conditions of Access)** where its Access Agreement has an “Average Below Rail Transit Time Threshold” (as defined under the relevant Standard Access Agreement) or another equivalent threshold or performance level relating to Aurizon Network (**Threshold**) and that Threshold is no less than 123%;
- (d) **(Loading Facilities)** uses the following Loading Facilities and does not exceed the following Loading Times:

Nominated Loading Facilities ¹¹	Loading Time (hours) per return trip
Blair Athol (Clermont)	3.1
Burton	3.8
Carborough Downs	3.5

¹⁰ As specified in the ANZRC Railway Bridge Design Manual 1974.

¹¹ Diagrams showing the location of the Nominated Loading Facilities for a nominated Reference Train Service are included in the Preliminary Information for the relevant Coal System.

Nominated Loading Facilities¹¹	Loading Time (hours) per return trip
Caval Ridge*	2.5
German Creek	2.9
Goonyella	3.9
Gregory	3.6
Hail Creek	2.6
Isaac Plains	3.9
Lake Vermont	3.0
Macarthur (Coppabella)	3.9
Millennium	3.0
Middlemount*	3.5
Moorvale	3.6
Moranbah North	3.6
North Goonyella	4.3
Norwich Park	3.9
Oaky Creek	3.2
Peak Downs	4.2
Riverside	4.6
Saraji	4.4
South Walker Creek	3.8

* Balloon loops for these loading facilities are Private Infrastructure

(e) **(Unloading Facilities)** uses the following Nominated Unloading Facilities and does not exceed the following Unloading Times:

Nominated Unloading Facilities¹²	Unloading Time (hours) per return trip
Dalrymple Bay	Pit 1 – 2.5

¹² Diagrams showing the location of the Nominated Unloading Facilities for a nominated Reference Train Service are included in the Preliminary Information for the relevant Coal System.

Nominated Unloading Facilities ¹²	Unloading Time (hours) per return trip
	Pit 2 – 2.5 Pit 3 – 2.0
Hay Point	2.8

(f) **(Dwell Period)** has Dwell periods not exceeding the following:

	Dwell period (hours) per return trip
Inclusive of Train examination	8.8
Excluding Train examination	1.8

8.2 Reference Tariff inputs

(a) Subject to **clause 8.2(b)**, the Reference Tariff inputs are:

Reference Tariff input	2017/18 [^] (\$)	2018/19 (\$)	2019/20 (\$)	2020/21 (\$)
AT ₁	0.65	0.66	0.67	0.68
AT ₂	1,385.97	1,402.88	1,419.99	1,437.31
AT ₃	5.92	5.97	6.34	6.19
AT ₄	1.24	1.25	1.32	1.29
AT ₅	2.01	2.01	2.05	2.08
EC	0.77	0.79	0.80	0.81
QCA Levy	0.02929	0.02965	0.03001	0.03038

[^] To be updated upon QCA approval of 2015-16 revenue cap.

(b) The Reference Tariff inputs referred to below in relation to a Nominated Loading Facility replace the equivalent Reference Tariff inputs in **clause 8.2(a)** for any Train Service using that Nominated Loading Facility:

Nominated Loading Facility	Reference Tariff input	2017/18 (\$)	2018/19 (\$)	2019/20 (\$)	2020/21 (\$)
Middlemount	AT ₃	3.86	3.86	3.93	3.88
	AT ₄	1.03	1.03	1.05	1.04

Nominated Loading Facility	Reference Tariff input	2017/18 (\$)	2018/19 (\$)	2019/20 (\$)	2020/21 (\$)
	AT ₅	1.02	1.03	1.07	1.10
Caval Ridge	AT ₃	4.04	4.11	4.47	4.31
	AT ₄	0.84	0.86	0.93	0.90
	AT ₅	1.58	1.64	1.67	1.70

- (c) For clarity, where a Train Service operating in the Goonyella System is a Cross System Train Service, the Reference Tariff inputs set out above relating to that Train Service are subject to **clause 2.3**.
- (d) The Nominal Train Payload for:
- (i) a Train Service (other than a Cross System Train Service) to which the Reference Tariff in this **clause 8** applies; or
 - (ii) a Cross System Train Service where the Destination System is the Goonyella System,
- is a nominal nt of 10,055 tonnes.

8.3 Gtk Forecast and Allowable Revenues

Year	Gtk Forecast (,000 gtk)	Allowable Revenue – AT ₂₋₄ (\$)	Allowable Revenue – AT ₅ (\$)
2017/18 ¹	39,617,676	326,651,609	77,937,299
2018/19	39,617,676	329,304,209	78,266,524
2019/20	39,528,336	347,912,440	79,517,035
2020/21	39,491,463	340,841,164	80,723,521

(1) To be updated upon QCA approval of 2015-16 revenue cap.

9 Moura System – System Reference Tariff

9.1 Additional Reference Train Service criteria

In addition to **clause 1.3**, the Reference Train Service to which this **clause 9** applies must also satisfy the following criteria:

- (a) **(Coal System)** operates in the Moura System;
- (b) **(Operational characteristics)** meets the following criteria:
 - (i) a maximum Comparative Length of 1000 metres;

- (ii) a maximum axle load of 26.5 tonne for a wheel configuration consistent with M220¹³ loading, or otherwise generates a loading equivalent to M220 – with loading in excess of this maximum axle load dealt with in accordance with the relevant Load Variation Table; and
- (iii) uses diesel traction;
- (c) **(Conditions of Access)** where its Access Agreement has an “Average Below Rail Transit Time Threshold” (as defined under the relevant Standard Access Agreement) or another equivalent threshold or performance level relating to Aurizon Network (**Threshold**) and that Threshold is no less than 130%;
- (d) **(Loading Facilities)** uses the following Nominated Loading Facilities and does not exceed the following Loading Times:

Nominated Loading Facilities ¹⁴	Loading Time (hours) per return trip
Baralaba	4.9
Boundary Hill	3.4
Dunn Creek (Callide)	4.2
Moura	3.6

- (e) **(Unloading Facilities)** uses the following Nominated Unloading Facilities and does not exceed the following Unloading Times:

Nominated Unloading Facilities ¹⁵	Unloading Time (hours) per return trip
Barney Point	5.0
Cement Australia	4.3
Comalco Refinery	6.0
Gladstone Power Station	4.3
Golding/RG Tanna Terminal	2.6

¹³ As specified in the ANZRC Railway Bridge Design Manual 1974.

¹⁴ Diagrams showing the location of the Nominated Loading Facilities for a nominated Reference Train Service are included in the Preliminary Information for the relevant Coal System.

¹⁵ Diagrams showing the location of the Nominated Unloading Facilities for a nominated Reference Train Service are included in the Preliminary Information for the relevant Coal System.

Nominated Unloading Facilities ¹⁵	Unloading Time (hours) per return trip
Queensland Alumina Ltd (QAL) ¹⁶	8.9
Wiggins Island Coal Export Terminal	1.5 ¹⁷

(f) **(Dwell Period)** has Dwell periods not exceeding the following:

	Dwell period (hours)per return trip
Inclusive of Train examination	6.2
Excluding Train examination	3.2

9.2 Reference Tariff inputs

(a) The Reference Tariff inputs are:

Reference Tariff input	2017/18 [^] (\$)	2018/19 (\$)	2019/20 (\$)	2020/21 (\$)
AT ₁	1.73	1.77	1.80	1.83
AT ₂	655.26	663.26	671.35	679.54
AT ₃	11.57	11.81	12.13	12.29
AT ₄	1.88	1.92	1.97	2.00
QCA Levy	0.02929	0.02965	0.03001	0.03038

[^] To be updated upon QCA approval of 2015-16 revenue cap.

(b) The Reference Tariff inputs referred to below in relation to a Nominated Loading Facility replace the equivalent Reference Tariff inputs in **clause 9.2(a)** for any Train Service using that Nominated Loading Facility:

¹⁶ The Unloading Time for the QAL refinery represents the time the Train Service is off the Rail Infrastructure on the relevant Private Infrastructure.

¹⁷ For services from the North Coast Line 0.7 hours.

Nominated Loading Facility	Reference Tariff input	2017/18 (\$)	2018/19 (\$)	2019/20 (\$)	2020/21 (\$)
Baralaba ¹	AT ₃	-	-	-	-

(1) Only those Train Services from this loading facility that terminate at Wiggins Island Coal Export Terminal are subject to this Reference Tariff input.

- (c) For clarity, where a Train Service operating in the Moura System is a Cross System Train Service, the Reference Tariff inputs set out above relating to that Train Service are subject to **clause 2.3**.
- (d) The Nominal Train Payload for:
- (i) a Train Service to which the Reference Tariff in this **clause 9** applies; or
 - (ii) a Cross System Train Service where the Destination System is the Moura System,
- is a nominal nt of 6,269 tonnes.

9.3 Gtk Forecast and Allowable Revenues

Year	Gtk Forecast (,000 gtk)	Allowable Revenue – AT ₂₋₄ (\$)
2017/18 ¹	2,796,252	41,501,336
2018/19	2,796,252	42,327,201
2019/20	2,796,252	43,447,347
2020/21	2,796,252	44,022,880

(1) To be updated upon QCA approval of 2015-16 revenue cap.

10 Newlands System – System Reference Tariff

10.1 Additional Reference Train Service criteria

In addition to **clause 1.3**, the Reference Train Service to which this **clause 10** applies must also satisfy the following criteria:

- (a) **(Coal System)** operates in the Newlands System;
- (b) **(Operational characteristics)** meets the following criteria:
 - (i) a maximum Comparative Length of 1402 metres;

- (ii) a maximum axle load of 26.5 tonne for a wheel configuration consistent with M220¹⁸ loading, or otherwise generates a loading equivalent to M220 – with loading in excess of this maximum axle load dealt with in accordance with the relevant Load Variation Table; and
- (iii) uses diesel traction;
- (c) **(Conditions of Access)** where its Access Agreement has an “Average Below Rail Transit Time Threshold” (as defined under the relevant Standard Access Agreement) or another equivalent threshold or performance level relating to Aurizon Network (**Threshold**) and that Threshold is no less than 160%;
- (d) **(Loading Facilities)** uses the following Nominated Loading Facilities and does not exceed the following Loading Times:

Nominated Loading Facilities ¹⁹	Loading Time (hours) per return trip
McNaughton	1.85
Newlands	2.05
Sonoma	2.4

- (e) **(Unloading Facilities)** uses the following Nominated Unloading Facilities and does not exceed the following Unloading Times:

Nominated Unloading Facilities ²⁰	Unloading Time (hours) per return trip
Abbot Point	2.05

- (f) **(Dwell Period)** has Dwell periods not exceeding the following:

	Dwell period (hours)per return trip
Inclusive of Train examination	6.4
Excluding Train examination	2.4

10.2 Reference Tariff inputs

- (a) The Reference Tariff inputs are:

¹⁸ As specified in the ANZRC Railway Bridge Design Manual 1974.

¹⁹ Diagrams showing the location of the Nominated Loading Facilities for a nominated Reference Train Service are included in the Preliminary Information for the relevant Coal System.

²⁰ Diagrams showing the location of the Nominated Unloading Facilities for a nominated Reference Train Service are included in the Preliminary Information for the relevant Coal System.

Reference Tariff input	2017/18 [^] (\$)	2018/19 (\$)	2019/20 (\$)	2020/21 (\$)
AT ₁	1.80	1.84	1.87	1.91
AT ₂	292.98	296.55	300.17	303.83
AT ₃	11.31	12.15	12.84	13.74
AT ₄	1.62	1.74	1.83	1.96
QCA Levy	0.02929	0.02965	0.03001	0.03038

[^] To be updated upon QCA approval of 2015-16 revenue cap.

- (b) For clarity, where a Train Service operating in the Newlands System is a Cross System Train Service, the Reference Tariff inputs set out above relating to that Train Service are subject to **clause 2.3**.
- (c) The Nominal Train Payload for:
- (i) a Train Service (other than a Cross System Train Service) to which the Reference Tariff in this **clause 10** applies; or
 - (ii) a Cross System Train Service where the Destination System is the Newlands System,
- is a nominal nt of 6,871 tonnes.

10.3 Gtk Forecast and Allowable Revenues

Year	Gtk Forecast (,000 gtk)	Allowable Revenue – AT ₂₋₄ (\$)
2017/18 ¹	2,105,250	30,502,827
2018/19	2,105,250	32,727,070
2019/20	2,105,250	34,533,118
2020/21	2,105,250	36,925,763

(1) To be updated upon QCA approval of 2015-16 revenue cap.

11 Goonyella to Abbot Point System – System Reference Tariff

11.1 Additional Reference Train Service criteria

In addition to **clause 1.3**, the Reference Train Service to which this **clause 11** applies must also satisfy the following criteria:

- (a) **(Coal System)** operates in the Goonyella to Abbot Point System;
- (b) **(Operational characteristics)** meets the following criteria:
 - (i) a maximum Comparative Length of 1402 metres;
 - (ii) a maximum axle load of 26.5 tonne for a wheel configuration consistent with M220²¹ loading, or otherwise generates a loading equivalent to M220 – with loading in excess of this maximum axle load dealt with in accordance with the relevant Load Variation Table; and
 - (iii) uses diesel traction.
- (c) **(Conditions of Access)** where its Access Agreement has an “Average Below Rail Transit Time Threshold” (as defined under the relevant Standard Access Agreement) or another equivalent threshold or performance level relating to Aurizon Network (**Threshold**) and that Threshold is no less than 160%;
- (d) **(Loading Facilities)** uses the following Nominated Loading Facilities and does not exceed the following Loading Times:

Nominated Loading Facilities ²²	Loading Time (hours) per return trip
Riverside	3.0
Peak Downs	3.0
Lake Vermont	2.05 (estimate) ²³
Blair Athol (Clermont)	2.04 (estimate) ²⁴
Middlemount*	2.75
Caval Ridge*	1.85

²¹ As specified in the ANZRC Railway Bridge Design Manual 1974.

²² Diagrams showing the location of the Nominated Loading Facilities for a nominated Reference Train Service are included in the Preliminary Information for the relevant Coal System.

²⁴ This is an estimate of loading time for this Loading Facility. Aurizon will review this loading time in accordance with the relevant Access Agreement. A variation from the loading time will not result in the Train Service being considered not to be a Reference Train Service until after the loading time is reviewed in accordance to the relevant Access Agreement.

* Balloon loops for these loading facilities are Private Infrastructure.

(e) **(Unloading Facilities)** uses the following Nominated Unloading Facilities and does not exceed the following Unloading Times:

Nominated Unloading Facilities ²⁵	Unloading Time (hours) per return trip
Abbot Point	2.05

(f) **(Dwell Period)** has Dwell periods not exceeding the following:

	Dwell period (hours)per return trip
Inclusive of Train examination	7.35 per consist every 20 days
Excluding Train examination	1.35

11.2 Reference Tariff inputs

(a) The Reference Tariff inputs are:

Reference Tariff input	2017/18 [^] (\$)	2018/19 (\$)	2019/20 (\$)	2020/21 (\$)
AT ₁	1.45	1.48	1.51	1.54
AT ₂	13,600.69	13,766.62	13,934.57	14,104.57
AT ₃	1.93	1.91	1.76	1.77
AT ₄	4.59	3.86	3.64	3.50
QCA Levy	0.02929	0.02965	0.03001	0.03038

[^] To be updated upon QCA approval of 2015-16 revenue cap.

(b) The Nominal Train Payload for:

- (i) a Train Service to which the Reference Tariff in this **clause 11** applies; or
- (ii) a Cross System Train Service where the Destination System is the Goonyella to Abbot Point System,
is a nominal nt of 6,871 tonnes.

²⁵ Diagrams showing the location of the Nominated Unloading Facilities for a nominated Reference Train Service are included in the Preliminary Information for the relevant Coal System.

11.3 Gtk Forecast and Allowable Revenues

Year	Gtk Forecast (,000 gtk)	Allowable Revenue – AT ₂₋₄ (\$)
2017/18 ¹	9,673,950	143,042,517
2018/19	10,078,367	141,915,514
2019/20	10,078,367	137,907,936
2020/21	10,078,367	136,324,202

(1) To be updated upon QCA approval of 2015-16 revenue cap.

12 Transitional provisions – Monthly System Forecasts for 2001 Undertaking Access Agreements

(a) This **clause 12** sets out Monthly System Forecasts for the Blackwater System and Newlands System²⁶ that are to be used as the ‘System Forecasts’ of gtk for the purposes of:

- (i) Access Agreements; and
- (ii) New Access Agreements where the relevant Old Access Agreement was,

executed or renewed during the term of the 2001 Undertaking including in relation to the calculation of “VTP” and “IATP” for Take or Pay charges.

(b) For clarity:

- (i) the Monthly System Forecasts for a Coal System are based on the Gtk Forecast for the System Reference Tariff for that Coal System. Changes to the Gtk Forecast for a System Reference Tariff will affect the Monthly System Forecast for that Coal System; and
- (ii) any process, obligation or right to vary a Gtk Forecast for a System Reference Tariff for a Coal System under this Undertaking must also include any consequential variation to the Monthly System Forecast for that Coal System under this **clause 12**.

²⁶ **Clause 12** does not apply in relation to the Goonyella System and the Moura System as there are no longer any Access Agreements, or New Access Agreements where the relevant Old Access Agreement was, executed or renewed during the term of the 2001 Undertaking.

Blackwater System

Month	System Gtk (,000 gtk)	Month	System Gtk (,000 gtk)
Jul-18	3,349,644	Jul-20	3,445,653
Aug-18	3,472,781	Aug-20	3,572,320
Sep-18	3,275,179	Sep-20	3,369,054
Oct-18	3,343,674	Oct-20	3,439,512
Nov-18	3,254,327	Nov-20	3,347,604
Dec-18	3,241,758	Dec-20	3,334,675
Jan-19	2,946,713	Jan-21	3,031,173
Feb-19	2,431,710	Feb-21	2,501,408
Mar-19	3,086,038	Mar-21	3,174,492
Apr-19	3,185,622	Apr-21	3,276,930
May-19	3,406,658	May-21	3,504,302
Jun-19	3,506,253	Jun-21	3,606,751
Jul-19	3,426,583	Jul-21	3,451,885
Aug-19	3,552,548	Aug-21	3,578,780
Sep-19	3,350,407	Sep-21	3,375,147
Oct-19	3,420,475	Oct-21	3,445,732
Nov-19	3,329,076	Nov-21	3,353,658
Dec-19	3,316,219	Dec-21	3,340,706
Jan-20	3,014,397	Jan-22	3,036,656
Feb-20	2,487,564	Feb-22	2,505,932
Mar-20	3,156,922	Mar-22	3,180,233
Apr-20	3,258,793	Apr-22	3,282,857
May-20	3,484,907	May-22	3,510,640

Month	System Gtk (,000 gtk)	Month	System Gtk (,000 gtk)
Jun-20	3,586,788	Jun-22	3,613,274

Newlands System

Month	System Gtk (,000 gtk)	Month	System Gtk (,000 gtk)
Jul-18	199,278	Jul-20	199,278
Aug-18	186,054	Aug-20	186,054
Sep-18	184,934	Sep-20	184,934
Oct-18	183,435	Oct-20	183,435
Nov-18	186,169	Nov-20	186,169
Dec-18	163,855	Dec-20	163,855
Jan-19	179,664	Jan-21	179,664
Feb-19	158,807	Feb-21	158,807
Mar-19	160,405	Mar-21	160,405
Apr-19	152,725	Apr-21	152,725
May-19	177,286	May-21	177,286
Jun-19	172,637	Jun-21	172,637
Jul-19	199,278	Jul-21	199,278
Aug-19	186,054	Aug-21	186,054
Sep-19	184,934	Sep-21	184,934
Oct-19	183,435	Oct-21	183,435
Nov-19	186,169	Nov-21	186,169
Dec-19	163,855	Dec-21	163,855
Jan-20	179,664	Jan-22	179,664
Feb-20	158,807	Feb-22	158,807

Month	System Gtk (,000 gtk)	Month	System Gtk (,000 gtk)
Mar-20	160,405	Mar-22	160,405
Apr-20	152,725	Apr-22	152,725
May-20	177,286	May-22	177,286
Jun-20	172,637	Jun-22	172,637

(iii)
