Aurizon Network

2017 Access Undertaking

Reset Schedule F Preliminary Values

July 2022

AURIZON

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1. Executive Summary

1.1 Overview

The Reset Schedule F Preliminary Values outlined within this submission reflect the methodologies that were agreed with Customers during the development of the UT5 Draft Amending Access Undertaking (**UT5 DAAU**), which was approved by the QCA in December 2019. Aurizon Network has aligned inputs where relevant and included the impact of other adjustments and reconciliations where these have already been approved by the Queensland Competition Authority (**QCA**).[1]

This submission is provided to the QCA in accordance with Part 6A of the 2017 Access Undertaking (**UT5**). It sets out the inputs that have been used to establish Reference Tariffs, Allowable Revenues and Gtk Forecasts for each Coal System and for each year of the UT5 Reset Period (i.e. FY2024 to FY2027).

Part 6A and Schedule F of the UT5 DAAU sets out the data, methodology and supporting information to be provided by Aurizon Network to the QCA. Aurizon Network must submit to the QCA:

- Reset Schedule F Preliminary Values by 31 July 2022 (**Preliminary Reset Values**); and
- Reset Schedule F Values by 31 July 2023 (**Final Reset Values**).

This 2-stage process provides an opportunity for the QCA to consult with stakeholders and decide to approve (or refuse to approve) Aurizon Network's Preliminary Reset Values for the Reset Period.

In line with the Undertaking requirements, by 31 July 2023, Aurizon Network will be required to update the Limited Update Inputs[2] as part of the final stage of the reset process.

The preliminary System Forecasts, Allowable Revenues and Reference Tariffs for the Reset Period are summarised below.

Please note that capitalised terms within this submission have the meaning given to those terms in UT5, unless the context otherwise requires.

1.2 Preliminary System Forecasts

In establishing the preliminary System Forecasts for each Coal System in the Central Queensland Coal Network (**CQCN**), Aurizon Network has simply carried over the latest QCA approved volume forecasts for FY23 into each year of the Reset Period. The forecasts for FY2023 were developed following consultation with Customers as part of the Annual Review of Reference Tariffs (**ARRT**) process and were approved by the QCA on 26 May 2022.

[1] By way of example, Aurizon Network has aligned the Maintenance and Capital Indicators for the Reset Period to the approved FY23 Maintenance and Renewal Strategy and Budget, Approved adjustments include the UT4 Capital Carryover, reconciliation of FY18 and FY19 Transitional pricing arrangements, and the extended recovery of APS capital expenditure.

[2] Limited Update Inputs include time-sensitive inputs such as the Reset WACC and Reset Inflation Rate, the Indirect Maintenance Cost Allowance and the Non-Electric Operating Expenditure Allowance and associated Tax and Working Capital Allowances.

Aurizon Network will engage with Customers in late Calendar Year 2022 with a view to developing and submitting updated, Customer-informed, preliminary System Forecasts to the QCA by no later than 28 February 2023.

It should be noted that as part of the established ARRT process outlined in UT5, Aurizon Network will engage with Customers prior to the commencement of each year of the Reset Period with a view to updating the System Forecasts for the relevant year, this will apply prior to the commencement of each year during the UT5 Reset Period.

The preliminary System Forecasts for each year of the Reset Period reflects the aggregate of all Origin / Destination pairings in each Coal System. These are summarised in Table 1 and Table 2 below as both million Net Tonnes (**mnt**) and Gross Tonne Kilometres (**GTK**) respectively.

Table 1 Net Tonnes - Preliminary System Forecasts – FY2024 to FY2027

System	FY2024	FY2025	FY2026	FY2027
Blackwater	63.0	63.0	63.0	63.0
Goonyella	114.6	114.6	114.6	114.6
Moura	12.8	12.8	12.8	12.8
Newlands	17.1	17.1	17.1	17.1
GAPE	19.1	19.1	19.1	19.1
Total	**226.6**	**226.6**	**226.6**	**226.6**

Table 2 GTK'000 - Preliminary System Forecasts – FY2024 to FY2027

System	FY2024	FY2025	FY2026	FY2027
Blackwater	35,990,446	35,990,446	35,990,446	35,990,446
Goonyella	37,173,257	37,173,257	37,173,257	37,173,257
Moura	3,335,777	3,335,777	3,335,777	3,335,777
Newlands	3,914,712	3,914,712	3,914,712	3,914,712
GAPE	9,682,695	9,682,695	9,682,695	9,682,695
Total	**90,096,887**	**90,096,887**	**90,096,887**	**90,096,887**

1.3 Preliminary Allowable Revenue

The UT5 process for determining the Reset Schedule F Preliminary Values for each year of the Reset Period is generally mechanistic in nature, reflecting the outcomes that were agreed with Customers and approved by the QCA in their December 2019 decision on the UT5 DAAU.

While most Allowable Revenue inputs are calculated using a methodology that is clearly defined within UT5, there are a relatively small number of inputs that will be determined having regard to either the market conditions, operational needs or aligned with recent QCA decisions.

Aurizon Network has presented the aggregate CQCN preliminary Allowable Revenue for each year of the Reset Period in Table 3 below. The UT5 DAAU requires Aurizon Network to submit final Reset Schedule F Values to the QCA prior to 31 July 2023, which will include updates to two key time-sensitive inputs. These include:

- preliminary Reset Weighted Average Cost of Capital (**WACC**) of 8.18%, calculated in accordance with the methodology defined in UT5, and outlined in section 4.1 below; and

- preliminary Reset Inflation Rate of 3.05%, outlined in section 4.2 below.

The preliminary Reset WACC and preliminary Reset Inflation Rate outlined in this submission should therefore be considered indicative at this time.

Table 3 CQCN System - Preliminary Allowable Revenues ($m)

CQCN ($m)	FY2024	FY2025	FY2026	FY2027
Return on Capital*	479.1	482.4	486.5	488.3
Return of Capital minus Inflation	241.0	259.2	289.7	300.3
Direct Maintenance Costs	157.6	163.3	165.2	168.2
Indirect Maintenance Costs	17.5	17.3	16.7	16.4
Electric Operating Expenditure~	67.0	67.0	67.0	67.0
Non-Electric Operating Expenditure	135.1	135.1	135.1	135.1
Tax Allowance	46.4	47.9	52.2	52.8
Adjustments^	30.8	31.6	32.3	33.1
Preliminary Allowable Revenue	**1,174.6**	**1,203.8**	**1,244.9**	**1,261.3**

** Working capital is added to Return on Capital.*

~ Recovers annual charges levied by electrical transmission and distribution entities (TNSP) and the cost of insuring electrical feeder stations throughout the CQCN.

^ Adjustments are described in section 5.1 of this submission and include the UT4 Capital Carryover, Reconciliation of FY18 and FY19 transitional arrangements, and recovery of approved APS capital expenditure.

Aurizon Network has outlined the preliminary AT2-4 and AT5 Allowable Revenues for each Coal System and for each year of the Reset Period in the tables below.

Table 4 Blackwater System - Preliminary Allowable Revenues ($m)

Blackwater ($m)	AT1	AT2-4	AT5
FY2024	37.3	387.3	91.6
FY2025	38.5	392.2	93.1
FY2026	39.6	405.5	95.7
FY2027	40.8	419.8	98.7

Table 5 Goonyella System - Preliminary Allowable Revenues ($m)

Goonyella ($m)	AT1	AT2-4	AT5
FY2024	26.7	318.0	70.7
FY2025	27.5	332.5	73.6
FY2026	28.3	346.0	78.2
FY2027	29.2	356.1	81.4

Table 6 Moura System - Preliminary Allowable Revenues ($m)

Moura ($m)	AT1	AT2-4	AT5
FY2024	6.4	56.0	--
FY2025	6.6	58.2	--

Moura ($m)	AT1	AT2-4	AT5
FY2026	6.8	59.5	--
FY2027	7.0	59.9	--

Table 7 Newlands System - Preliminary Allowable Revenues ($m)

Newlands ($m)	AT1	AT2-4 ($m)	AT5 ($m)
FY2024	7.9	34.7	--
FY2025	8.1	35.2	--
FY2026	8.3	38.4	--
FY2027	8.6	41.5	--

Table 8 GAPE - Preliminary Allowable Revenues ($m)

GAPE ($m)	AT1	AT2-4 ($m)	AT5 ($m)
FY2024	15.7	122.3	--
FY2025	16.1	122.3	--
FY2026	16.6	121.8	--
FY2027	17.1	101.0	--

Aurizon Network has provided further information relating to each of the preliminary Allowable Revenue inputs in Section 4 of this submission.

Expected variations to preliminary Allowable Revenues

Aurizon Network notes that adjustments to the preliminary Allowable Revenues outlined in Table 4 to Table 8 may be required. Reasons include, but are not limited to:

- regulatory determinations that are made following submission of these Reset Schedule F Preliminary Values to the QCA. For example, decisions relating to the FY2022 Revenue Adjustment Amounts (**Revenue Cap**) and FY2022 capital expenditure claim;
- outcomes of the FY2024 Maintenance and Renewal Strategy and Budget (**MRSB**) engagement with the Rail Industry Group (**RIG**); and
- latest pricing advice from third parties, including the QCA, electricity retailers (**EC Tariff**), electrical transmission and distribution entities (**TNSP**) and the Independent Expert (**IE**).

Aurizon Network confirms its intention to provide an update to the Reset Schedule F Preliminary Values for the QCA's consideration no later than 28 February 2023. Aurizon Network notes that TNSP pricing notifications have historically been received in March of each year. Aurizon Network will engage with the QCA to determine the appropriate process for incorporating updated TNSP charges within the preliminary Allowable Revenues and Reference Tariffs.

1.4 Preliminary Reference Tariffs

The combination of the preliminary System Forecasts and Allowable Revenues results in the following preliminary Reference Tariffs for each Coal System and for each year of the Reset Period.

Table 9 Blackwater System – Preliminary Reference Tariffs

Blackwater	AT1	AT2	AT3	AT4	AT5	EC	QCA Levy	IE Pass Through Cost
FY2024	1.04	2,563.21	8.23	2.70	3.51	1.11	0.0054	0.0187
FY2025	1.07	2,641.39	8.32	2.72	3.57	1.11	0.0054	0.0187
FY2026	1.10	2,721.95	8.60	2.82	3.67	1.11	0.0054	0.0187
FY2027	1.13	2,804.97	8.90	2.91	3.78	1.11	0.0054	0.0187

Table 10 Goonyella System – Preliminary Reference Tariffs

Goonyella	AT1	AT2	AT3	AT4	AT5	EC	QCA Levy	IE Pass Through Cost
FY2024	0.72	1,623.94	5.96	1.25	1.99	1.11	0.0054	0.0187
FY2025	0.74	1,673.47	6.25	1.31	2.07	1.11	0.0054	0.0187
FY2026	0.76	1,724.51	6.50	1.36	2.19	1.11	0.0054	0.0187
FY2027	0.79	1,777.11	6.68	1.40	2.28	1.11	0.0054	0.0187

Table 11 Moura System – Preliminary Reference Tariffs

Moura	AT1	AT2	AT3	AT4	AT5	EC	QCA Levy	IE Pass Through Cost
FY2024	1.93	759.15	12.81	2.09	--	--	0.0054	0.0187
FY2025	1.99	782.30	13.31	2.17	--	--	0.0054	0.0187
FY2026	2.05	806.16	13.61	2.22	--	--	0.0054	0.0187
FY2027	2.11	830.75	13.68	2.23	--	--	0.0054	0.0187

Table 12 Newlands System – Preliminary Reference Tariffs

Newlands	AT1	AT2	AT3	AT4	AT5	EC	QCA Levy	IE Pass Through Cost
FY2024	2.01	343.28	6.74	0.96	--	--	0.0054	0.0187
FY2025	2.07	353.75	6.83	0.98	--	--	0.0054	0.0187
FY2026	2.13	364.54	7.48	1.07	--	--	0.0054	0.0187
FY2027	2.20	375.66	8.11	1.16	--	--	0.0054	0.0187

Table 13 GAPE – Preliminary Reference Tariffs

GAPE	AT1	AT2	AT3	AT4	AT5	EC	QCA Levy	IE Pass Through Cost
FY2024	1.62	15,464.32	1.19	1.55	--	--	0.0054	0.0187
FY2025	1.67	15,464.32	1.18	1.55	--	--	0.0054	0.0187
FY2026	1.72	15,464.32	1.16	1.53	--	--	0.0054	0.0187
FY2027	1.77	15,464.32	1.15	0.45	--	--	0.0054	0.0187

As indicated within the tables above, it should be noted that for each year of the Reset Period:

- the preliminary QCA Levy reflects the value of the QCA forecast regulatory fees for FY2023 as notified to Aurizon Network on 27 June 2022;
- the preliminary IE Pass Through Cost is consistent with the IE's estimate of its FY2023 charges, noting that this value was previously included in the FY2023 ARRT submission, approved by QCA on 26 May 2022; and
- the preliminary EC Tariff is consistent with the FY2023 EC Tariff that was included in the FY2023 ARRT submission and approved by the QCA on 26 May 2022. Aurizon Network notes that its EC DAAU was submitted to the QCA for approval on 8 June 2022, seeking to update the FY2023 EC Tariff following volatility in the electricity market and the substantial increase in wholesale electricity prices. Aurizon Network proposes to amend the preliminary EC Tariff for the Reset Period to reflect the QCA's decision on the EC DAAU.

2. Introduction

2.1 Overview of the Regulatory Process

In December 2019, the QCA approved Aurizon Network's UT5 DAAU which included a range of financial and operational modifications that were developed in consultation with its Customers. Those changes included an extension to the UT5 Term from four (**4**) to ten (**10**) years.

To provide greater certainty for all stakeholders (including Aurizon Network), the UT5 DAAU provided Allowable Revenues and Reference Tariffs for the first six (**6**) years of the extended UT5 Term (i.e. FY2018 to FY2023). For the remaining years (i.e. FY2024 to FY2027), a defined process was negotiated with Customers to reset the Weighted Average Cost of Capital (**WACC**), inflation and a limited number of other Allowable Revenue inputs from 1 July 2023 (FY2024).

Part 6A and Schedule F sets out the data, methodology and supporting information to be provided by Aurizon Network to the QCA. Aurizon Network must submit to the QCA:

- Reset Schedule F Preliminary Values by 31 July 2022 (**Preliminary Reset Values**); and
- Reset Schedule F Values by 31 July 2023 (**Final Reset Values**).

This 2-stage process provides an opportunity for the QCA to consult with stakeholders and decide to approve (or refuse to approve) Aurizon Network's Preliminary Reset Values for the Reset Period.

Aurizon Network will then be required to update a limited number of time-sensitive inputs (i.e. specified WACC parameters, inflation and the associated tax allowance) as part of the final stage of the reset process.

2.2 Amendments to Schedule F and Schedule K

Aurizon Network has amended Schedule F to provide:

- Allowable Revenues;
- System Forecasts; and
- Reference Tariffs,

for each Coal System and for each year of the Reset Period. Schedule K has also been amended to outline the relevant Allowable Revenue values for each Coal System.

The UT5 reset process is generally mechanistic in nature, with most inputs calculated using a methodology that is clearly defined within UT5. There are a relatively small number of inputs that will be determined having regard to either the market conditions, operational needs or previous regulatory decisions.

A summary of each input required to determine the Reset Schedule F Preliminary Values is outlined in Table 14, Table 15 and Table 16 below.

Table 14 Inputs defined in UT5 and reliant on market-based metrics

Component	Description
Reset WACC	The preliminary Reset WACC for the Reset Period has been set at 8.18% and is a function of: • the preliminary Reset Risk Free Rate (**Rf**), which has been set at 3.474%; and • the preliminary Debt Risk Premium (**DRP**), which has been set at 2.60%. The approach to setting Rf and DRP is outlined in UT5. All other WACC inputs remain consistent with the QCA's 2018 Decision. Aurizon Network notes that the values of both the Rf and DRP (and hence, the final Reset WACC) will be updated prior to 31 July 2023 when Aurizon Network submits the Reset Schedule F Values to the QCA.
Reset Inflation Rate	The preliminary forecast inflation rate for the Reset Period has been set at 3.05%. The approach to setting the Reset Inflation Rate is defined in UT5 and reflects the arithmetic average of the midpoint of short-term Reserve Bank of Australia (**RBA**) inflation rate forecasts for FY24 and FY25 obtained from the May 2022 Statement of Monetary Policy, and the midpoint of the RBA target band for inflation for FY26 and FY27. Aurizon Network notes that the Reset Inflation Rate will be updated prior to 31 July 2023 when Aurizon Network submits the Reset Schedule F Values to the QCA.

Table 15 Inputs using a methodology defined in UT5 or consistent with the QCA's 2018 Decision

Component	Description
Regulatory Asset Base (**RAB**) values	Aurizon Network has prepared the forecast value of the RAB for each year of the Reset Period having regard to: • QCA-approved RAB Rollforward to FY21; plus • Estimated RAB value for FY22 – FY27. The estimated RAB values for each Coal System are based on forecast capital expenditure for FY22 as per the approved FY22 MRSB plus the capital expenditure forecasts for FY23 – FY27 outlined in the approved FY23 MRSB. Inflation for FY22 and FY23 will reflect the short-term RBA inflation rate forecasts (as outlined in the May 2022 Statement on Monetary Policy[3]) and for FY24 – FY27, Aurizon Network will apply the preliminary Reset Inflation Rate of 3.05%
Non-Electric Operating Expenditure Allowance	As defined in UT5, the Non-Electric Operating Expenditure Allowance for each year of the Reset Period reflects the amounts included in FY22 Allowable Revenues and Reference Tariffs for each Coal System.
Indirect Maintenance Cost Allowance	The Indirect Maintenance Cost Allowance is comprised of a: • Return on Plant – based on Aurizon Network's asset register of the plant required to deliver asset activity during the Reset Period. • Return on Inventory – based on the forecast level of inventory holdings for each year of the Reset Period. The methodology applied to calculate the return on plant and return on inventory is consistent with the QCA's 2018 Decision and based on the Reset WACC.
Depreciation Allowances	Consistent with the QCA's 2018 Decision, depreciation on the RAB has been calculated using QCA-endorsed asset lives and that where relevant, the rolling 20-year asset life has been reset from FY24.

[3] RBA (2022), Statement on Monetary Policy, May, Available at: https://www.rba.gov.au/publications/smp/2022/may/pdf/statement-on-monetary-policy-2022-05.pdf

Component	Description
Tax Allowance	The tax allowance is a computation of Aurizon Network's post-tax revenue model and is updated to reflect Reset Schedule F Preliminary Values included within this submission and tax depreciation forecasts for each year of the Reset Period.
Working Capital Allowance	The working capital allowance is a computation of Aurizon Network's post-tax revenue model. The methodology applied to determine this allowance is consistent with the QCA's 2018 Decision.

Table 16 QCA Approved Inputs

Component	Description
System Forecasts	Aurizon Network has simply carried over the FY23 volume forecasts approved by the QCA as part of the FY23 ARRT process for all years of the Reset Period. This represents an aggregate forecast for the CQCN of 226.6 mnt per annum. Aurizon Network expects to provide an update to the volume forecasts following consultation with End-Users in late Calendar Year 2022.
Direct Maintenance Costs	These values are consistent with the four-year forecasts outlined in the FY23 MRSB for all Coal Systems. These values were approved by the RIG on 14 February 2022 and subsequently by the QCA. Aurizon Network expects to provide an update to the direct maintenance costs following the FY24 MRSB engagement with the RIG.
Capital Expenditure	These values are consistent with the four-year forecasts outlined in the FY23 MRSB for all Coal Systems. These values were approved by the RIG on 14 February 2022 and subsequently by the QCA. Aurizon Network expects to provide an update to the capital expenditure forecasts following the FY24 MRSB engagement with the RIG.
Electric Operating Expenditure Allowance	This is comprised predominantly of the annual charges levied by electrical transmission and distribution entities (TNSP). The QCA approved the latest forecast of TNSP charges in their final decision on the FY23 ARRT. Aurizon Network has adopted these QCA-approved values for each year of the Reset Period, noting that these are an Endorsed Variation Event and can be updated for TNSP pricing changes. The QCA's 2018 Decision on operating expenditure included the efficient cost of insuring electrical feeder stations throughout the CQCN, with these costs being allocated to the operating expenditure allowance for electric assets. Consistent with the approach applied to the Non-Electric Operating Expenditure Allowance, these insurance costs reflect the amounts included in FY22 Allowable Revenues and Reference Tariffs for each Coal System.
Approved Allowable Revenue Adjustments	UT4 Capital Carryover - this adjustment was approved in the QCA's 2018 Decision and reconciles the revenue differences between the forecast and actual capital expenditure for the UT4 regulatory term. Reconciliation of FY2018 and FY2019 Transitional Tariffs – this adjustment was approved by the QCA and reconciles the revenue difference between the QCA's 2018 Decision and the FY2018 and FY2019 transitional tariffs. APS Recovery - this adjustment was approved in the QCA's final decision on the FY23 ARRT, and recovers Allowable Revenues associated with the Advanced Planning and Scheduling (**APS**) system over an extended period, between FY23 to FY27.
Forecast IE Pass Through Cost	The forecast for each year of the Reset Period is aligned to the FY23 IE Pass Through Cost that was approved by the QCA as part of the FY23 ARRT.
Electric Energy (**EC**) Charge	The forecast for each year of the Reset Period is aligned to the FY23 EC Tariff that was approved by the QCA as part of the FY23 ARRT. Aurizon Network will

Component	Description
	seek to update the EC Tariff for the Reset Period following the QCA's decision on the FY23 EC DAAU.
QCA Levy	The forecast for each year of the Reset Period has been calculated having regard to the QCA's estimate of its FY2023 regulatory fees, as notified to Aurizon Network on 27 June 2022.

At the time of drafting, there are no approved Revenue Adjustment Amounts, Endorsed Variation Events or Review Events applicable to the Reset Period. Aurizon Network will engage with the QCA to establish how best to integrate other regulatory processes with the reset process if necessary.

Please refer to Section 4 of this submission for more information in relation to each of these matters.

2.3 Form of Submission

This submission outlines all matters that are relevant to the UT5 Reset process for FY2024 – FY2027:

Section 3	Sets out the preliminary System Forecasts for each Coal System.
Section 4	Outlines each of the Allowable Revenue inputs used to determine the Reset Schedule F Preliminary Values.
Section 5	Discusses other relevant matters for consideration, including: • Other approved Allowable Revenue Adjustments; • Other Reference Tariff components including, IE Pass Through Costs, EC Tariff, QCA Levy; and • the process for updating Preliminary Reset Values for the latest information.
Section 6	Outlines the preliminary Allowable Revenues and Reference Tariffs for each Coal System and for each year of the Reset Period.
Appendices	Appendices to this submission include: • Graphs showing Allowable Revenue movements between FY23 and FY24; • Bond Data for the Reset DRP; and • Clean and marked-up versions of UT5.

Aurizon Network has prepared detailed financial models (**the Models**) in support of this submission and has provided these to QCA staff in electronic form. The Models contain Confidential Information relating to individual Train Services and accordingly Aurizon Network requests that the Models are not published.

3. Preliminary System Forecasts

UT5, Clause 6A.2(a)(ii)(a) provides that Aurizon Network must submit to the QCA preliminary revisions to the Gtk Forecasts outlined in Schedule F for each Coal System.

During the FY23 ARRT process, Aurizon Network consulted directly with End Users and provided them with information relating to railings and regulatory forecasts for each of their respective Origin / Destination pairings. End Users were asked to review the information and provide feedback to inform the development of the FY23 System Forecasts which were subsequently approved by the QCA on 26 May 2022.

Aurizon Network proposes to simply carry over the approved FY23 volume forecasts for the purpose of establishing the preliminary System Forecasts for each year of the Reset Period. Aurizon Network will engage with Customers in late Calendar Year 2022 with a view to developing and submitting updated, Customer-informed, preliminary System Forecasts to the QCA by no later than 28 February 2023.

It should also be noted that prior to the commencement of each year, there is an opportunity to review the annual System Forecasts for each Coal System as part of the established ARRT process.

The preliminary System Forecasts for each Coal System are provided in Table 17 below. The forecasts are expressed in terms of both Net Tonnes and Gross Tonne Kilometres (**GTK**).

Table 17 Preliminary Volume Forecasts – Reset Period - FY2024 – FY2027

System	Net Tonnes (million)	GTK'000
Blackwater	63.0	35,990,446
Goonyella	114.6	37,173,257
Moura	12.8	3,335,777
Newlands	17.1	3,914,712
GAPE	19.1	9,682,695
Total	**226.6**	**90,096,887**

The net tonne forecasts for each Coal System have been converted to GTK and electric GTK using:

- the Reference Train Payload for each Coal System; and
- the forecast split between diesel and electric consists for the Blackwater and Goonyella systems.

These values, and the monthly GTK forecasts for the Blackwater System[4] are consistent with the QCA's final decision on the FY23 ARRT.

[4] Monthly GTK forecasts are required for UT5, Schedule F, clause 12.

4. Preliminary Allowable Revenue Components

The approach for setting the Reset Schedule F Preliminary Values is generally mechanistic in nature, with most inputs calculated using a methodology that is clearly defined within UT5. There are a relatively small number of inputs that will be determined having regard to either the market conditions or operational needs.

At the time of this submission, Transitional Arrangements associated with the Independent Expert's ICAR have not yet been finalised. The consultation between Aurizon Network, End Users, Customers, Access Holders and Train Operators may determine that the most effective and efficient way of addressing the Existing Capacity Deficit is for Aurizon Network to make changes to the Rail Infrastructure or the operation and maintenance practices for the Rail Infrastructure in a relevant Coal System. Consequently, it should be noted that System Forecasts, maintenance and renewal practices, scope, budgets (including the Maintenance and Capital Indicators for each Coal System) and access requirements may be subject to change as a result of any final Transitional Arrangements.

Aurizon Network submits the following Allowable Revenue components of the Reset Schedule F Preliminary Values to the QCA for approval. To assist the reader in understanding the basis for each component, Aurizon Network has categorised these as:

- Inputs defined in UT5 and reliant on market-based metrics;
- Inputs defined in UT5 and based on methodologies consistent with the QCA's 2018 Decision; and
- Inputs consistent with previous QCA decisions.

Market Based Inputs

The inputs contained in the following section have applied the applicable methodology as outlined within UT5 and applied the market inputs relevant at the time of calculation.

4.1 Preliminary Reset WACC

The inclusion of this component is permitted under Clause 6A.3(a). Aurizon Network submits a preliminary Reset WACC of 8.18% for the UT5 Reset Period.

Aurizon Network is required to submit final Reset Schedule F Values to the QCA prior to 31 July 2023, which will include updates to the Reset Debt Risk Premium, the Reset Risk Free Rate, and consequently, the Reset WACC. As a result, the preliminary Reset WACC outlined in Table 18 below should be considered indicative at this time.

The preliminary Reset WACC is as follows.

Table 18 Preliminary Reset WACC

	Value	QCA 2018 Decision	Reset Value
Approved WACC (FY2023)^	6.30%		
∆ Debt Risk Premium	+0.31%	2.04%	2.600%
∆ Risk Free Rate	+1.57%	1.90%	3.474%
Preliminary Reset WACC	**8.18%**		

^ On 12 November 2021, Aurizon Network provided the Chair of the RIG and the QCA its preliminary response to the Independent Expert's ICAR, which set out the proposed options to address the capacity deficits identified by the Independent Expert in the ICAR. Consistent with the definition of the term "Report Date" in UT5, this notification to the Chair of the RIG on 12 November 2021 triggered an increase in the WACC from 5.9% to 6.3%.

4.1.1 Methodology

UT5 defines the Reset WACC as follows:

$$WACC_{Reset} = WACC_{Approved} + \Delta Rf + \Delta DRP$$
$$where:$$
$$WACC_{Approved} = 6.30\%$$

$$\Delta Rf = Reset\ Rf - 1.90\%$$
$$\Delta DRP = (Reset\ DRP - 2.04\%) \times 0.55$$

In accordance with UT5, the preliminary Reset WACC is calculated by updating the following parameters:

- Reset Risk Free Rate (Rf); and
- Reset Debt Risk Premium (DRP).

The methodology applied to calculate both parameters is outlined below.

4.1.2 Reset Risk Free Rate

In calculating the preliminary Reset Risk Free Rate, Aurizon Network has applied the defined methodology, as outlined in UT5. Specifically, the average rate for Commonwealth of Australia Government nominal bonds using the RBA indicative mid-rate with a term of 4 years. The averaging period reflects the 20 Business Days up to (and including) 30 June 2022.

The methodology selects the highest maturity bond (TB142) shorter than the maturity date and the lowest maturity bond (TB164) longer than the maturity date and linearly interpolates the 4-year yield to maturity (YTM). As the bonds are semi-annual coupon paying, the 4-year YTM is annualised[5].

The application of this methodology results in a preliminary Reset Risk Free Rate of **3.474**%.

The inputs used for determining the preliminary Reset Risk Free Rate are outlined in Table 19.

Table 19 Data set for determining the preliminary Reset Risk Free Rate

Averaging Date	Maturity Date	Bond 142 21-Apr-26	Bond 164 21-Sep-26	4 Yr AGS YTM	Annualised
2-Jun-22	2-Jun-26	3.140	3.190	3.154	**3.179**
3-Jun-22	3-Jun-26	3.105	3.160	3.120	**3.145**
6-Jun-22	6-Jun-26	3.130	3.185	3.147	**3.171**
7-Jun-22	7-Jun-26	3.275	3.315	3.287	**3.314**
8-Jun-22	8-Jun-26	3.230	3.270	3.243	**3.269**
9-Jun-22	9-Jun-26	3.255	3.295	3.268	**3.295**
10-Jun-22	10-Jun-26	3.275	3.325	3.291	**3.318**
14-Jun-22	14-Jun-26	3.585	3.660	3.611	**3.644**
15-Jun-22	15-Jun-26	3.840	3.875	3.853	**3.890**
16-Jun-22	16-Jun-26	3.625	3.675	3.643	**3.676**
17-Jun-22	17-Jun-26	3.760	3.805	3.777	**3.812**
20-Jun-22	20-Jun-26	3.740	3.780	3.756	**3.791**
21-Jun-22	21-Jun-26	3.695	3.750	3.717	**3.751**
22-Jun-22	22-Jun-26	3.595	3.650	3.617	**3.650**
23-Jun-22	23-Jun-26	3.490	3.535	3.509	**3.539**
24-Jun-22	24-Jun-26	3.350	3.390	3.367	**3.395**
27-Jun-22	27-Jun-26	3.420	3.465	3.440	**3.469**
28-Jun-22	28-Jun-26	3.410	3.450	3.428	**3.457**
29-Jun-22	29-Jun-26	3.350	3.385	3.366	**3.394**
30-Jun-22	30-Jun-26	3.270	3.305	3.286	**3.313**
Preliminary Reset Risk Free Rate					**3.474**

[5] Queensland Competition Authority (2021) 2021 Rate of Return Review: Final Report, Appendix F: Risk Free Estimation, p. 108

4.1.3 Reset Debt Risk Premium

The Reset Debt Risk Premium is defined in UT5 as:

> *A forecast debt risk premium for the Reset Period calculated by applying the methodology referred to in Appendix F of the QCA's 2018 Decision (including the simple portfolio econometric estimation methodology (PwC methodology)) for BBB+ rated corporate bonds. This is calculated in a manner consistent with the way in which the debt risk premium was calculated in the QCA's 2018 Decision by an expert appointed by the QCA, using criteria consistent with that adopted to calculate the debt risk premium in the QCA's 2018 Decision, and using an average over the 20 Business Day period up to (and including) 30 June 2023.*

The preliminary reset values require the averaging period to apply over the 20 Business Day period up to (and including) 30 June 2022. In evaluating the preliminary Reset Debt Risk Premium, Aurizon Network has had regard to the following reference documents within the above definition:

- Appendix F of the QCA's 2018 Decision;
- Incenta (2017) Aurizon Network's WACC for the 2017 DAU, Report prepared for the Queensland Competition Authority, December;
- Incenta (2018) Addressing responses to Incenta's debt risk premium estimate for the 2017 draft access undertaking, Report prepared for the Queensland Competition Authority, June; and
- PWC (2013) A cost of debt estimation methodology for businesses regulated by the Queensland Competition Authority, Report prepared for the Queensland Competition Authority, June.

Aurizon Network notes these reference documents do not specify a prescriptive methodology or criteria but refer to the methodology (pooled or dummy regression) or criteria that is relevant to the available data prevailing over the averaging period. Similarly, the inclusion or exclusion of bonds should also have regard to the statistical methods and desirable statistical properties of a regression model. This section explains how Aurizon Network has determined the preliminary Reset Debt Risk Premium consistent with the requirement of the UT5 and interpretation of the above reference documents.

Initial bond sample data for the averaging period was obtained from Bloomberg's bond search facility for each of the three credit rating agencies, Standard & Poor's, Moody's and Fitch using the following search criteria[6]:

Table 20 Bond Sample Search Criteria

Bond Sample Search Criteria	
Security Status	include active bonds
Country of Risk	include Australia
Credit Rating	between A1 and BBB (or equivalent);
Currency	include AUD
Maturity	greater than or equal 30 June 2023 (greater than 1 year);
Maturity Type	exclude perpetual
Security Type	exclude inflation linked note

[6] Incenta (2017) Aurizon Network's WACC for the 2017 DAU, Report prepared for the Queensland Competition Authority, December, Appendix D, p.130

Bond Sample Search Criteria	
BIS Classification	exclude: Banks or Commercial Finance or Consumer Finance or Diversified Banks or Financial Services or Funds & Trusts or Life Insurance or Property & Casualty Insurance or Real Estate

Furthermore:

- Bonds with maturity designation "At Maturity" and "Call" were included in the sample;
- Bonds with a remaining term to maturity less than 1 year or greater than 20 years (measured from 30 June 2022) were eliminated; and
- Bonds that were not rated by one or more credit rating agencies were excluded.

Aurizon Network notes that Incenta's search criteria also included foreign currency bonds. However, these additional bonds were used by Incenta for the purpose of cross-checks and did not inform the determination of the Debt Risk Premium. As it is not within the scope of the definition of the Reset Debt Risk Premium to consider foreign currency bonds, these have not been considered in this analysis. Bloomberg BVAL and the RBA Corporate Bond yield data provide suitable cross-checks.

Consistent with Incenta's process,[7] Aurizon Network has determined the credit rating as follows:

- adopt the single credit rating if only one was available;
- adopt the predominant credit rating if there were three credit ratings;
- adopt the lower credit rating if there were two divergent ratings one notch apart; and
- averaging the credit ratings if the divergence in the credit ratings was more than one notch.

This initial search criteria returns a balanced sample of 116 bonds.

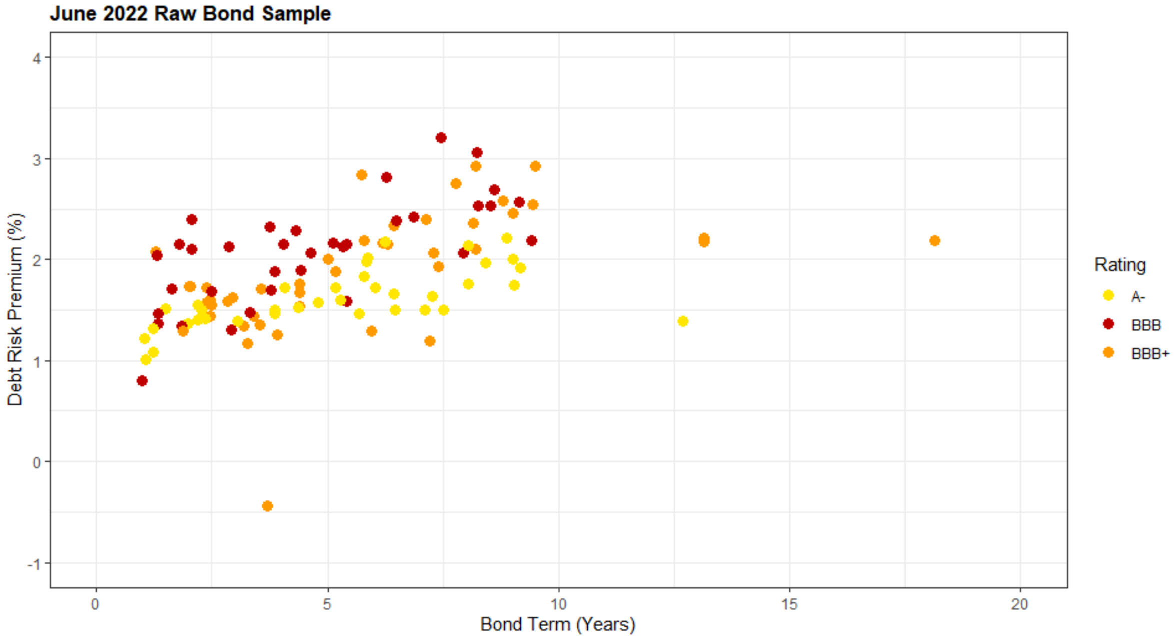
Table 21 Frequency of ratings in bond sample

Rating	A-	BBB+	BBB
Frequency	37	44	35

The data plot of DRP against the term in Figure 1 shows the distribution of the ratings for this initial sample.

[7] Ibid p. 100

Figure 1 Reset DRP – June 2022 Raw Bond Sample



As the average rating is BBB+, the initial sample is suitable for pooled regression. This regression outputs in Table 22 results in a 10-year BBB+ DRP of **2.267%**.

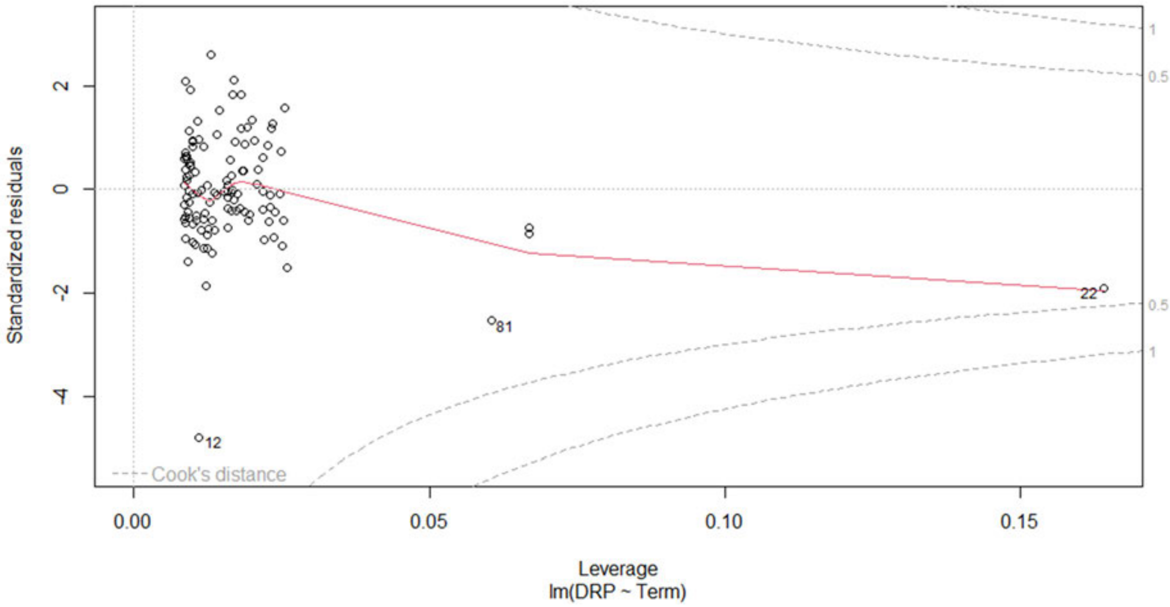
Table 22 Reset DRP – Regression Results – Raw Bond Sample

Statistic	Estimate	Std Error	T Stat	P val
Intercept	1.39579	0.08411	16.594	< 0.001
Slope	0.08714	0.01385	6.292	< 0.001
R-Squared	0.2577			

This initial sample and regression model has several undesirable properties and as a result, further data filtering is required. More specifically:

- a number of BBB+ bonds are substantially below the A- rating; and
- there are a number of outliers and observations with excessive influence on the regression statistics as shown in Figure 2.

Figure 2 Reset DRP – Residuals vs Leverage



Aurizon Network notes that these bonds have characteristics that should be excluded on the basis of the following additional filtering criteria:

- exclude bonds which have been issued in overseas markets;
- exclude bonds where the foreign sovereign state is the ultimate owner; and
- exclude bonds with a call period (the difference between the maturity date and the first call date) that is greater than 3 months.

Bonds issued in overseas markets

The issue of Australian Dollar denominated bonds in foreign markets was considered in some detail within the UT5 Decision in respect of the Coca-Cola Amatil bond with Incenta agreeing to the exclusion of this bond based on following considerations[8]:

> *CEG's report (p. 37) references the undesirability of including a number of Coca-Cola Amatil bonds that are issued in the European market, but denominated in AUD. It was noted that these bonds are excluded from the third party curves published by Bloomberg and the RBA. These bonds were not issued in the Australian bond market and therefore fell outside of the PwC (2013) selection criteria. CEG considered that if Incenta were to derive a broader sample of bonds, these bonds would need to be excluded. It also relied on an ACCC report, which had obtained the following response from Bloomberg regarding its exclusion of Coca-Cola Amatil bonds:*
>
> > *The reason that some coca cola bonds appeared in the AUD BBB curve in April but not anymore is because of internal changes we made. We assessed the AUD BBB curve and, whilst these coca cola bonds are indeed BBB rated, they were much richer than other BBB rated AUD bonds (see attached file). As such, we decided that the A rated curve (BVSC0160 Index) is more appropriate for these bonds and better represents their yields, which is where you will be able to find them now.*

---

[8] Ibid, p. 101

> *We concur with the ACCC, CEG, Bloomberg and the RBA regarding the exclusion of the Coca-Cola Amatil bonds from the BBB credit rating band. Having examined the yields of these bonds we believe they are so low for their credit rating as to not be comparable to other bonds in the rating band. In our view, their inclusion would have an artificially depressing effect on the estimates.*

This exclusion impacts bonds issued by Coca-Cola Amatil, AusNet and VPN.

Foreign Sovereign Entity Ownership

The debt risk premium for a bond can also be depressed where the corporate entity is subject to parental support from foreign sovereign entities. This matter as considered be PWC with the subsequent exclusion of SP AusNet bonds to its ownership by the Singapore Government.

> *The level of parental support is an important benchmark characteristic for the analysis of the debt risk premium of bonds, since this will influence the credit rating of the bond if the market perceives that the underlying firm will receive parental support in the event of impending corporate failure. This applies to corporate owners, but more specifically, Government Business Enterprises (GBEs) in Australia, and businesses that may enjoy the support of foreign states (e.g. SP AusNet, which is owned by the Singapore Government). It has been noted by the AER's adviser, Oakvale Capital, that the pricing of SP AusNet bonds is differentiated from other bonds in the same credit rating band due to the strength of the guarantee provided through ownership by a sovereign government.*
>
> *……*
>
> *Finally, we eliminated the bonds that were issued by SP AusNet. During the 'Analysis Period' these bonds were distinguished from the others due to a majority holding by Temasek, which is the investment arm of the Singapore Government. When assessing this bond the AER's adviser, Oakvale Capital, noted that a key issue impacting the yield of these bonds is that 'the risk is in fact the risk of the Government of Singapore.' The key feature supporting the bond was the parental support of the issuer's owners and the link to the Government of Singapore.*

Aurizon Network has excluded bonds from the bond sample which are subject to ownership by a foreign state. This excludes bonds issued by Optus Finance Pty (Republic of Singapore) and SGSP Australia Assets Pty Ltd (People's Republic of China).

Inclusion of Callable Bonds

The QCA's 2018 Decision excluded callable bonds for reasons identified by Incenta's reference to the original PWC paper[9]:

> *The PwC (2013) report recommended not including bonds with special features such as call / put options, since at that time there were available sufficient AUD-denominated bonds without such features:*
>
> > *Call options were excluded since the observed yield needs to be adjusted to remove the effect of the option, which adds complexity and the potential for analyst-induced*

[9] Ibid, p. 90

> *error. Floating rate notes were included, as they can be readily converted to fixed rate equivalents, and provide a larger sample of valid observations.*

Aurizon Network considers the basis for PWC's exclusion of bonds with special features such as calls should not be applied and the QCA's 2018 Decision provides for their inclusion where justified. Following the exclusion of overseas market issues and foreign state-owned bonds, the exclusion of callable bonds substantially reduces the sample size as shown in Table 23. This sample size is not sufficiently large or unbiased to obtain any statistically reliable estimates.

Table 23 Reset DRP – Sample size after excluding callable bonds

Rating	A-	BBB+	BBB
Frequency	1	5	9

Aurizon Network notes that since the QCA's 2018 Decision, there has been substantial changes in the corporate bond market with callable bonds now being more prevalent. These bonds are typically callable between the period of the last coupon payment and the term date. Therefore, the bond is normally able to be called within the last three to six months of a bond's term and provide corporate Treasuries with the flexibility to manage the terminal payment within overall Treasury portfolio management activities. However, this flexibility also comes at a cost to the borrower and therefore a callable bond would, on balance, be expected to include an additional yield premium.

Most bonds with embedded options will typically be in the form of a make-whole call. In respect of these bonds, the call value is assumed to be negligible and is therefore not included within the Bloomberg Option Adjusted Spread (**OAS**) calculation. The use of the simple spread for make whole callable bonds is applied by the RBA in preparation of the "Aggregate Measures of Australian Corporate Bonds Spreads and Yields" with the notes tab stating[10]:

> *Yields and spreads on bonds with embedded options are adjusted for the value of these options using Bloomberg's option adjusted spread (OAS) estimates. Simple spreads (i.e. not OAS) are used for bonds with make-whole call options only. Data on underlying bond yields, spreads, bond attributes, credit ratings and cross-currency hedging variables are sourced from Bloomberg.*

This treatment is consistent the RBA previous analysis which discussed the bank's approach to measures of Australian Corporate Credit Spreads which stated[11]:

> *Conceptually, the OAS is the constant spread that has to be added to the spot yield curve in an interest rate option pricing model to equate the present value of a bond's cash flows with its market price. The option pricing model needs to make assumptions, including about interest rate volatility. Many bonds in the sample include optionality in the form of make-whole calls. However, the theoretical value of make-whole call options is small (Powers and Tsyplakov 2008) and is not currently incorporated into Bloomberg's OAS spread calculation. As a result, the spreads on bonds with only a make-whole call option are the simple spreads rather than the OAS. Bloomberg's estimates of the OAS are used for the bonds with all other forms of optionality.*

[10] Reserve Bank of Australia, Aggregate Measures of Australian Corporate Bond Spreads and Yields – F3. Available at: https://www.rba.gov.au/statistics/tables/#interest-rates

[11] Arsov, I. Brooks, M. and Kosev, M. (2013) New Measures of Australian Corporate Spreads and Yields, RBA Bulletin, December, p. 19.

Furthermore, the RBA notes that costs associated with exercising the call mean the call has a low probability of being exercised[12]:

> *A make-whole call is structured such that the issuer's call is designed to be 'out of the money'; that is, the make-whole price is higher than the current market price. As the Reserve Bank receives the higher make-whole price if the call is exercised, the risk of loss to the Reserve Bank is low. Further, issuers are unlikely to exercise this call option purely to take advantage of cheaper financing rates (because lower interest rates increase the make-whole price, which is the cost of redeeming the existing debt).*

Regarding the use of the OAS feature the QCA's 2018 Decision noted:

> *Noting that Incenta has not tested whether Bloomberg's OAS feature provides a reliable estimate of the impact of optionality on bond yields, the QCA considers that results obtained from the expanded sample should be interpreted with caution.*

As the callable bonds with 'make whole' arrangements are not incorporated into the OAS feature and they are included within the RBA estimates of corporate bond yields and spreads using simple spreads, Aurizon Network considers the inclusion of make whole callable bonds within the bond sample as being consistent with the QCA's 2018 Decision. Aurizon Network notes that most make-whole callable bonds are also callable only in the last three months of the bond term which further limits the impact of the call on the bonds price and yield.

Callable bonds may also include an embedded call for a tax event. Many of the make whole callable bonds also include a tax event call. However, Aurizon Network has not excluded these bonds with this feature as it is also present in many of the At Maturity bonds and they are not expected to influence the bond price with the RBA also noting '*The probability of a tax call being exercised and the associated risk is very low*'.

In summary, Aurizon Network has applied the following additional filters to the bond sample:

- exclude AUD bonds issued in markets outside of Australia;
- exclude AUD denominated bonds where the parent of a foreign state; and
- exclude callable bonds with a call period greater than 3 months and do not include a make whole obligation.

Applying these additional filters and the inclusion of callable bonds provides a bond sample size of 73 bonds. Table 24 shows the composition of the bond sample by rating with an average weighting of 2.21. This indicates a bias in the expected pooled regression results with the DRP estimate being more strongly influenced by the BBB bonds. Aurizon Network notes the QCA's 2018 Decision did not specific a threshold for assessing whether the bias was material. Notwithstanding the bond sample used in the QCA's 2018 Final Decision had an average weighting of 1.73 which precluded the use of the pooled regression and the dummy variables methodology was applied.

Table 24 Reset DRP – Composition of bond sample – YTC and callable bonds

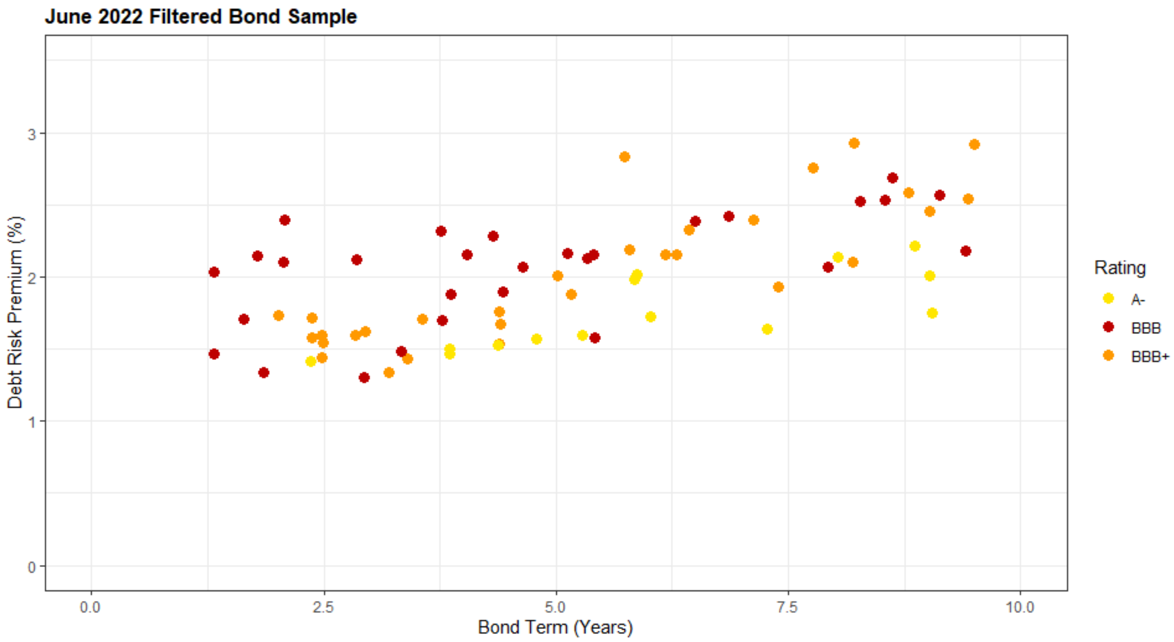
Rating	A-	BBB+	BBB	Total
Frequency	14	30	29	73

[12] Lim, J. Liu, E. Walsh, N. Zanchetta, A. and Cole, D. (2021) Corporate Bonds in the Reserve Bank's Collateral Framework, RBA Bulletin, June, 49.

Rating	A-	BBB+	BBB	Total
Weighting	1	2	3	--
	14	**60**	**87**	**161**
Average				**2.21**

The data plot of DRP against the term in Figure 3 shows the distribution of the ratings for the filtered bond sample. Aurizon Network observes that the filtered bond sample is a more consistent linear representation of the DRP against term across the rating distribution.

Figure 3 Reset DRP – June 2022 Filtered Bond Sample



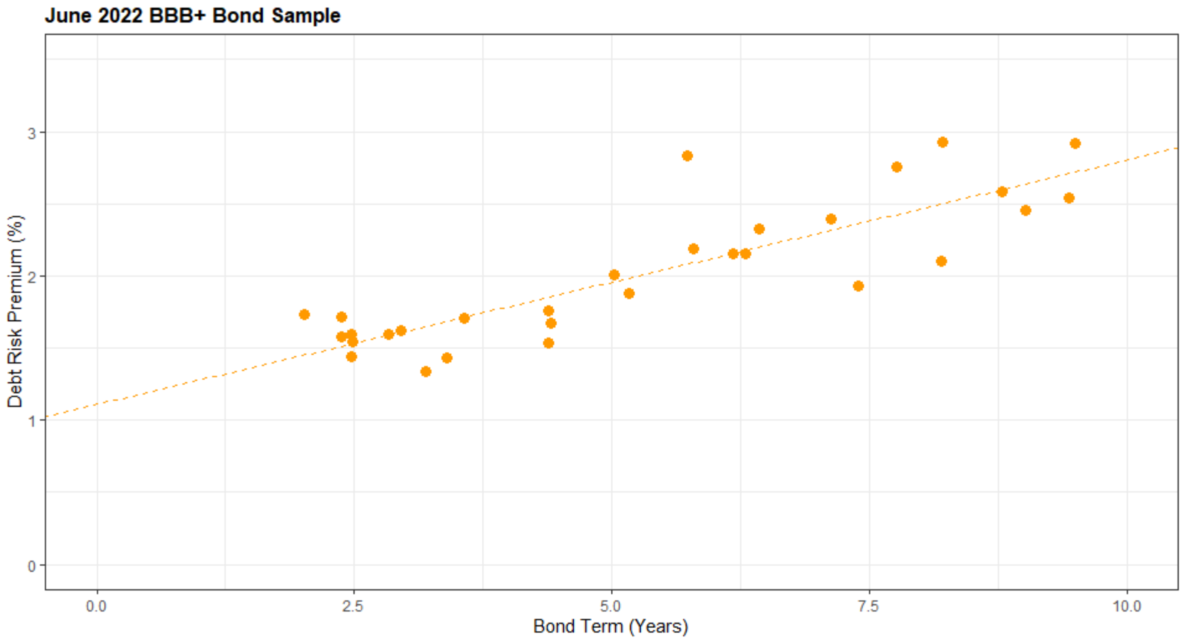
BBB+ Sample Regression

A simple linear regression of the BBB+ bonds within the filtered bond sample obtained an estimated 10-year DRP of **2.809%.**

Table 25 Reset DRP – Simple Linear Regression Results – BBB+ Bonds

Statistic	Estimate	Std Error	T Stat	P val
Intercept	1.11290	0.11260	9.884	< 0.001
Slope	0.16962	0.01932	8.778	< 0.001
R-Squared	0.7335			

Figure 4 Reset DRP – June 2022 BBB+ Bond Sample



Pooled Regression

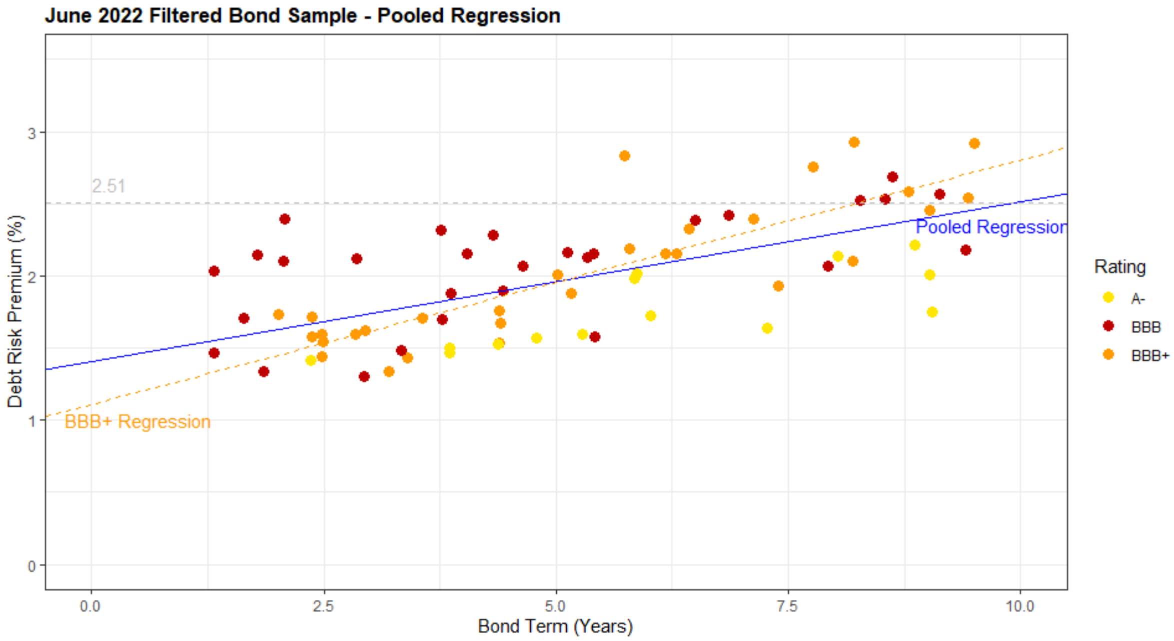
A pooled linear regression of the filtered bond sample obtains an estimated 10-year DRP of **2.51%.**

Table 26 Reset DRP – Pooled linear regression results

Statistic	Estimate	Std Error	T Stat	P val
Intercept	1.40751	0.08943	15.74	<0.001
Slope	0.11052	0.01557	7.10	<0.001
R-Squared	0.4152			

Figure 5 shows the BBB+ and pooled regression results plotted on the filtered bonds sample.

Figure 5 Reset DRP – June 2022 Filtered Bond Sample – Pooled Regression



Dummy Variables Regression

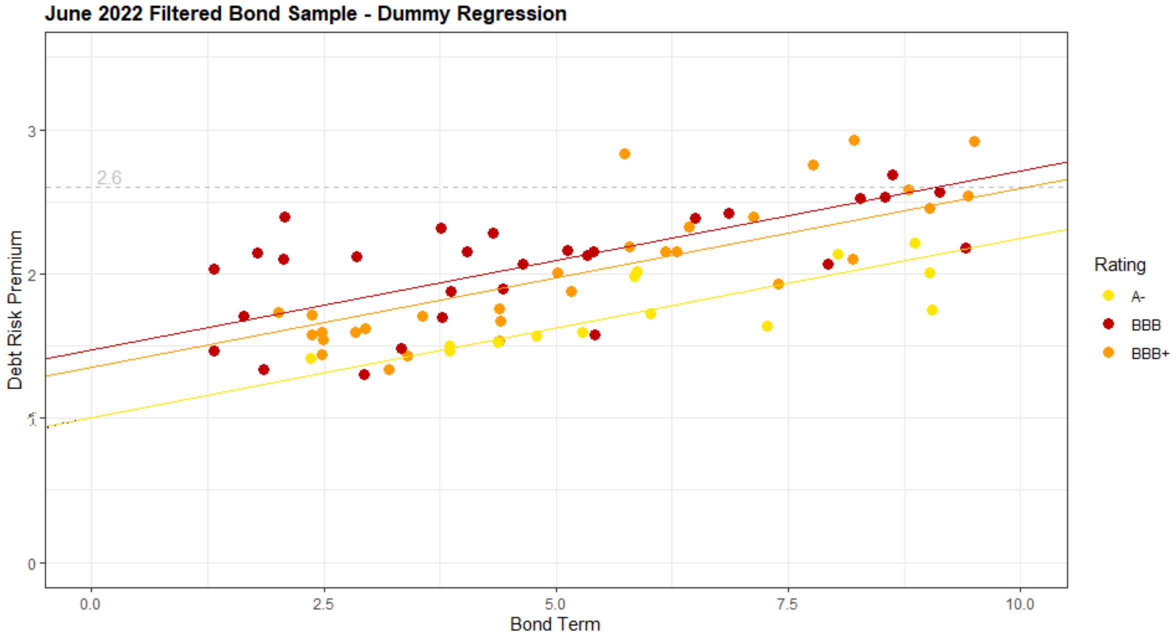
A dummy variable linear regression of the filtered bond sample obtains an estimated 10-year DRP of **2.60%.**

Table 27 Reset DRP – Dummy variable linear regression results

Statistic	Estimate	Std Error	T Stat	P val
Intercept (A-)	1.00371	0.11084	9.055	<0.001
BBB+	0.35046	0.09020	3.885	<0.001
BBB	0.47451	0.09195	5.160	<0.001
Slope	0.12420	0.01367	9.084	<0.001
Adjusted R-Squared	0.5608			

Figure 6 shows the dummy variable regression results for the filtered bond sample.

Figure 6 Reset DRP – June 2022 Filtered Bond Sample – Dummy Regression



Cross Checks

Aurizon Network has undertaken additional sensitivity analysis by further excluding bonds which:

- have less than 10 observations over the averaging period (1 bond); or
- the security has been issued for a term less than 6 months (3 bonds).

The securities with less than 10 observations have lower liquidity and price data may be stale. This is consistent with the approach of ERA which states[13]:

> *Given the issues with pricing data of some bonds, the ERA employs a criterion that removes bonds that contain less than 50 per cent of observations over the averaging period*

This reduces the sample size to 69 bonds and results in an increased DRP of 2.64%. The inclusion of these bonds in the filtered bond sample does not materially affect the DRP results.

The QCA's 2018 Decision also included third-party estimates for a BBB+ DRP as a cross-check. Aurizon Network has repeated this exercise using the Bloomberg BVAL and the RBA Corporate Bond Spreads and Yields series by applying the methodology in the AER's 2018 Rate of Return Instrument with:

- the BBB+ yields are obtained by weighting the BBB-rated yields (2/3) and the A-rated yields (1/3) as per clause 11; and
- The RBA yields are extrapolated to 10 years as per the methodology in clause 14.

Consistent with Clause 33 of the 2018 Rate of Return Instrument, data is sourced from the following:

[13] Economic Regulatory Authority of Western Australia (2018) Final Gas Rate of Return Guidelines Explanatory Statement: Meeting the requirements of the National Gas Rules, December, p. 125 https://www.erawa.com.au/cproot/19969/2/2018%20Final%20Gas%20Rate%20of%20Return%20Guidelines%20Explanatory%20Statement.PDF

- RBA's broad A-rated and broad BBB-rated yield estimates must be sourced from the RBA's published statistical data, "Aggregate Measures of Australian Corporate Bond Spreads and Yields – F3".
- Bloomberg broad A-rated yield estimates must be obtained from its BVCSAE10 index, and its broad BBB-rated yield estimates from its BVCSAB10 index.

The AER 2022 Draft Rate of Return Explanatory Statement plots the BBB+ 10-year yields interpolated from the A rated and BBB rated bond yields obtained from the three third party service providers as reproduced in Figure 7 below[14]. Aurizon Network notes at the time of the initial UT5 averaging period the Bloomberg BVAL and RBA produced comparable BBB+ estimates. However, in 2022 there has been some divergence between the estimates obtained from these two third party service providers as evident in the graph below and the differences in debt risk premium as shown in Table 28.

Table 28 Comparison of Bloomberg BVAL and RBA Corporate 10 Year Spreads to 10 Year Risk Free Rate

	A-Rated	BBB-Rated
Bloomberg BVAL	1.70%	2.52%
RBA F3	2.40%	3.42%
Difference	**0.70%**	**0.90%**

Source. Bloomberg, RBA, Aurizon Network Analysis

Examination of the bonds used in estimating the Bloomberg BVAL A-rated and BBB-rated yields indicates the inclusion of various bond issues from financial institutes (i.e. Bendigo Bank, Macquarie Bank and Bank of Queensland) is inconsistent with the PWC filtering criteria. Therefore, Aurizon Network places more weight on the reliability of the RBA yields as a cross check.

Figure 7 BBB+ debt yield curves for RBA, Bloomberg and Thomson Reuters (April 2015 to February 2022)

[14] Australian Energy Regulator (2022) Draft Rate of Return Instrument, Explanatory Statement, June, p. 219, Available at: https://www.aer.gov.au/system/files/Draft%202022%20Rate%20of%20Return%20Instrument%20-%20Explanatory%20Statement%20-%2016%20June%202022.pdf

Aurizon Network has obtained the following 10-year BBB+ DRP estimates from the third-party data sources:

- a value of 2.224% from the Bloomberg BVAL 10-year indices over the averaging period; and
- a point value of 2.91% at 31 May 2022 and a point value of 3.23% at 30 June 2022 from the RBA's corporate bond yields and spreads data series where '*The monthly figures shown are for the last business day of the month*'. Interpolation over the averaging period results in an estimate of 3.08%.

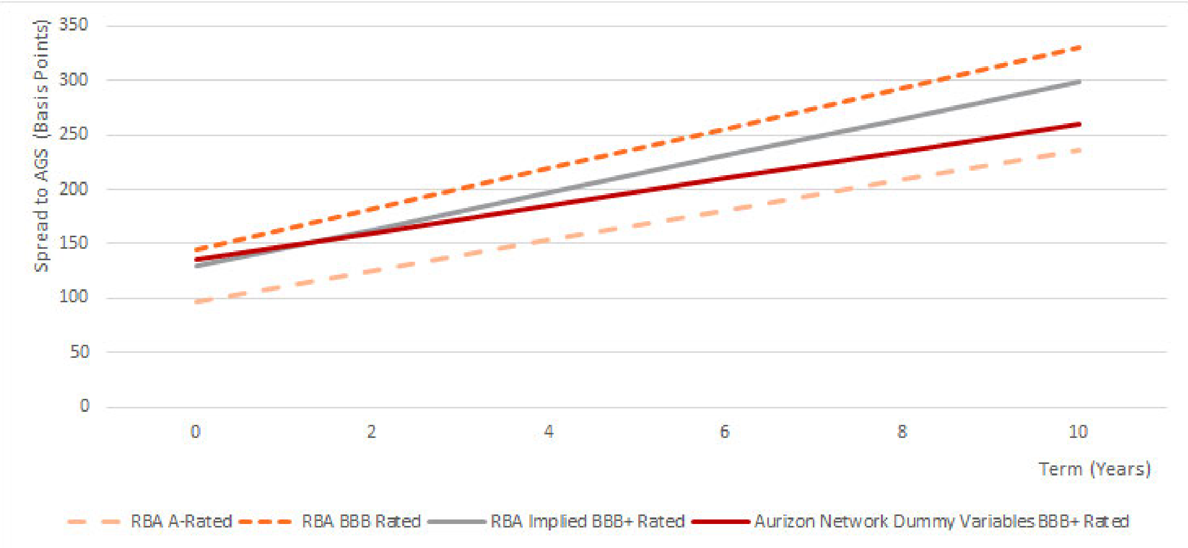
Details of these estimates are provided in Appendix B.

Reasonableness of Aurizon Networks DRP Estimate

Aurizon Network has plotted the spread to Australian Government Securities (**AGS**) curves for the regression of the RBA's A-rating and BBB-rated averaged from 31 May to the 30 June in Figure 8 with the implied BBB+ spread curve and the BBB+ DRP curve obtained from the dummy variable regression in Table 27. This figure shows that the slope of the BBB+ DRP curve obtained from the dummy variable regression is lower than the implied BBB+ spread curve from the RBA A and BBB curves. The slope of the implied BBB+ spread curve of 16.92 bp is much closer to the 16.96 bp slope obtained from the BBB+ only regression of 30 BBB+ bonds.

Finally, the average of the implied BBB+ DRP estimates obtained from the Bloomberg BVAL indices and RBA Corporate Bond Yields and Spread series for A-rated and BBB-rated corporate bonds is 2.66%. Therefore, the DRP estimate of 2.6% obtained from the dummy variable regression represents a reasonable estimate consistent with the QCA's 2018 Decision.

Figure 8 Comparison of Aurizon Network BBB+ DRP to Implied RBA BBB+ Spread to AGS



Source: RBA, Aurizon Network Analysis

Results

Table 29 Reset DRP – Results and Preliminary Reset DRP

Estimate	10 Year DRP
BBB+ Sample Regression	2.809%
Pooled Regression	2.510%
Dummy Variable Regression	**2.600%**
Bloomberg BVAL interpolated BBB+	2.224%

Estimate	10 Year DRP
RBA Interpolated BBB+	3.085%

Due to the potential observed sample bias towards BBB bonds, Aurizon Network, consistent with the QCA's 2018 Decision, has not used the estimated DRP from the pooled regression and has applied the estimated DRP from the dummy variables approach. For the Preliminary Reset Debt Risk Premium Aurizon Network has applied a value of 2.60%. This results in a Preliminary Reset Debt Risk Premium Difference of 0.31[15].

4.2 Preliminary Reset Inflation Rate

The inclusion of this component is permitted under Clause 6A.3(b). Aurizon Network submits a preliminary Reset Inflation Rate of 3.05% for the UT5 Reset Period.

Consistent with the definitions provided in UT5, Aurizon Network has calculated the preliminary Reset Inflation Rate as the arithmetic average of the midpoint of short-term RBA inflation rate forecasts for the period from 1 July 2023 to the period that the RBA reports short-term inflation forecasts and the midpoint of the RBA target band for inflation for the years to the Terminating Date (if any) that short-term RBA inflation rate

In accordance with the RBA's May 2022 Statement on Monetary Policy, Aurizon Network has adopted the following values when determining the preliminary Reset Inflation Rate.

Table 30 RBA Inflation Forecasts

Date	CPI	Comment
June-23	4.30%	RBA short-term forecast
June-24	2.90%	RBA short-term forecast
June-25	2.50%	Midpoint of RBA target band
June-26	2.50%	Midpoint of RBA target band
Preliminary Reset Inflation Rate	**3.05%**	**4 Year Inflation Forecast**

[15] Reset Debt Risk Premium Difference = (Reset Debt Risk Premium – 2.04%) x 0.55

Inputs using a methodology defined in UT5 or consistent with the QCA's 2018 Decision

The inputs contained in the following section have applied the applicable methodology as outlined within UT5 or the QCA's 2018 Decision.

4.3 Forecast Regulatory Asset Base values

The inclusion of this component is permitted under Clause 6A.3(d). Aurizon Network submits the following forecast RAB values for the UT5 Reset Period.

Please note that the RAB values for FY2022 and FY2023 presented in the tables below are not within the UT5 Reset Period. The FY2022 and FY2023 values are provided in the tables below for completeness and to illustrate the transition from the QCA-approved RAB roll-forward for FY2021 to the opening RAB values for FY2024.

Table 31 Forecast RAB Values – Blackwater System

Blackwater ($m)	FY2022^	FY2023^	FY2024	FY2025	FY2026	FY2027
Opening	2,570.3	2,610.3	2,631.4	2,643.7	2,659.1	2,664.2
Capex	113.6	122.0	119.3	126.2	128.8	141.6
Inflation	147.6	117.5	83.9	84.5	85.0	85.6
minus Depreciation	221.2	218.4	190.9	195.2	208.8	222.6
Closing	**2,610.3**	**2,631.4**	**2,643.7**	**2,659.1**	**2,664.2**	**2,668.8**

Table 32 Forecast RAB Values – Goonyella System

Goonyella ($m)	FY2022^	FY2023^	FY2024	FY2025	FY2026	FY2027
Opening	1,713.3	1,786.1	1,844.5	1,890.4	1,934.0	1,990.2
Capex	117.4	118.7	120.1	128.6	152.7	143.9
Inflation	100.7	81.9	59.9	61.6	63.6	65.1
minus Depreciation	145.3	142.2	134.1	146.6	160.2	170.2
Closing	**1,786.1**	**1,844.5**	**1,890.4**	**1,934.0**	**1,990.2**	**2,029.0**

Table 33 Forecast RAB Values – Moura System

Moura ($m)	FY2022^	FY2023^	FY2024	FY2025	FY2026	FY2027
Opening	318.7	326.6	333.0	336.7	335.1	332.7
Capex	11.5	15.3	15.2	11.4	12.1	12.0
Inflation	18.2	14.7	10.6	10.6	10.6	10.5
minus Depreciation	21.8	23.6	22.2	23.6	25.1	25.7
Closing	**326.6**	**333.0**	**336.7**	**335.1**	**332.7**	**329.4**

Table 34 Forecast RAB Values – Newlands System

Newlands ($m)	FY2022^	FY2023^	FY2024	FY2025	FY2026	FY2027
Opening	358.8	386.6	407.2	434.8	466.2	498.5
Capex	24.3	19.7	23.4	25.5	27.0	26.6
Inflation	22.0	20.4	21.1	22.7	24.4	26.2
minus Depreciation	18.5	19.5	16.9	16.8	19.1	21.4
Closing	**386.6**	**407.2**	**434.8**	**466.2**	**498.5**	**529.9**

Table 35 Forecast RAB Values – GAPE

GAPE ($m)	FY2022^	FY2023^	FY2024	FY2025	FY2026	FY2027
Opening	821.9	790.7	748.0	699.6	647.7	592.0
Capex	0.3	2.1	--	--	--	--
Inflation	45.3	34.5	23.9	22.5	21.1	19.5
minus Depreciation	76.8	79.2	72.4	74.5	76.8	61.3
Closing	**790.7**	**748.0**	**699.6**	**647.7**	**592.0**	**550.1**

Aurizon Network has not made any provision for capital expenditure associated with the rectification of any Existing Capacity Deficits (ECD) identified by the IE within the forecast RAB values.

4.3.1 Methodology

The FY2024 opening asset value for the UT5 Reset Period, reflects a roll-forward value of $5,965m for the CQCN. This value has been determined having regard to the following matters:

- Applying the roll-forward methodology outlined in the 2017 Access Undertaking;
- Applying the approved RAB values for each Coal System as at FY2021 (the latest approved RAB Roll-forward);[16]
- Aurizon Network has estimated the roll-forward value of the RAB:
  - For FY2022, by having regard to the capital expenditure forecast as per the FY2022 MRSB and an inflation rate of 5.5%[17], reflecting the RBA's May 2022 Statement of Monetary Policy inflation forecast for this year;
  - For FY2023, by having regard to the capital expenditure forecast as per the FY2023 MRSB and an inflation rate of 4.3%, reflecting the RBA's May 2022 Statement of Monetary Policy inflation forecast for this year; and
  - For the UT5 Reset Period (FY2024 – FY2027), by having regard to the four-year capital expenditure forecasts outlined in the FY2023 MRSB and the preliminary Reset Inflation Rate of 3.05%,
- depreciation rates based on previous QCA decisions and endorsed asset lives. For clarity, the rolling 20-year asset life has been reset from FY2024 as required by as required by clause 6A.3 of UT5.

[16] QCA (2022) Decision RAB roll-forward 2020-21, 13 June. Available at: qca-aurizon-network-roll-forward-2020-21-acceptance-letter.pdf

[17] At the time of drafting, the Australian Bureau of Statistics had not published actual CPI results for FY2022 or for FY2023. Please note that the RAB values will be updated for actual CPI as part of the annual RAB Roll-forward process.

The QCA-approved capital expenditure for the UT5 period to date is primarily attributable to asset replacement and renewal expenditure. As a result, Aurizon Network has not sought to include any new amounts for Equity Raising Costs within the forecast RAB values for the UT5 Reset Period at this stage.

The requirement for Equity Raising Costs during the Reset Period may be subject to change as a result of any finalised Transitional Arrangements, and/or reassessed as part of Aurizon Network's submission for the next regulatory period (UT6).

4.4 Non-Electric Operating Expenditure Allowance

The inclusion of this component is permitted under Clause 6A.3(e). Aurizon Network submits the following Non-Electric Operating Expenditure Allowance for the UT5 Reset Period.

Table 36 Non-Electric Operating Expenditure Allowance

Non-Electric OPEX ($m)	FY22 Allowance	FY2024	FY2025	FY2026	FY2027
Blackwater	53.9	53.9	53.9	53.9	53.9
Goonyella	58.8	58.8	58.8	58.8	58.8
Moura	5.8	5.8	5.8	5.8	5.8
Newlands	3.6	3.6	3.6	3.6	3.6
GAPE	12.9	12.9	12.9	12.9	12.9
Total	**135.1**	**135.1**	**135.1**	**135.1**	**135.1**

Consistent with the definitions provided in UT5, the Non-Electric Operating Expenditure Allowance for the Reset Period is consistent with the amount of Non-Electric Operating Expenditure Costs used in the calculation of the Reference Tariffs and Allowable Revenues for the Year ending 30 June 2022.

4.5 Indirect Maintenance Expenditure Allowance

The inclusion of this component is permitted under Clause 6A.3(f). Aurizon Network submits the following Indirect Maintenance Cost Allowance for the UT5 Reset Period.

Table 37 Indirect Maintenance Expenditure Allowance

Indirect Maintenance ($m)	FY2024	FY2025	FY2026	FY2027
Blackwater	7.6	7.5	7.2	7.1
Goonyella	7.7	7.6	7.3	7.1
Moura	1.0	1.0	1.0	1.0
Newlands	0.5	0.5	0.4	0.4
GAPE	0.8	0.8	0.7	0.7
Total	**17.5**	**17.3**	**16.7**	**16.4**

Consistent with the QCA's 2018 Decision, the indirect maintenance expenditure allowance for the UT5 Reset Period is comprised of a return on plant and a return on inventory.

4.5.1 Return on Plant

Aurizon Network is required to invest in a wide variety of assets to efficiently deliver asset activity throughout the CQCN. A 'Return on Plant' is provided as part of Aurizon Network's indirect maintenance expenditure allowance for plant and equipment that is owned by Aurizon Network and not otherwise included within Aurizon Network's RAB.

Consistent with the methodology outlined in the QCA's 2018 Decision, Aurizon Network has calculated the Return on Plant for each year of the UT5 Reset Period having regard to the:

- written down value of existing plant and equipment as outlined in the maintenance fixed asset register (**Asset Register**);
- expected value of new purchases in each year; and
- preliminary Reset WACC.

The resulting Return on Plant for the UT5 Reset is summarised in Table 38 below.

Table 38 Return on Plant

Return on Plant ($m)	Value	FY2024	FY2025	FY2026	FY2027
Preliminary Reset WACC	8.18%				
Opening Asset Value^		182.8	178.6	170.6	166.1
Total Return on Plant		**14.9**	**14.6**	**14.0**	**13.6**

^ Reflects the opening value of the Asset Register in each year.

The QCA's 2018 Decision provided a Return on Plant for FY2021 of $9.3m. This same value was reflected in the Indirect Maintenance Cost Allowance for FY2022 and FY2023. Aurizon Network notes that the proposed Return on Plant for FY2024 is approximately $5.6m higher than this value. The primary drivers of the increase in Return on Plant between FY2023 and FY2024 are as follows:

- the increase in the Reset WACC accounts for approximately $4.5m (81%) of the increase:
  - the UT5 DAAU provided a fixed Indirect Maintenance Expenditure Allowance for FY2023. As a result, the FY2023 Return on Plant was based on a WACC of 5.7% rather than the Approved WACC of 6.3%. Aurizon Network notes that the preliminary Reset WACC is 8.18%;
- differences in the underlying asset base accounts for approximately $1.1m (19%) of the increase with approximately:
  - $0.3m relating to the fact that when negotiating the UT5 DAAU, the indirect maintenance cost allowance for FY2023 was set equal to the QCA's 2018 Decision for FY2021 which in turn, was based on data and assumptions from approximately 2016. The FY2023 Return on Plant was therefore based on the assumed FY2021 asset base and did not account for new acquisitions in FY2022 and FY2023 - primarily replacement spend on plant (such as earth moving equipment), vehicles and trucks; and
  - $0.8m relating to additional spend during the Reset Period, relating to the acquisition of the new plant and equipment (truck and vehicle replacements), the progressive replacement of sleeper wagons, costs associated with the overhaul of ballast wagons and costs associated with safety modifications and the overhaul of the Track Laying Machine.

Consistent with the QCA's 2018 Decision, the Return on Plant for the UT5 Reset Period will be allocated between Coal Systems in proportion to direct maintenance spend in each year.

Aurizon Network intends to engage with Customers in relation to the replacement of major plant and equipment at the appropriate point in time.

4.5.2 Return on Inventory

For Aurizon Network to achieve the UT5 Maintenance Objectives in a prudent and efficient manner it is critical that quality inventory is on hand and on location when and where it is required. Recognising that Aurizon Network must invest, procure and store an appropriate level of inventory, the indirect maintenance expenditure allowance provides for a return on Aurizon Network's inventory holdings.

To determine the return on inventory for each year of the UT5 Reset Period, Aurizon Network has applied a methodology consistent with the QCA's 2018 Decision. A description of this methodology is as follows:

1. Forecast total below rail inventory holdings for each year of the UT5 Reset Period;
2. Identify inventory associated with CQCN maintenance tasks (based on actual monthly inventory consumption);
3. Using the outputs from Steps 1 and 2, calculate the level of stock on hand that is expected to be required for maintenance purposes; and
4. Apply preliminary Reset WACC to calculate the Return on Inventory.

The resulting return on inventory for the UT5 Reset Period is summarised in Table 39 below.

Table 39 Return on Inventory

Return on Inventory ($m)	Value	FY2024	FY2025	FY2026	FY2027
Preliminary Reset WACC	8.18%				
Inventory consumption - Maintenance	43.3%				
Forecast Inventory Holdings		74.7	76.1	78.1	79.8
Total Return on Inventory		**2.6**	**2.7**	**2.7**	**2.8**

The QCA's 2018 Decision provided a Return on Inventory for FY2021 of $0.9m. This same value was reflected in the Indirect Maintenance Cost Allowance for FY2022 and FY2023. Aurizon Network notes that the proposed Return on Inventory for FY2024 is approximately $1.8m higher than this value. The primary drivers of the increase in Return on Inventory between FY2023 and FY2024 are as follows:

- the increase in the Reset WACC accounts for approximately $0.8m (45%) of the increase
  - the UT5 DAAU provided a fixed Indirect Maintenance Expenditure Allowance for FY2023. As a result, the FY2023 Return on Inventory was based on a WACC of 5.7% rather than the Approved WACC of 6.3%. Aurizon Network notes that the preliminary Reset WACC is 8.18%;
- differences in the required level of inventory holdings accounts for approximately $1.0m (55%) of the increase:
  - when negotiating the UT5 DAAU, the indirect maintenance cost allowance for FY2023 was set equal to the QCA's 2018 Decision for FY2021. The forecast level of inventory holdings assessed in the QCA's 2018 Decision was based on data and assumptions from approximately 2016 and did not take into consideration changes in those levels during FY2022 and FY2023;
  - as a result of COVID driven supply chain delays and disruption, Aurizon Network has increased its inventory levels and machine spares in an effort to mitigate the potential downstream impacts on CQCN operations;
  - increases in the cost of key inputs (such as rail) due to higher steel prices; and
  - increases in safety stock for new signalling and telecommunications technology and sleepers.

Consistent with the QCA's 2018 Decision, the Return on Inventory for the UT5 Reset Period will be allocated between Coal Systems in proportion to direct maintenance spend in each year.

4.6 Depreciation Allowance

The inclusion of this variation is permitted under Clause 6A.3(i). Aurizon Network's depreciation allowance for the Reset Period is calculated using a methodology consistent with the QCA's 2018 Decision. As required by clause 6A.3 of UT5, the rolling 20-year asset life has been reset at the commencement of the Reset Period (FY24).

Aurizon Network submits the following depreciation allowance for the UT5 Reset Period. For clarity, the depreciation allowance outlined below represents the "Return on Capital minus Inflation", i.e. the Return on Capital (Depreciation) for the year minus the inflationary gain from indexation of the asset base, which is based on the preliminary Reset Inflation Rate.

Table 40 Return on Capital minus Inflation - Non-Electric

Non-Electric Depreciation ($m)	FY2024	FY2025	FY2026	FY2027
Blackwater	85.5	87.4	98.0	109.2
Goonyella	60.4	69.5	78.8	85.5
Moura	11.1	12.5	14.0	14.6
Newlands	8.2	7.6	9.3	10.9
GAPE	48.3	51.8	55.6	42.4
Total	**213.5**	**228.8**	**255.6**	**262.6**

Table 41 Return on Capital minus Inflation - Electric

Electric Depreciation ($m)	FY2024	FY2025	FY2026	FY2027
Blackwater	16.6	18.2	20.1	22.2
Goonyella	10.9	12.3	14.0	15.6
Total	**27.5**	**30.5**	**34.1**	**37.8**

4.7 Tax Allowance

The inclusion of this variation is permitted under Clause 6A.3(j) and reflects the estimated cost of corporate tax payable on Allowable Revenue less annual tax expenses less the value of imputation credits (gamma). The tax allowance is a computation of Aurizon Network's post-tax revenue model using a methodology consistent with the QCA's 2018 Decision. Aurizon Network has supplied the QCA with tax depreciation forecasts relating to the forecast regulatory asset base values that are outlined in section 0 of this submission.

Aurizon Network submits the following tax allowance for the UT5 Reset Period.

Table 42 Tax Allowance - Non-Electric

Non-Electric Tax ($m)	FY2024	FY2025	FY2026	FY2027
Blackwater	16.1	15.8	17.4	19.2
Goonyella	10.9	11.8	12.9	13.6
Moura	2.9	3.1	3.3	3.4
Newlands	1.5	1.3	1.5	1.8
GAPE	10.5	11.0	11.4	8.8

Non-Electric Tax ($m)	FY2024	FY2025	FY2026	FY2027
Total	**41.9**	**43.0**	**46.6**	**46.7**

Table 43 Tax Allowance - Electric

Electric Tax ($m)	FY2024	FY2025	FY2026	FY2027
Blackwater	2.5	2.7	3.2	3.5
Goonyella	2.0	2.2	2.5	2.6
Total	**4.5**	**4.9**	**5.6**	**6.1**

4.8 Working Capital

The inclusion of this variation is permitted under Clause 6A.3(k). The working capital allowance is a computation of Aurizon Network's post-tax revenue model and is determined using the same methodology approved in the QCA's 2018 Decision.

Aurizon Network submits the following working capital allowance for the UT5 Reset Period.

Table 44 Working capital - Non-Electric

Non-Electric Working Capital ($m)	FY2024	FY2025	FY2026	FY2027
Blackwater	1.2	1.2	1.2	1.3
Goonyella	1.0	1.0	1.0	1.1
Moura	0.2	0.2	0.2	0.2
Newlands	0.1	0.1	0.1	0.1
GAPE	0.4	0.4	0.4	0.3
Total	**2.8**	**2.9**	**3.0**	**3.0**

Table 45 Working Capital - Electric

Electric Working Capital ($m)	FY2024	FY2025	FY2026	FY2027
Blackwater	0.3	0.3	0.3	0.3
Goonyella	0.2	0.2	0.2	0.2
Total	**0.5**	**0.5**	**0.5**	**0.5**

QCA Approved Inputs

The inputs contained in the following section have already been approved by the QCA as part of their relevant compliance process outlined within the Access Undertaking.

4.9 Direct Maintenance Costs

The inclusion of this component is permitted under Clause 6A.3(g). Aurizon Network has adopted the four-year forecasts outlined in the FY23 MRSB, which were approved by a Special Majority of End Users on 14 February 2022 and subsequently by the QCA.

Aurizon Network submits the following forecast direct maintenance costs for the UT5 Reset Period.

Table 46 Direct Maintenance Costs - Non-Electric

Non-Electric Maintenance ($m)	FY2024	FY2025	FY2026	FY2027
Blackwater	61.4	63.4	64.3	65.5
Goonyella	57.3	59.3	60.0	61.1
Moura	12.9	13.7	13.6	13.6
Newlands	4.9	5.2	5.2	5.3
GAPE	8.4	8.8	8.9	9.1
Total	**145.0**	**150.4**	**152.0**	**154.7**

Table 47 Direct Maintenance Costs - Electric

Electric Maintenance ($m)	FY2024	FY2025	FY2026	FY2027
Blackwater	6.3	6.4	6.6	6.8
Goonyella	6.3	6.5	6.6	6.8
Total	**12.6**	**12.9**	**13.2**	**13.6**

Aurizon Network notes that updates to these four-year forecasts will likely be developed as part of the FY24 MRSB process. Aurizon Network expects to provide an update to the direct maintenance costs for the UT5 Reset Period in February 2023 once the outcomes of the FY24 MRSB process are known.

4.10 Forecast Capital Expenditure

The inclusion of this variation is permitted under Clause 6A.3(h). Aurizon Network has adopted the four-year forecasts outlined in the FY23 MRSB, which were approved by a Special Majority of End Users on 14 February 2022, and the QCA in their final decision on the FY23 ARRT.

Aurizon Network submits the following forecast capital expenditure for the UT5 Reset Period.

Table 48 Forecast Capital Expenditure - Non-Electric (Mid-Year $)

Non-Electric Capex ($m)	FY2024	FY2025	FY2026	FY2027
Blackwater	114.4	119.3	112.0	120.0

Non-Electric Capex ($m)	FY2024	FY2025	FY2026	FY2027
Goonyella	108.1	107.6	115.2	116.0
Moura	15.9	11.9	12.6	12.4
Newlands^	24.4	26.5	28.1	27.7
Total	**262.7**	**265.2**	**268.0**	**276.2**

^ Please note the commentary in section 4.10.1

Table 49 Forecast Capital Expenditure - Electric (Mid-Year $)

Electric Capex ($m)	FY2024	FY2025	FY2026	FY2027
Blackwater	9.7	12.0	21.9	27.2
Goonyella	16.7	26.2	43.6	33.6
Total	**26.4**	**38.1**	**65.6**	**60.8**

Aurizon Network notes that updates to these four-year forecasts will likely be developed as part of the FY24 MRSB process. Aurizon Network expects to provide an update to the capital expenditure forecasts for the UT5 Reset Period in February 2023 once the outcomes of the FY24 MRSB process are known.

The forecast capital expenditure outlined within the below Tables does not include any potential capital amounts required in response to the IE identification of ECD's within the relevant Coal Systems. There is the ability to adjust the forecast capital expenditure annually through the ARRT process, which Aurizon Network expects to do so once the appropriate approvals for those amounts have been received from the QCA.

4.10.1 Allocation of renewal expenditure between Newlands and GAPE Services

Under the current QCA approved asset allocation methodology, Asset Renewal and Replacement Expenditure in the Newlands Coal System which is common to both GAPE and Newlands services is assigned to the Coal System that the renewed or replaced asset currently financially resides. At the time of preparing this Preliminary Reset Values submission, the identification of individual assets by Coal System RAB and disaggregation of forecast capital expenditure to the relevant Coal System RAB is unavailable.

Given the age profile of GAPE infrastructure enhancements relative to the Newlands RAB assets, the forecast capital expenditure is expected to be strongly weighted to assets in the Newlands RAB. Therefore, the forecast Asset Renewal and Replacement Expenditure in the Newlands Coal System has initially been assigned to Newlands. These forecasts will be updated in subsequent regulatory processes, including the Annual Review of Reference Tariffs where asset identification information becomes available or there is a change in the asset allocation methodology.

Aurizon Network acknowledges the ongoing engagement with the Newlands / GAPE Working Group to resolve various matters relating to the allocation of capital renewal expenditure between Newlands and GAPE Train Services. To the extent that Aurizon Network and the Working Group resolve these matters, Aurizon Network will seek to reflect this agreed outcome through the appropriate regulatory process. This may require an amendment to the capital and maintenance indicators outlined in Table 46 and Table 48.

4.11 Electric Operating Expenditure Allowance

The inclusion of this component is permitted under Clause 6A.3(c). Aurizon Network submits the following Electric Operating Expenditure Allowance for the UT5 Reset Period.

Table 50 Electric Operating Expenditure Allowance

Electric OPEX ($m)	FY2024	FY2025	FY2026	FY2027
Blackwater	36.1	36.1	36.1	36.1
Goonyella	31.0	31.0	31.0	31.0
Total	**67.0**	**67.0**	**67.0**	**67.0**

An Electric Operating Expenditure Allowance is not applicable for the Moura System, the Newlands System or GAPE.

Consistent with the QCA's 2018 Decision, the electric operating expenditure allowance for the UT5 Reset Period is comprised of the:

- forecast cost of transporting electricity from generators to overhead power infrastructure via connections with the Powerlink and Ergon Energy networks - the Transmission Network Service Provider (**TNSP**) costs; and
- Insurance costs for feeder stations.

4.11.1 TNSP Costs

The QCA approved the latest forecast of FY23 TNSP costs on 26 May 2022 in their final decision on the FY23 ARRT. Aurizon Network has adopted these forecasts for each year of the Reset Period as indicated in Table 51 below.

Table 51 Forecast Transmission and Connection Charges

TNSP Costs ($m)	FY23 ARRT	FY2024	FY2025	FY2026	FY2027
Blackwater	35.9	35.9	35.9	35.9	35.9
Goonyella	30.7	30.7	30.7	30.7	30.7
Total	**66.6**	**66.6**	**66.6**	**66.6**	**66.6**

A change to TNSP charges constitutes an Endorsed Variation Event in accordance with UT5, Schedule F, clause 5.2 (b). TNSP pricing notifications have historically been received in March of each year. Aurizon Network will engage with the QCA to determine the appropriate process for incorporating updated TNSP charges within the preliminary Allowable Revenues and Reference Tariffs.

4.11.2 Insurance costs for feeder stations

The QCA's 2018 Decision provided an annual allowance of $0.47m in FY21[18] relating to the efficient costs of insuring electric feeder stations throughout the CQCN and required that these costs be recovered through the Electric Operating Expenditure Allowance.

As noted in section 4.4, Aurizon Network's operating expenditure allowance for the UT5 Reset Period is reflects the amount used in the calculation of the Reference Tariffs and Allowable Revenues for the

[18] QCA (2018), Decision Aurizon Network's 2017 Draft Access Undertaking. December, Table 56, pg. 180.

Year ending 30 June 2022. As a result, the following insurance costs for electric feeder stations have been included within the Electric Operating Expenditure Allowance for the Reset Period.

Table 52 Forecast Insurance Costs for electric Feeder Stations

Insurance Costs ($m)	FY22 Allowance	FY2024	FY2025	FY2026	FY2027
Blackwater	0.18	0.18	0.18	0.18	0.18
Goonyella	0.28	0.28	0.28	0.28	0.28
Total	**0.47**	**0.47**	**0.47**	**0.47**	**0.47**

5. Other Relevant Revenue and Pricing Matters

In addition to the Reset Schedule F Preliminary Values outlined in Section 4 above, there are several other matters that impact the preliminary Allowable Revenues and Reference Tariffs for the Reset Period.

5.1 Approved Allowable Revenue Adjustments

5.1.1 UT4 Capital Carryover

The QCA's 2018 Decision[19] approved the recovery of the UT4 capital carryover account via an adjustment to UT5 allowable revenues. With the QCA approval of the customer negotiated UT5 DAAU, the recovery period of the UT4 capital carryover was extended out to the end of the UT5 Term, i.e. to FY2027.

Aurizon Network has included the following adjustments relating to the recovery of the UT4 capital carryover.

Table 53 UT4 Capital Carryover – Non-Electric

Non-Electric Capital Carryover ($m)	FY2024	FY2025	FY2026	FY2027
Blackwater	1.9	2.0	2.0	2.1
Goonyella	2.5	2.5	2.6	2.7
Moura	0.4	0.4	0.4	0.4
Newlands	0.9	0.9	0.9	0.9
GAPE	(0.8)	(0.8)	(0.8)	(0.9)
Total	**4.9**	**5.0**	**5.1**	**5.2**

Table 54 UT4 Capital Carryover – Electric

Electric Capital Carryover ($m)	FY2024	FY2025	FY2026	FY2027
Blackwater	(0.0)	(0.0)	(0.0)	(0.0)
Goonyella	1.8	1.8	1.9	1.9
Total	**1.7**	**1.8**	**1.8**	**1.9**

5.1.2 Reconciliation of FY2018 and FY2019 Transitional Tariffs

The QCA's 2018 Decision was published in December 2018. During FY2018 and FY2019, Aurizon Network had sought and received QCA approval of Transitional Allowable Revenues and Reference Tariffs[20], which were used to determine Access Charges while the QCA was investigating Aurizon Network's 2017 Draft Access Undertaking; which would eventually become UT5.

[19] QCA (2018), Decision, Aurizon Network's 2017 draft access undertaking, December, pg.43.

[20] These transitional arrangements were established through a series of Extension DAAU's to UT4. Specifically, the April 2017, September 2017, April 2018 and October 2018 Extension DAAU's.

To give effect to the QCA's 2018 Decision, the differences between the transitional allowable revenues for FY2018 and FY2019 and the final approved Allowable Revenues for these years were reconciled through an adjustment to UT5 allowable revenues. The QCA's approval of the UT5 DAAU, provides that the difference in allowable revenues be reconciled on a forward-looking basis between FY2020 and FY2027.

For the UT5 Reset Period, Aurizon Network has included the following adjustments relating to the reconciliation of the FY2018 and FY2019 transitional arrangements.

Table 55 Reconciliation of Transitional Tariff Arrangements – Non-Electric

Non-Electric Transitional Tariff ($m)	FY2024	FY2025	FY2026	FY2027
Blackwater	4.6	4.7	4.9	5.0
Goonyella	3.2	3.3	3.3	3.4
Moura	(0.1)	(0.1)	(0.1)	(0.1)
Newlands	0.7	0.7	0.7	0.7
GAPE	0.4	0.4	0.4	0.4
Total	**8.8**	**9.0**	**9.2**	**9.4**

Table 56 Reconciliation of Transitional Tariff Arrangements – Electric

Electric Transitional Tariffs ($m)	FY2024	FY2025	FY2026	FY2027
Blackwater	0.1	0.1	0.1	0.1
Goonyella	(0.7)	(0.7)	(0.7)	(0.7)
Total	**(0.6)**	**(0.6)**	**(0.6)**	**(0.7)**

5.1.3 Extended recovery of APS Capital Expenditure

The QCA's final decision on the FY23 ARRT[21] approved Aurizon Network's proposal to recover Allowable Revenues associated with the Advanced Planning and Scheduling (**APS**) system over an extended period, i.e. between FY2023 to FY2027. Aurizon Network has applied adjustments to Allowable Revenues for the Reset Period consistent with the QCA's decision.

Table 57 Allowable Revenue adjustment for extended recovery of approved APS capital expenditure

Recovery of APS ($m)	FY2024	FY2025	FY2026	FY2027
Blackwater	7.1	7.3	7.5	7.6
Goonyella	7.6	7.8	8.0	8.2
Moura	0.8	0.9	0.9	0.9
Newlands	0.5	0.5	0.5	0.5
GAPE	0.0	0.0	0.0	0.0
Total	**16.1**	**16.4**	**16.8**	**17.2**

[21] QCA (2022), Annual review of reference tariffs, 2022-23, 26 May, pg.5.

5.2 Forecast IE Pass Through Cost

On 10 February 2022, the Coal Network Capacity Co (**CNCC**) notified Aurizon Network of its forecast IE Pass Through Cost for FY2023, including relevant adjustments to account for a forecast under-spend, and invoicing under-recovery during FY2022.

The FY2023 IE Pass Through Cost was approved by the QCA in its decision on the FY23 ARRT, and Aurizon Network has adopted this rate for each year of the UT5 Reset Period.

Table 58 Preliminary IE Pass Through Cost – FY2024 to FY2027

Description	Value ($m)
Estimate of expenditure to operate CNCC in FY2023	4.7
Less: Expense under-spend for FY2022	(0.4)
Add: Invoicing under-recovery for FY2022	--
Estimated Cost FY2023	**4.2**
CQCN volume forecast (mnt)	226.6
Preliminary IE Pass Through Cost ($/nt)	**0.01868**

Aurizon Network expects the CNCC to provide an updated forecast of the IE Pass Through Cost in February 2023. Aurizon Network will seek to update the preliminary IE Pass Through Costs for the UT5 Reset Period following receipt of more recent information from CNCC.

5.3 Electric Energy Charge

The EC tariff is set to recover the forecast costs relating to the consumption of electric energy. Recently, Aurizon Network has engaged with its customers to determine future options relating to electricity, including Green Energy within the Electricity Charge. The inclusion of Green Energy within the electric traction mix, will assist members of the supply chain to meet emission targets in both the short and longer term.

Aurizon Network proposes that the preliminary EC Tariff for each year of the UT5 Reset Period be set at the latest QCA-approved rate, i.e. the EC Tariffs approved as part of the FY23 ARRT. These amounts are outlined in Table 59 below.

Table 59 Preliminary EC Tariff – FY2024 to FY2027

	$m
Total Electric Energy and Variable Connection Charge Cost	67.5
Expected (over) or under recovery from Prior Year	1.5
Adjusted EC Cost	**69.0**
Forecast eGTK'000 (Blackwater and Goonyella)	62,412,598
Preliminary EC Tariff for FY2023 ($ per eGTK'000)	**1.11**

Schedule F, clause 2.2(e) requires Aurizon Network to separately identify the Environment Compliance Charge and Variable Connection Charge within the EC tariff. The relevant amounts are as follows:

Table 60 Composition of the preliminary electric energy charge for FY2024 to FY2027

Cost component	$m	$/'000 egtk
Consumption and Supply	52.4	0.84
Environment Compliance Charge	11.6	0.19
Variable Connection Charge	5.0	0.08
Total	**69.0**	**1.11**

Following increases in wholesale pricing and volatility in the electricity market, Aurizon Network submitted an Electric Energy Charge Draft Amending Access Undertaking (**EC DAAU**) to the QCA in June 2022 seeking approval of a revised EC Tariff for FY2023. At the time of drafting, the QCA had not published a decision on Aurizon Network's EC DAAU.

Aurizon Network proposes to amend the preliminary EC Tariff for the Reset Period to reflect the QCA's decision on the EC DAAU and will engage with stakeholders during FY2023 in relation to electricity pricing movements.

5.4 QCA Levy

The QCA Levy for each year is set to recover the fees imposed by the QCA on beneficiaries of its regulatory services.

On 27 June 2022, the QCA provided notification of its forecast regulatory fees for FY2023, which are outlined in Table 61 below. For each year of the UT5 Reset Period, Aurizon Network proposes to set the preliminary QCA Levy based on the QCA's latest estimate of its regulatory fees for FY2023.

Table 61 Preliminary QCA Levy – FY2024 to FY2027

Preliminary QCA Levy	Value ($m)
QCA Fees (FY2023)	1.21
CQCN volume forecast (mnt)	226.6
Preliminary QCA Levy	**$0.00535**

5.5 GAPE AT2 Reference Tariff

The AT2 Reference Tariff for GAPE reflects the approved FY2023 GAPE AT2 Reference Tariff for each year of the Reset Period.

Aurizon Network has not applied CPI escalation to the GAPE AT2 ($ per Train Path) Reference Tariff year on year because doing so would result in a negative GAPE AT4 ($ per Net Tonne) Reference Tariff. This occurs because the GAPE AT2 Reference Tariff is significantly higher than in other Coal Systems. As a result, the expected revenue recovery via the AT1 and AT2 Reference Tariff components would exceed the GAPE Allowable Revenue for the year where escalation is applied.

Aurizon Network notes that UT5 does not require AT2 Reference Tariffs to be escalated, and that by removing AT2 escalation, there is no impact to Allowable Revenues. Aurizon Network considers that in the absence of a complete reset of the GAPE AT2 Reference Tariff, it is prudent to remove GAPE AT2 escalation in this instance. Non-negative Reference Tariffs will better allow operational differences between Access Holders to be accounted for when calculating access charges.

5.6 Approach for updating preliminary values

Clause 6A.7 of UT5 outlines the process that the QCA must follow in assessing the appropriateness of all matters relevant to the Reset Schedule F Preliminary Values.

Several of the preliminary Allowable Revenue inputs and the preliminary volume forecasts included in this submission rely on assumptions and the best available information at a point in time.

Aurizon Network notes that during the QCA's assessment, other regulatory processes will take place that will impact on the Allowable Revenues and Reference Tariffs for the UT5 Reset Period. These processes include, but are not limited to:

- FY2022 Revenue Adjustment Amounts;
- FY2022 Maintenance and Capital Expenditure claims;
- FY2024 MRSB process; and
- Endorsed Variations.

Furthermore, in accordance with clause 6A.7 of UT5, the QCA will also provide an opportunity for stakeholders to make their own submissions on the Reset Schedule F Preliminary Values.

As a result, Aurizon Network intends to submit an update to relevant inputs for the QCA's consideration, noting that this represents a prudent and efficient approach to reducing variations attributable to timing differences. This would also allow the QCA to decide to approve or refuse to approve Aurizon Network's proposal having regard to the latest available information.

Aurizon Network will look to submit this update by no later than 28 February 2023, which provides for the conclusion of the FY2024 MRSB process and is aligned to the existing regulatory timeframes for submitting the annual Review of Reference Tariff submission.

As indicated in section 1.3 above, Aurizon Network expects to receive updated TNSP pricing notifications during March 2023. Aurizon Network will engage with the QCA to determine the appropriate process for incorporating updated TNSP charges within the preliminary Allowable Revenues and Reference Tariffs.

6. Preliminary Allowable Revenues and Reference Tariffs

6.1 Preliminary Allowable Revenues

Schedule F to UT5, provides the Allowable Revenues for each Coal System. Aurizon Network submits the following preliminary AT2-4 and AT5 Allowable Revenues for each Coal System and for each year of the Reset Period to the QCA for approval:

Table 62 Blackwater System - Preliminary Allowable Revenues ($m)

Blackwater	AT2-4 ($m)	AT5 ($m)
FY2024	387.3	91.6
FY2025	392.2	93.1
FY2026	405.5	95.7
FY2027	419.8	98.7

Table 63 Goonyella System - Preliminary Allowable Revenues ($m)

Goonyella	AT2-4 ($m)	AT5 ($m)
FY2024	318.0	70.7
FY2025	332.5	73.6
FY2026	346.0	78.2
FY2027	356.1	81.4

Table 64 Moura System - Preliminary Allowable Revenues ($m)

Moura	AT2-4 ($m)	AT5 ($m)
FY2024	56.0	--
FY2025	58.2	--
FY2026	59.5	--
FY2027	59.9	--

Table 65 Newlands System - Preliminary Allowable Revenues ($m)

Newlands	AT2-4 ($m)	AT5 ($m)
FY2024	34.7	--
FY2025	35.2	--
FY2026	38.4	--
FY2027	41.5	--

Table 66 GAPE - Preliminary Allowable Revenues ($m)

GAPE	AT2-4 ($m)	AT5 ($m)
FY2024	122.3	--
FY2025	122.3	--

GAPE	AT2-4 ($m)	AT5 ($m)
FY2026	121.8	--
FY2027	101.0	--

6.2 Preliminary Reference Tariffs

Schedule F to UT5, provides the Allowable Revenues for each Coal System. Aurizon Network submits the following preliminary Reference Tariffs to the QCA for approval.

The preliminary Reference Tariffs are a function of the preliminary Allowable Revenues outlined in section 6.1 above, and the relevant volume metrics derived from the revised System Forecasts in Table 17.

Table 67 Blackwater System – Preliminary Reference Tariffs

Blackwater	AT1	AT2	AT3	AT4	AT5	EC	QCA Levy	IE Pass Through Cost
FY2024	1.04	2,563.21	8.23	2.70	3.51	1.11	0.0054	0.0187
FY2025	1.07	2,641.39	8.32	2.72	3.57	1.11	0.0054	0.0187
FY2026	1.10	2,721.95	8.60	2.82	3.67	1.11	0.0054	0.0187
FY2027	1.13	2,804.97	8.90	2.91	3.78	1.11	0.0054	0.0187

Table 68 Goonyella System – Preliminary Reference Tariffs

Goonyella	AT1	AT2	AT3	AT4	AT5	EC	QCA Levy	IE Pass Through Cost
FY2024	0.72	1,623.94	5.96	1.25	1.99	1.11	0.0054	0.0187
FY2025	0.74	1,673.47	6.25	1.31	2.07	1.11	0.0054	0.0187
FY2026	0.76	1,724.51	6.50	1.36	2.19	1.11	0.0054	0.0187
FY2027	0.79	1,777.11	6.68	1.40	2.28	1.11	0.0054	0.0187

Table 69 Moura System – Preliminary Reference Tariffs

Moura	AT1	AT2	AT3	AT4	AT5	EC	QCA Levy	IE Pass Through Cost
FY2024	1.93	759.15	12.81	2.09	--	--	0.0054	0.0187
FY2025	1.99	782.30	13.31	2.17	--	--	0.0054	0.0187
FY2026	2.05	806.16	13.61	2.22	--	--	0.0054	0.0187
FY2027	2.11	830.75	13.68	2.23	--	--	0.0054	0.0187

Table 70 Newlands System – Preliminary Reference Tariffs

Newlands	AT1	AT2	AT3	AT4	AT5	EC	QCA Levy	IE Pass Through Cost
FY2024	2.01	343.28	6.74	0.96	--	--	0.0054	0.0187

Newlands	AT1	AT2	AT3	AT4	AT5	EC	QCA Levy	IE Pass Through Cost
FY2025	2.07	353.75	6.83	0.98	--	--	0.0054	0.0187
FY2026	2.13	364.54	7.48	1.07	--	--	0.0054	0.0187
FY2027	2.20	375.66	8.11	1.16	--	--	0.0054	0.0187

Table 71 GAPE – Preliminary Reference Tariffs

GAPE	AT1	AT2	AT3	AT4	AT5	EC	QCA Levy	IE Pass Through Cost
FY2024	1.62	15,464.32	1.19	1.55	--	--	0.0054	0.0187
FY2025	1.67	15,464.32	1.18	1.55	--	--	0.0054	0.0187
FY2026	1.72	15,464.32	1.16	1.53	--	--	0.0054	0.0187
FY2027	1.77	15,464.32	1.15	0.45	--	--	0.0054	0.0187

Appendix 1: Allowable Revenue Waterfall Charts

Figure 9 Allowable Revenue Waterfall – Blackwater System ($m)

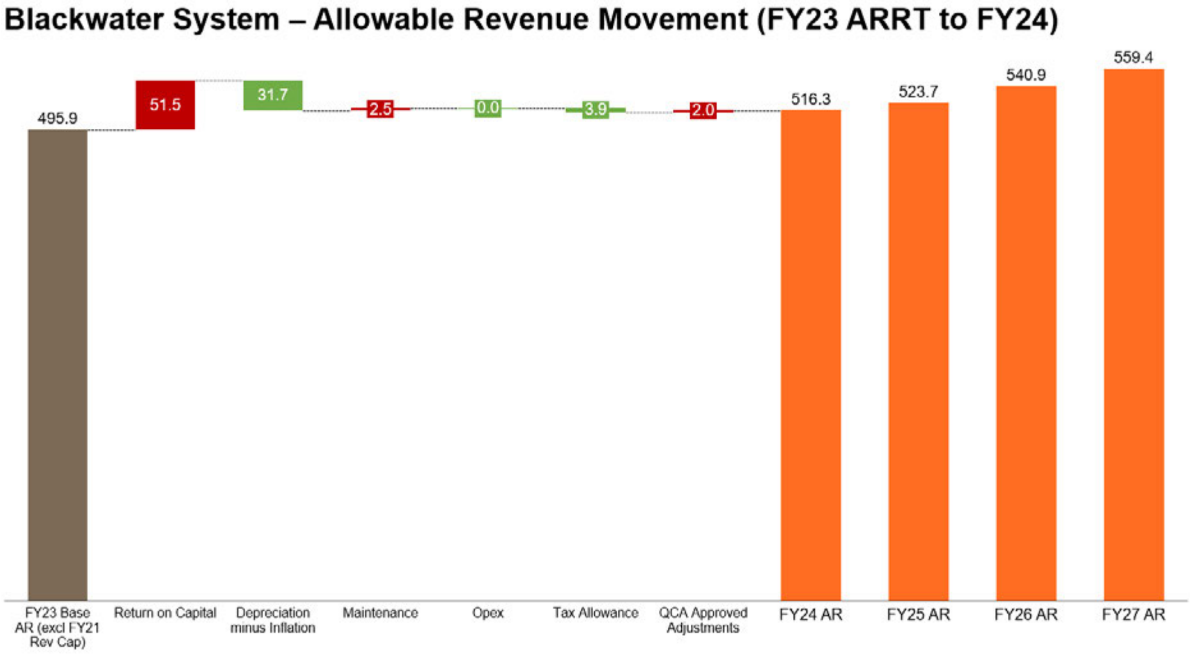


Figure 10 Allowable Revenue Waterfall – Goonyella System ($m)

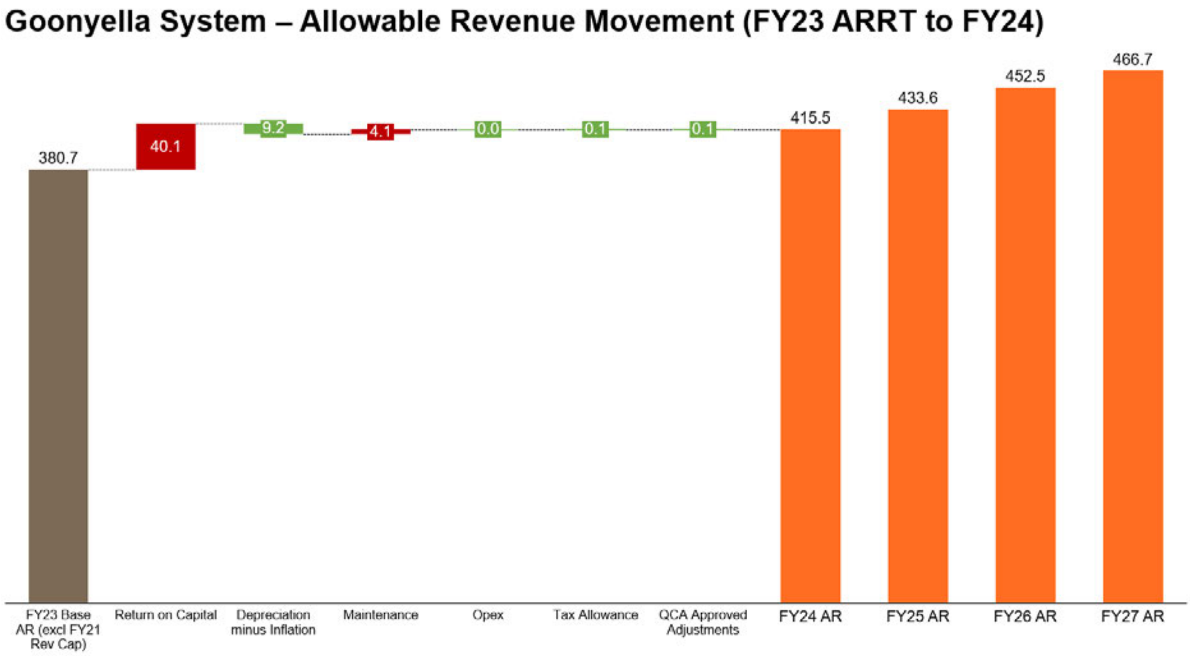


Figure 11 Allowable Revenue Waterfall – Moura System ($m)

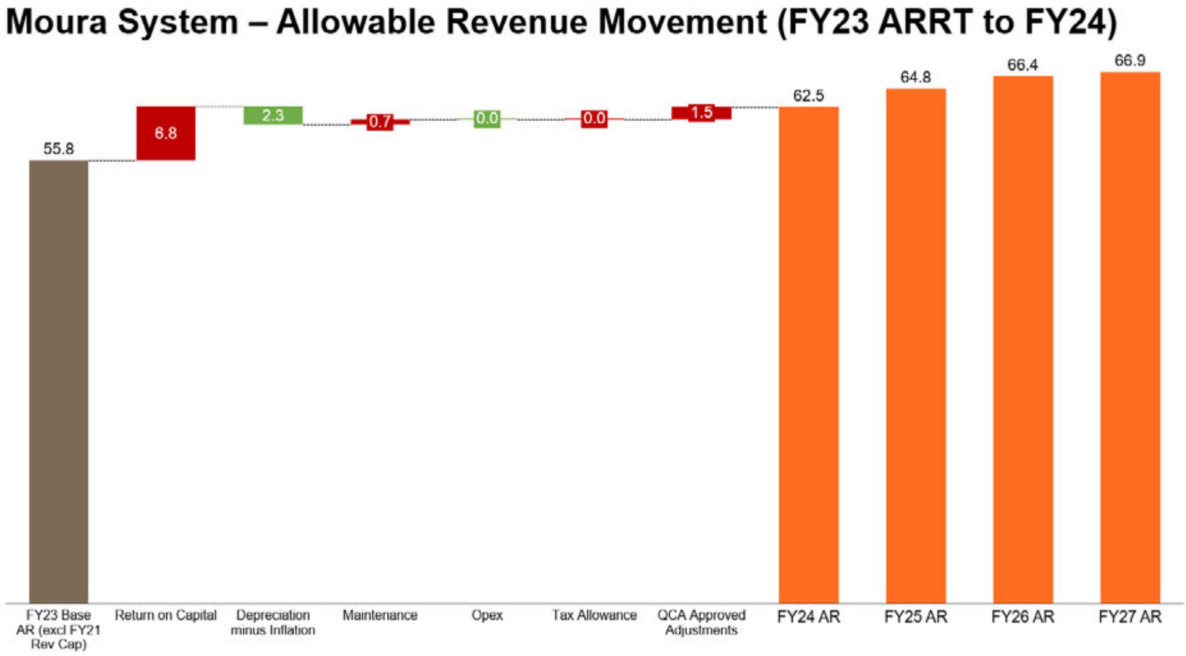
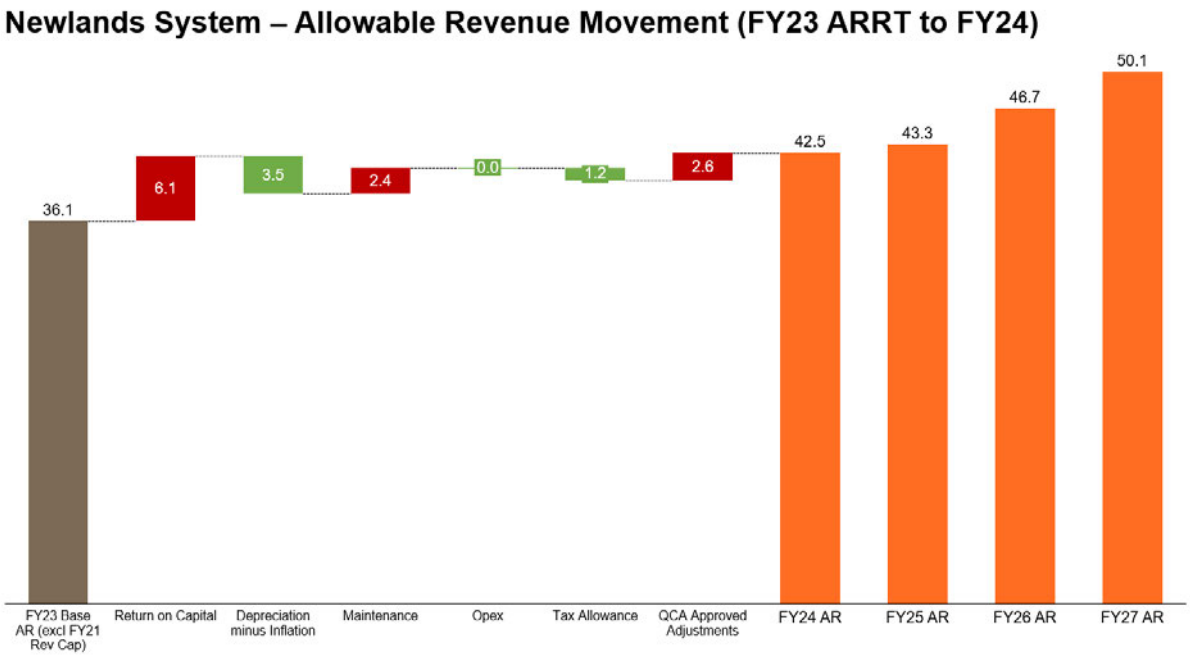
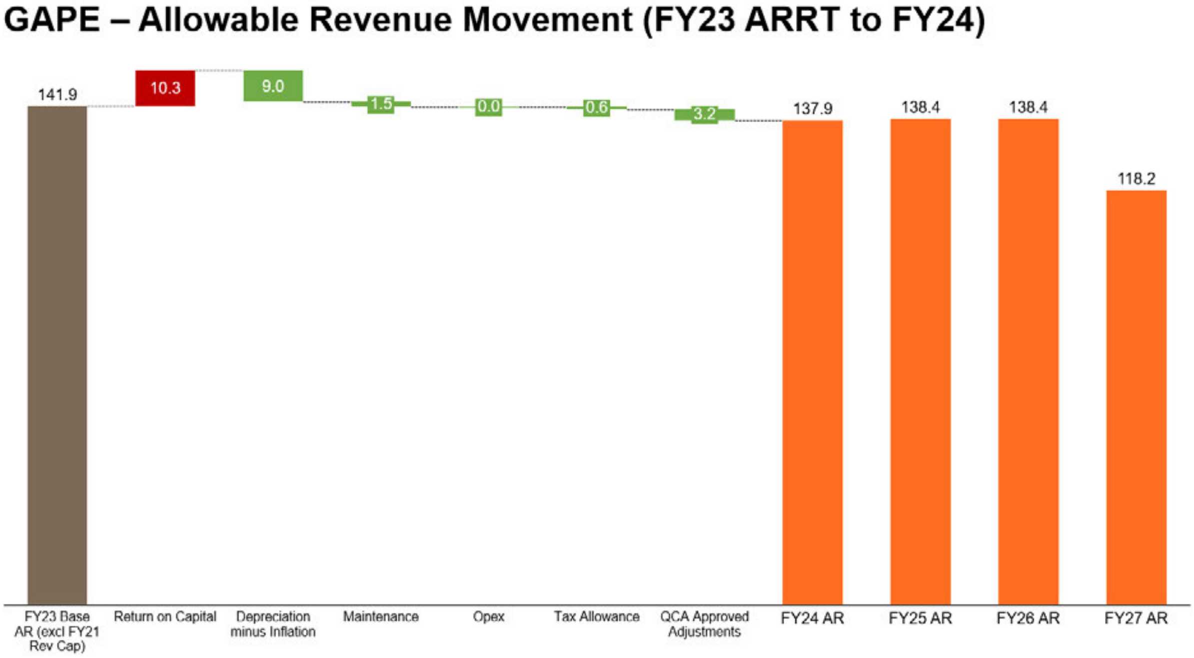


Figure 12 Allowable Revenue Waterfall – Newlands System ($m)



As outlined in section 4.10.1 of this submission, the allowable revenue outcomes presented in Figure 12 are subject to the resolution of various matters relating to the allocation of capital renewal expenditure between Newlands and GAPE Train Services. Aurizon Network is engaging with the Newlands / GAPE Working Group to resolve these matters and will seek to reflect any agreed outcomes through the appropriate regulatory process.

Figure 13 Allowable Revenue Waterfall – GAPE ($m)



The reduction in GAPE Allowable Revenues in FY2027 is primarily attributable to the written down value of GAPE signalling and telecommunications assets that were approved for inclusion in the RAB in FY2012. These assets reach the end of their economic life in FY2027.

As outlined in section 4.10.1 of this submission, the allowable revenue outcomes presented in Figure 13 are subject to the resolution of various matters relating to the allocation of capital renewal expenditure between Newlands and GAPE Train Services. Aurizon Network is engaging with the Newlands / GAPE Working Group to resolve these matters and will seek to reflect any agreed outcomes through the appropriate regulatory process.

Appendix 2: Bond Data for the Reset DRP

Table 72 Bloomberg BVAL Data

Date	BVCS AE10	BVCS AB10	FCMY GBAG10D	A Rated DRP	BBB Rated DRP	BBB+ Rated DRP
[redacted]				[redacted]	[redacted]	
[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
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[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]

Table 73 RBA Corporate Bond Yields and Spreads BBB-Rated

Dates	FNFY BBB10M	FNFS BBB10M	FNFS BBB7M	FNFT BBB10M	FNFT BBB7M	10 Year YTM	FCMY GBAG10	DRP
31 May 22	6.21	254.86	214.51	8.74	6.76	6.57	3.35	3.22
30 Jun 22	6.89	273.55	238.72	8.69	6.74	7.25	3.66	3.59

Table 74 RBA Corporate Bond Yields and Spreads A-Rated

Dates	FNFY A10M	FNFS A10M	FNFS A7M	FNFT A10M	FNFT A7M	10 Year YTM	FCMY GBAG10	DRP
31 May 22	5.46	180.68	133.12	9.36	6.06	5.63	3.35	2.28
30 Jun 22	6.01	184.98	150.87	9.37	6.04	6.17	3.66	2.51

Table 75 RBA Interpolation

Obs	Date	A-Rated DRP	BBB Rated DRP	Weighted BBB+ Rated
Weightings		***0.33***	***0.66***	
1	2/06/2022	2.294	3.246	2.929
2	3/06/2022	2.302	3.258	2.940
3	6/06/2022	2.325	3.295	2.972
4	7/06/2022	2.332	3.308	2.982
5	8/06/2022	2.340	3.320	2.993
6	9/06/2022	2.348	3.332	3.004
7	10/06/2022	2.355	3.345	3.015
8	14/06/2022	2.385	3.394	3.058
9	15/06/2022	2.393	3.406	3.068
10	16/06/2022	2.401	3.418	3.079
11	17/06/2022	2.408	3.431	3.090
12	20/06/2022	2.431	3.468	3.122
13	21/06/2022	2.439	3.480	3.133
14	22/06/2022	2.446	3.492	3.144
15	23/06/2022	2.454	3.505	3.154
16	24/06/2022	2.461	3.517	3.165
17	27/06/2022	2.484	3.554	3.197
18	28/06/2022	2.492	3.566	3.208
19	29/06/2022	2.499	3.579	3.219
20	30/06/2022	2.507	3.591	3.230

Table 76 Filtered Corporate Bond Sample

Issuer Name	BBG Lookup
AGI Finance Pty Ltd	BM4138475 Corp
AGI Finance Pty Ltd	BQ0082512 Corp
AGI Finance Pty Ltd	BM5726674 Corp
AGI Finance Pty Ltd	BQ0082603 Corp
Ampol Ltd	AS1796497 Corp
APA Infrastructure Ltd	QZ8701372 Corp
Aurizon Finance Pty Ltd	BO1497904 Corp
Aurizon Network Pty Ltd	AN7512055 Corp
Aurizon Network Pty Ltd	ZR5210060 Corp
Aurizon Network Pty Ltd	ZO0728444 Corp
Aurizon Network Pty Ltd	BP9727010 Corp
Ausgrid Finance Pty Ltd	BK6864585 Corp
Ausgrid Finance Pty Ltd	AP3049594 Corp

Issuer Name	BBG Lookup
Ausgrid Finance Pty Ltd	AP6703965 Corp
Ausgrid Finance Pty Ltd	BK6471795 Corp
AusNet Services Holdings Pty Ltd	AM4028255 Corp
AusNet Services Holdings Pty Ltd	BV5085824 Corp
AusNet Services Holdings Pty Ltd	AR2268118 Corp
AusNet Services Holdings Pty Ltd	AZ5939345 Corp
Australia Pacific Airports Melbourne Pty Ltd	QJ5397360 Corp
Australia Pacific Airports Melbourne Pty Ltd	QZ9328522 Corp
Australia Pacific Airports Melbourne Pty Ltd	BS4971112 Corp
Australian Gas Networks Ltd	BP1516627 Corp
Australian Gas Networks Ltd	BP1516635 Corp
Brisbane Airport Corp Pty Ltd	AS2396453 Corp
Brisbane Airport Corp Pty Ltd	BK1823131 Corp
Brisbane Airport Corp Pty Ltd	BK1823644 Corp
CNH Industrial Capital Australia Pty Ltd	BQ1190652 Corp
Coles Group Treasury Pty Ltd	ZO0568642 Corp
Coles Group Treasury Pty Ltd	ZQ3483828 Corp
Coles Group Treasury Pty Ltd	ZQ3484321 Corp
Coles Group Treasury Pty Ltd	ZO0571901 Corp
ConnectEast Finance Pty Ltd	AX4305576 Corp
DBNGP Finance Co Pty Ltd	AS5336035 Corp
Downer Group Finance Pty Ltd	AX9159978 Corp
ElectraNet Pty Ltd	BR2242732 Corp
Energy Partnership Gas Pty Ltd	AQ2525352 Corp
ETSA Utilities Finance Pty Ltd	AQ3070770 Corp
ETSA Utilities Finance Pty Ltd	AO5004962 Corp
ETSA Utilities Finance Pty Ltd	BG2071580 Corp
Incitec Pivot Ltd	AX3500896 Corp
Lonsdale Finance Pty Ltd	AU8116520 Corp
Lonsdale Finance Pty Ltd	ZQ5768911 Corp
Lonsdale Finance Pty Ltd	ZO7224041 Corp
Network Finance Co Pty Ltd	AP8371027 Corp
Network Finance Co Pty Ltd	AQ2180349 Corp
Network Finance Co Pty Ltd	ZQ4106501 Corp
Network Finance Co Pty Ltd	BP1516445 Corp
Network Finance Co Pty Ltd	ZQ7069433 Corp
New Terminal Financing Co Pty Ltd	AO1975298 Corp

Issuer Name	BBG Lookup
NSW Electricity Networks Finance Pty Ltd	BP0469729 Corp
NSW Electricity Networks Finance Pty Ltd	ZO3118536 Corp
Origin Energy Finance Ltd	ZQ1497739 Corp
Perth Airport Pty Ltd	JK8897114 Corp
Qantas Airways Ltd	QZ5121780 Corp
Qantas Airways Ltd	QZ7279925 Corp
Qantas Airways Ltd	BR4616982 Corp
Qantas Airways Ltd	ZQ4898867 Corp
Qantas Airways Ltd	ZO1338375 Corp
QPH Finance Co Pty Ltd	BK5343441 Corp
QPH Finance Co Pty Ltd	BK5343896 Corp
Transurban Queensland Finance Pty Ltd	QZ7667723 Corp
Transurban Queensland Finance Pty Ltd	EK6424791 Corp
Transurban Queensland Finance Pty Ltd	BP1516619 Corp
United Energy Distribution Pty Ltd	BR2606969 Corp
United Energy Distribution Pty Ltd	AP4899310 Corp
United Energy Distribution Pty Ltd	ZR6539137 Corp
United Energy Distribution Pty Ltd	ZR7230280 Corp
Victoria Power Networks Finance Pty Ltd	BR0346410 Corp
Victoria Power Networks Finance Pty Ltd	BP0467020 Corp
Victoria Power Networks Finance Pty Ltd	BP0862717 Corp
Victoria Power Networks Finance Pty Ltd	AO6744343 Corp
Victoria Power Networks Finance Pty Ltd	AR8685802 Corp
Victoria Power Networks Finance Pty Ltd	BP0467079 Corp
Victoria Power Networks Finance Pty Ltd	BQ2697309 Corp
Victoria Power Networks Finance Pty Ltd	BQ9591307 Corp
Wesfarmers Ltd	BP9602205 Corp
Wesfarmers Ltd	BP9603625 Corp
WestConnex Finance Co Pty Ltd	BO7332519 Corp
Woolworths Group Ltd	AX9166072 Corp
Woolworths Group Ltd	BJ3246383 Corp
Woolworths Group Ltd	BR6425424 Corp
Woolworths Group Ltd	BJ4427768 Corp
Woolworths Group Ltd	BR6425457 Corp
WSO Finance Pty Ltd	AN0014679 Corp
WSO Finance Pty Ltd	AM6441365 Corp
WSO Finance Pty Ltd	BK1995244 Corp

Appendix 3: Amended 2017 Access Undertaking (clean)

Appendix 4: Amended 2017 Access Undertaking (mark-up)