

Aurizon Network's 2016 Access Undertaking

FY2018 Revenue Adjustment Amounts - Explanatory Memorandum

28 September 2018



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1 Executive Summary

1.1 Introduction

Aurizon Network Pty Ltd (**Aurizon Network**) has calculated the Revenue Adjustment Amounts for the Financial Year (**FY**) ending on 30 June 2018 based on the provisions of the 2016 Access Undertaking (**2016AU**) which was approved by the Queensland Competition Authority (**QCA**) on 11 October 2016.

This submission provides details of the methodology, data and assumptions used to calculate those Revenue Adjustment Amounts.

Under the 2016AU, Aurizon Network is required to recover from (or return to) Access Holders, Revenue Adjustment Amounts, comprising the difference between revenue earned (Total Actual Revenue (**TAR**)) and revenue allowed (Adjusted Allowable Revenue (**AR**)) for the relevant Reference Tariff components for each Coal System in the Central Queensland Coal Network (**CQCN**).

The total of the Revenue Adjustment Amounts for FY2018, relative to the FY2018 Adjusted Allowable Revenue, represents a net return to Access Holders of \$0.5 million

1.2 Background

On 30 November 2016 Aurizon Network submitted a Draft Access Undertaking (**2017DAU**) for the regulatory period 1 July 2017 to 30 June 2021 (**UT5 period**).

The 2016AU was due to end on June 2017. However, the 2017DAU was not approved by this date.

The 2016AU was subsequently extended. Most recently, on 24 April 2018, Aurizon Network submitted to the QCA a further Draft Amending Access Undertaking (**April 18 DAAU**). The April 18 DAAU extended the 2016AU to the earlier of 31 December 2018 or the date a replacement Undertaking takes effect and finalised Transitional Reference Tariffs, system forecasts and Allowable Revenue for the period 1 July 2017 to 30 June 2018. The April 18 DAAU was approved by the QCA on the 23 May 2018.

Aurizon Network has therefore calculated the Revenue Adjustment Amounts for the Financial Year (**FY**) ending on 30 June 2018 based on the provisions of the 2016AU.

Capitalised terms in this submission have the meaning given to those terms in the 2016AU, unless otherwise defined.

1.3 Revenue Adjustment Amounts

The Revenue Adjustment Amounts include the:

- AT₂₋₄ Reference Tariff components for each of the Blackwater, Goonyella, Moura, Newlands and Goonyella to Abbot Point (**GAPE**) Systems; and
- AT₅ Reference Tariff components for the Blackwater and Goonyella Systems.

This submission provides Aurizon Network's calculations of:

- net returns due to Access Holders for the Goonyella and Newlands Systems; and
- net recoveries due from Access Holders for the Blackwater, Moura and GAPE Systems.

The total of the Revenue Adjustment Amounts for FY2018, relative to the FY2018 Adjusted Allowable Revenue, represents a net return to Access Holders of \$0.5 million. The Revenue Adjustment Amounts

are summarised in Table 1 below:

Table 1 FY2018 Revenue Adjustment Amounts

System	AT ₂₋₄ \$m	AT ₅ \$m	Total \$m
Blackwater	17.2	8.1	25.3
Goonyella	(13.6)	(3.2)	(16.8)
Moura	0.0 ¹	n/a	0.0 ¹
Newlands	(9.1)	n/a	(9.1)
GAPE	0.1	n/a	0.1
Total	(5.4)	4.9	(0.5)

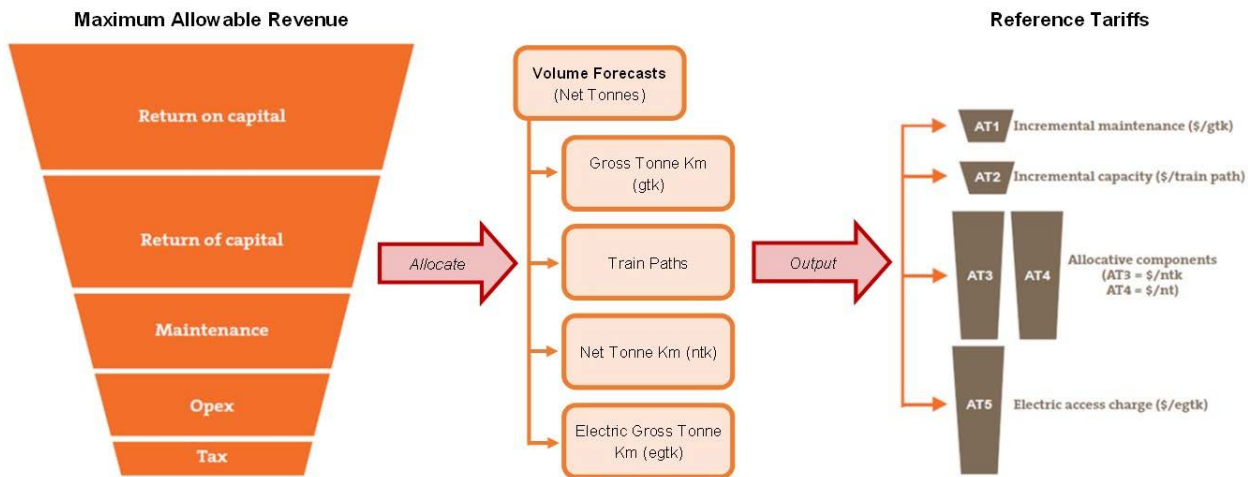
¹ There is a net recovery for Moura but <\$0.1m

The amounts in the tables within this submission are approximate to one decimal point. Actual amounts may differ slightly due to rounding.

2 Summary of Revenue Adjustment Amounts Method

2.1 Regulatory provisions

Aurizon Network's regulated revenues are derived using a regulatory 'building blocks' approach where capital and operating costs are aggregated into a Maximum Allowable Revenue (MAR) for each Coal System. The approved MAR is then translated into Reference Tariffs based on approved volume forecasts. Allowable Revenue is the amount recoverable through the AT₂₋₄ and AT₅ Reference Tariffs, which form the basis of Aurizon Network's Revenue Adjustment Amounts.



Schedule F of the 2016AU provides:

- the basis on which Aurizon Network recovers revenue from Access Holders, i.e. primarily from Reference Tariffs charged for trains operated; and
- the guidelines on Take or Pay, Adjustment Charges and Revenue Adjustment Amounts to enable Aurizon Network to earn the Allowable Revenue in each Coal System in the same or subsequent years.

2.2 Revenue Adjustment Amounts Framework

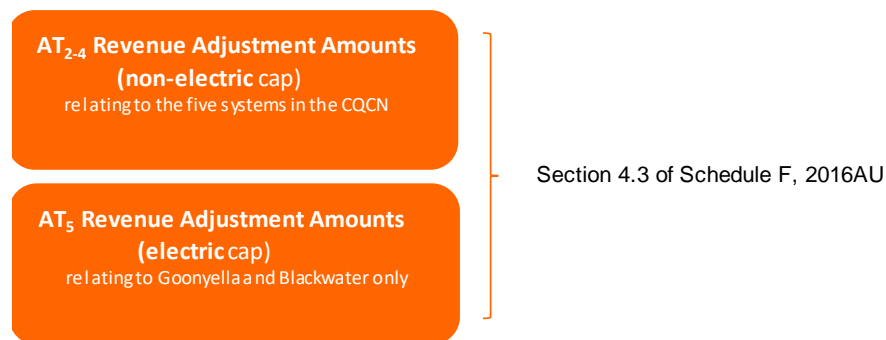
Aurizon Network is required to recover from (or return to) Access Holders the Revenue Adjustment Amounts, being the difference between revenue earned (Total Actual Revenue or 'TAR') and revenue allowed (Adjusted Allowable Revenue or 'AR') for the relevant Reference Tariff components.



There are seven Revenue Adjustment Amounts:

- 'non-electric' Revenue Adjustment Amounts (AT₂₋₄) for each of the five Coal Systems; and
- two 'electric' Revenue Adjustment Amounts (AT₅), one each for the Goonyella System and the Blackwater System.

The following must be addressed by Aurizon Network for each Coal System by way of a submission to the QCA by 30 September following the relevant financial year:



Within the AT₂₋₄ and AT₅ Revenue Adjustment Amounts, up to eight adjustments to Allowable Revenue are provided for under Clause 4.3 (c) of Schedule F of the 2016AU. These include:

- Maintenance Cost Index (**MCI**);
- Consumer Price Index (**CPI**);
- Electricity connection costs;
- Audit costs;
- Condition Based Assessment costs;
- Ground penetrating radar measurement (**GPR**) costs;
- Rebate adjustments; and
- Costs relating to compliance with the Access Undertaking.

These adjustments are detailed in Section 4 of this submission.

2.3 Financial Models

Detailed financial models have been prepared and provided to the QCA in support of this FY2018 Revenue Adjustment Amounts submission. The models include:

- Billing data by haul;
- The rebates model;
- The Take or Pay models; and
- Information and calculations relating to the adjustments to Allowable Revenue in respect of clause 4.3 (c) (i) to (viii) of Schedule F.

As the financial models and billing data contain detailed information on individual Train Services and billing information which is specific to individual Access Holders, Aurizon Network claims confidentiality over the models. Outputs from the models are summarised in this submission.

3 Revenue Adjustment Amounts for FY2018

3.1 Revenue Adjustment Amounts

Revenue Adjustment Amounts are caused primarily by actual throughput varying from the throughput parameters underlying the regulatory forecasts which form a key input in the determination of Reference Tariffs for each Coal System.

Following the extension of the 2016AU, the volume forecasts for FY2018 were a roll-forward of the FY2017 volume forecasts at 222.0mT.

In FY2018, 229.6 million net tonnes were railed across the CQCN. Net tonnes in the Goonyella and Newlands Systems were above the system forecasts. Net tonnes in the Blackwater, Moura and GAPE Systems were all below the system forecasts.

A summary of regulatory forecast net tonnes and Gross Tonne Kilometres (GTKs) by system compared with actual net tonnes and GTKs are provided in Tables 2 and 3 below.

Table 2 FY2018 Net Tonnes Performance

System	Forecast Tonnes (million NT)	Actual Tonnes (million NT)	Variance %
Blackwater	67.8	62.7	(8%)
Goonyella	115.6	126.5	9%
Moura	12.5	11.1	(11%)
Newlands	9.0	13.0	45%
GAPE	17.0	16.2	(5%)
Total	222.0	229.6	3%

Table 3 FY2018 GTK's Performance

System	Forecast GTK (billion)	Actual GTK (billion)	Variance %
Blackwater	38.7	35.7	(8%)
Goonyella	37.6	40.6	8%
Moura	3.2	2.9	(12%)
Newlands	2.2	2.7	26%
GAPE	9.9	8.8	(11%)
Total	91.7	90.7	(1%)

The Goonyella and Newlands Systems recorded GTKs which were higher than the system forecast, by 8% and 26% respectively, resulting in an over-recovery of AT₂₋₄ revenue.

The Blackwater, Moura and GAPE Systems recorded GTKs which were lower than the system forecast by 8%, 12% and 11% respectively, resulting in an under-recovery of AT₂₋₄ revenues and triggering of Take or Pay in all three systems. In the Moura and GAPE System, the Take or Pay amount recovered

the full extent of the AT₂₋₄ Allowable Revenue shortfall. The Take or Pay in the Blackwater System did not cap resulting in an under recovery of AT₂₋₄ revenue after Take or Pay.

Blackwater System recorded Total Actual AT₅ revenue below Allowable Revenue driven by the lower volumes resulting in an under-recovery of AT₅ revenue.

Goonyella System recorded Total Actual AT₅ revenue above Allowable Revenue driven by the higher volumes resulting in an over-recovery of AT₅ revenue.

The total of the Revenue Adjustment Amounts for FY2018, represents a net return to Access Holders of \$0.5 million, comprising a return of \$5.4 million for AT₂₋₄ and a recovery of \$4.9 million for AT₅, varying between returns and recoveries at a system level.

The Revenue Adjustment Amounts for 'non-electric' and 'electric' are reconciled to the AR and TAR as outlined below in Tables 4 and 5:

Table 4 Revenue Adjustment Amounts AT₂₋₄

System	Adjusted Allowable Revenue \$m	Total Actual Revenue \$m	Revenue Adjustment Amounts \$m
Blackwater	359.1	341.9	17.2
Goonyella	267.7	281.3	(13.6)
Moura	36.8	36.7	0.0
Newlands	28.2	37.2	(9.1)
GAPE	132.3	132.3	0.1
Total	824.1	829.5	(5.4)

Table 5 Revenue Adjustment Amounts AT₅

System	Adjusted Allowable Revenue \$m	Total Actual Revenue \$m	Revenue Adjustment Amounts \$m
Blackwater	91.2	83.1	8.1
Goonyella	85.0	88.1	(3.2)
Total	176.2	171.3	4.9

A comparison of the FY2018 Revenue Adjustment Amounts (excluding cost of capital adjustments) with previous submissions made by Aurizon Network in the period FY2007 to FY2017 is set out in Table 6:

Table 6 Total Revenue Adjustment Amounts FY2007 to FY2018

Year	AT ₂₋₄ Adjustment \$m	AT ₅ Adjustment \$m	Total Adjustment \$m
2007	15.7	10.1	25.8
2008	27.8	15.8	43.6
2009	4.6	28.3	32.9
2010	(6.1)	6.0	(0.1)
2011	19.2	30.0	49.2
2012	2.7	11.2	13.9
2013	28.2	10.9	39.1
2014	15.5	(8.5)	7.0
2015	(25.3)	(2.3)	(27.6)
2016	(23.3)	2.7	(20.6)
2017	26.7	12.4	39.1
2018	(5.4)	4.9	(0.5)

4 Adjustments to Allowable Revenue

Clause 4.3 (c) of Schedule F details eight adjustments that are made to the approved Allowable Revenue as part of the Revenue Adjustment Amounts calculation.

MCI	<ul style="list-style-type: none">• Clause 4.3(c)(i)• Adjustment to reflect the difference between actual and forecast MCI on approved maintenance costs
CPI	<ul style="list-style-type: none">• Clause 4.3(c)(ii)• Adjustment to reflect the difference between actual and forecast CPI on approved operating costs
Connection to an electricity transmission or distribution network	<ul style="list-style-type: none">• Clause 4.3(c)(iii)• Adjustment to reflect the difference between actual and forecast electricity connection costs
Audit costs	<ul style="list-style-type: none">• Clause 4.3(c)(iv)• Adjustment to reflect required audit costs not already recoverable elsewhere in the Undertaking
Condition Based Assessment costs	<ul style="list-style-type: none">• Clause 4.3(c)(v)• Adjustment to reflect Condition Based Assessment costs not already recoverable elsewhere in the Undertaking
Ground Penetrating Radar measurement costs	<ul style="list-style-type: none">• Clause 4.3(c)(vi)• Adjustment to reflect Ground Penetrating Radar measurement costs not already recoverable elsewhere in the Undertaking
Rebates adjustment	<ul style="list-style-type: none">• Clause 4.3(c)(vii)• Adjustment to reflect the difference between actual and forecast payments of rebates
Compliance with the Undertaking costs	<ul style="list-style-type: none">• Clause 4.3(c)(viii)• Adjustment to reflect Undertaking compliance costs not already recoverable elsewhere in the Undertaking

4.1 Maintenance Costs Index

With respect to Clause 4.3 (c) (i) of Schedule F, Aurizon Network has not calculated a MCI adjustment. This is because the FY2018 Allowable Revenue was a roll-forward of the FY2017 Allowable Revenue. This adjustment will form part of the QCA's assessment of the UT5 period Undertaking (**2017AU**), which is expected to include the actual MCI for FY2018.

4.2 Consumer Price Index

With respect to Clause 4.3 (c) (ii) of Schedule F, Aurizon Network has not calculated a CPI adjustment. This is because the FY2018 Allowable Revenue was a roll-forward of the FY2017 Allowable Revenue. This

adjustment will form part of the QCA's assessment of the 2017AU, which is expected to include the actual CPI for FY2018.

4.3 Electricity Connection costs

With respect to Clause 4.3 (c) (iii) of Schedule F, Aurizon Network has not calculated an Electricity Connection costs adjustment. This is because the FY2018 Allowable Revenue was a roll-forward of the FY2017 Allowable Revenue. This adjustment will form part of the QCA's assessment of the 2017AU. Any further difference between the actual costs and those included in the 2017AU approved Electricity Connection costs for FY2018 will be included in the FY2019 Revenue Adjustment Amounts submission.

4.4 Audit costs

With respect to Clause 4.3 (c) (iv) of Schedule F, Aurizon Network has not calculated an Audit Cost adjustment. This adjustment will form part of the QCA's assessment of the 2017AU. Any further difference between the actual costs and those included in the 2017AU approved Audit costs for FY2018 will be included in the FY2019 Revenue Adjustment Amounts submission.

4.5 Conditions Based Assessment costs

With respect to Clause 4.3 (c) (v) of Schedule F, Aurizon Network has calculated that there is no Revenue Adjustment Amount in respect of Condition Based Assessment costs for FY2018. This is because Aurizon Network did not incur any costs in respect of Conditions Based Assessment in FY2018.

4.6 Ground Penetrating Radar measurement costs

With respect to Clause 4.3 (c) (vi) of Schedule F, Aurizon Network has included an amount of \$1.4m costs in respect of FY2017 GPR costs within this submission. Aurizon Network did not include the FY2017 GPR costs in its final FY2017 Revenue Adjustment Amount submission due to ongoing discussions with the QCA and its consultant regarding the quantum of costs.

With regards to FY2018, Aurizon Network has not calculated a GPR Cost adjustment. This adjustment will form part of the QCA's assessment of the 2017AU. Any further difference between the actual costs and those included in the 2017AU approved GPR costs for FY2018 will be included in the FY2019 Revenue Adjustment Amounts submission.

4.7 Rebates Adjustment

With respect to Clause 4.3 (c) (vii) of Schedule F, Aurizon Network has calculated a net recovery from Access Holders of \$6.1m for AT₂₋₄ and a net recovery from Access Holders of \$0.3m for AT₅ represented by the difference between:

- the amounts paid in respect of rebates for FY2018; and
- the amounts of forecast payments used for the purpose of determining the relevant Reference Tariffs for FY2018.

There are no rebate arrangements covering mines in the Moura and GAPE Systems or electric infrastructure in the Blackwater System.

A breakdown of the rebates paid, and the rebate calculation models are provided to the QCA with this submission.

4.8 Compliance Costs

With respect to Clause 4.3 (c) (viii) of Schedule F, Aurizon Network has not calculated a Compliance costs adjustment. This adjustment will form part of the QCA's assessment of the 2017AU. Any further difference between the actual costs and those included in the 2017AU approved Compliance costs for FY2018 will be included in the FY2019 Revenue Adjustment Amounts submission.

4.9 Adjusted Allowable Revenues Summary

The Adjusted Allowable Revenues are reconciled to the Allowable Revenue as outlined below in Tables 7 and 8:

Table 7 Adjusted Allowable Revenues AT₂₋₄

System	AT ₂₋₄ Allowable Revenue \$m	Rebate Adjustment \$m	Other Adjustments \$m	Adjusted AT ₂₋₄ Allowable Revenue \$m
Blackwater	356.5	2.0	0.7	359.1
Goonyella	263.6	3.5	0.5	267.7
Moura	36.7	-	0.0	36.8
Newlands	27.5	0.6	0.0	28.2
GAPE	132.3	-	0.1	132.3
Total	816.6	6.1	1.4	824.1

Table 8 Adjusted Allowable Revenues AT₅

System	AT ₅ Allowable Revenue \$m	Rebate Adjustment \$m	Adjusted AT ₅ Allowable Revenue \$m
Blackwater	91.2	-	91.2
Goonyella	84.7	0.3	85.0
Total	175.9	0.3	176.2

5 Total Actual Revenue

5.1 Adjustments to Access Charges

The Access Charges payable by Access Holders for individual Train Services are set out in detail in the financial model that is provided to the QCA with this submission.

Aurizon Network confirms that:

- Access Charges are per amounts invoiced by Aurizon Network to Access Holders;
- Allocations for Cross System Train Services between the Blackwater and Goonyella Systems are in accordance with clause 4.2(b) of Schedule F;
- Access revenues in the Blackwater, GAPE and Moura Systems include Take or Pay. Take or Pay has been determined in accordance with the relevant Standard Access Agreements for each Access Holder and has been agreed with and billed to the relevant Access Holders. A copy of the Take or Pay model has been provided to the QCA with this submission; and
- No Relinquishment Fees or Transfer Fees were collected, or were entitled to be collected, during FY2018. A schedule detailing contractual transfers has been provided to the QCA with this submission.

The invoiced access charges are reconciled to the TARs as outlined below in Tables 9 and 10:

Table 9 Total Actual Revenue AT₂₋₄

System	AT ₂₋₄ Billed excl. Cross System \$m	Cross System and Take or Pay \$m	Total Actual Revenue AT ₂₋₄ \$m
Blackwater	322.6	19.3	341.9
Goonyella	270.5	10.8	281.3
Moura	33.1	3.6	36.7
Newlands	37.2	0.0	37.2
GAPE	123.1	9.2	132.3
Total	786.6	42.9	829.5

Table 10 Total Actual Revenue AT₅

System	AT ₅ Billed excl. Cross System \$m	Cross System \$m	Total Actual Revenue AT ₅ \$m
Blackwater	76.4	6.7	83.1
Goonyella	86.6	1.5	88.1
Total	163.0	8.3	171.3

Attachment A – Total Actual Revenue and Adjusted Allowable Revenue (Schedule for Publication)

Total Actual Revenue				Adjusted Allowable Revenue							Revenue Adjustment
				AR Adjustments							
AT _{2,4}	Billing models (excl Cross System Traffic)	TAR Adjustments Adjustments (Cross System and Take or Pay)	Total Actual Revenue	AR per Schedule F	MCI adjustment Maintenance Costs	CPI adjustment Operating Costs	Other AR Adjustments	Rebate Adjustments	Adjusted AR	Total Recovery / (Return)	
Blackwater	322,636,402	19,286,795	341,923,196	356,451,192	-	-	672,348	2,013,503	359,137,043	17,213,847	
Goonyella	270,482,390	10,838,769	281,321,159	263,646,950	-	-	548,911	3,481,025	267,676,886	(13,644,273)	
Moura	33,113,084	3,634,790	36,747,874	36,747,874	-	-	42,305	-	36,790,179	42,305	
Newlands	37,222,876	-	37,222,876	27,486,796	-	-	35,452	628,648	28,150,896	(9,071,981)	
GAPE	123,126,189	9,155,865	132,282,054	132,282,054	-	-	63,802	-	132,345,855	63,801	
	786,580,940	42,916,219	829,497,160	816,614,866	-	-	1,362,818	6,123,176	824,100,860	(5,396,300)	
AT ₅	Billing models (excl Cross System Traffic)	Adjustments (Cross System)	Total Actual Revenue	AR per Schedule F	MCI adjustment Maintenance Costs	CPI adjustment Operating Costs	Connection Charges Adjustment	Rebate Adjustments	Adjusted AR	Total Recovery / (Return)	
Blackwater	76,380,408	6,736,720	83,117,128	91,214,512	-	-	-	-	91,214,512	8,097,384	
Goonyella	86,618,263	1,525,614	88,143,877	84,695,621	-	-	-	270,803	84,966,424	(3,177,452)	
Moura											
Newlands											
GAPE											
	162,998,670	8,262,334	171,261,004	175,910,133	-	-	-	270,803	176,180,936	4,919,932	

Total Revenue Adjustment Amount (net return to Access Holders for 2017/18)

(476,368)