

Aurizon Network: Reference Tariff Variation Draft Amending Access Undertaking

7 May 2019



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Executive Summary

On 21 February 2019, the Queensland Competition Authority (**QCA**) approved Aurizon Network's 2017 Access Undertaking (**UT5**) for the term 1 July 2017 to 30 June 2021 (**UT5 Term**). During the time between the commencement of the UT5 Term and 21 February 2019, QCA approved transitional tariffs were in effect. This Reference Tariff Variation Draft Amending Access Undertaking (**Reference Tariff Variation DAAU**) has been prepared in accordance with Section 142 of the *Queensland Competition Authority Act 1997* (**QCA Act**) and seeks the QCA's approval to:

- Reconcile Aurizon Network's Allowable Revenues across the UT5 Term.

Aurizon Network proposes a number of variations to its UT5 Allowable Revenues in order to reflect previously approved and/or omitted revenue amounts including 2016 and 2017 Flood Review Events, as well as correct for identified modelling inconsistencies within the QCA's Final Decision on Aurizon Network's UT5 Access Undertaking dated 6 December 2018 (**UT5 Final Decision**) and lower electric infrastructure charges (AT_5) incurred to date across the UT5 Term (**Adjusted Allowable Revenues**). Further, Aurizon Network has provided for the reconciliation of its Adjusted Allowable Revenues and Transitional Revenues billed over FY2018 through an adjustment to FY2019 Allowable Revenues.

Subject to QCA approval of this Reference Tariff Variation DAAU, Aurizon Network expects to submit a further Adjustment Charge submission, which will complete the reconciliation of Transitional and 'final' Reference Tariffs approved for FY2019.

- Reset FY2019 volume forecasts to reflect prevailing outcomes across the Central Queensland Coal Network (**CQCN**). Conditional upon the approval of the volume reset, Aurizon Network proposes to adjust FY2019 Allowable Revenues to reflect the reduction in variable maintenance costs associated with the relevant AT_1 Reference Tariffs.

Aurizon Network expects to rail approximately 233 million tonnes in FY2019, 12 million tonnes less than the UT5 Final Decision volume forecast of 245 million tonnes. This deficit will result in Aurizon Network materially under-recovering its Allowable Revenues in FY2019 and will subsequently require a further revenue adjustment amount leading to higher tariffs in FY2021. Given the implications of this revenue adjustment for all stakeholders, Aurizon Network proposes to revise the volume forecasts (excluding the Moura system) for FY2019 to better align with the year-to-date (**YTD**) performance.¹

- Update the Electric Energy Charge (**EC**) and QCA Levy to reflect the costs previously approved by the QCA in its Final Decision on Aurizon Network's October 2018 UT4 Extension DAAU.² These costs were omitted from the QCA UT5 Final Decision. The respective values of both the EC and the QCA Levy have been updated to reflect the reset FY2019 volume forecasts.

Table 1 sets out the proposed variations and their impact to annual revenues over the UT5 Term.

¹ On the basis of the UT5 Final Decision volume forecasts, Take or Pay (**ToP**) is expected to trigger in the Moura system. If Moura system volumes were reduced to reflect YTD railings, it's likely that Moura system Access Holders would avoid ToP that would otherwise be payable. This is not the case for other coal systems, whose ToP position is not expected to change as a result of the proposed volume reset. For this reason, Aurizon Network considers it appropriate that the Moura system volume forecast is not reset and remains consistent with the UT5 Final Decision.

² Queensland Competition Authority. Final Decision. Aurizon Network's October 2018 Extension DAAU. 15 November 2018.

Table 1. Proposed DAAU variations

Variation	FY2018	FY2019	FY2020	FY2021
Volume Reset		✓		
Flood Review Events	✓			
FY2018 Revenue Adjustment Amounts			✓	
UT5 Modelling inconsistencies	✓	✓	✓	✓
Electric Infrastructure Charges (AT ₅)	✓	✓		
Variable Maintenance Costs (AT ₁)		✓		
Reconciliation of FY2018 Transitional Revenues [^]		✓		
Electric Energy Charge		✓		
QCA Levy		✓		

[^] Noting that the reconciliation of FY2019 transitional and final revenues is expected to take place shortly after approval of this Reference Tariff Variation DAAU through a separate Adjustment Charge submission.

The above variations provide for an Adjusted Allowable Revenue across the UT5 Term of \$4,132 million as shown in Table 2. This represents an increase of \$9.6 million relative to the UT5 Final Decision, an amount that is predominantly driven by the inclusion of QCA-approved Flood Review Event costs which were omitted from the UT5 Final Decision.

Subsequent to the QCA's approval of this Reference Tariff Variation DAAU, Aurizon Network will submit to the QCA for approval an Adjustment Charge submission in compliance with Schedule F of the UT5 Access Undertaking. Based on the Adjusted Allowable Revenues and Transitional Revenues billed to date, Aurizon Network estimates an Adjustment Charge of approximately \$90 million payable to customers. The final Adjustment Charge may vary, however, as it is dependent on actual railings for the remainder of FY2019.

Table 2. UT5 Adjusted Allowable Revenues (\$m)[^]

System	FY2018	FY2019	FY2020	FY2021	TOTAL
Blackwater	442	430	469	462	1,804
GAPE	127	129	133	133	521
Goonyella	381	367	389	366	1,502
Moura	40	48	52	52	193
Newlands	27	27	29	29	112
TOTAL	1,017	1,002	1,071	1,042	4,132

[^] Before FY2016, FY2017 and FY2018 Revenue Adjustment Amounts.

Aurizon Network recognises the timing of both its May 2019 UT5 DAAU and this Reference Tariff Variation DAAU may directly impact upon each other. Subject to the QCA's approval of one, or both of the DAAUs, it is expected that those outcomes will be reflected in the ultimate approval of each Amending Access Undertaking and transposed into the operational UT5 Access Undertaking.

Background

On 21 February 2019, the QCA approved UT5 for the UT5 Term. UT5 replaced Aurizon Network's 2016 Access Undertaking (**UT4**), which had an original Terminating Date of 30 June 2017. That Terminating Date was subsequently extended to the earlier of the date that UT5 was approved by the QCA or 30 June 2019 over multiple Draft Amending Access Undertakings (**DAAUs**) approved by the QCA in May 2017, November 2017, May 2018 and November 2018 respectively. The resulting DAAUs established transitional Reference Tariffs, Allowable Revenues and volume forecasts for those extension periods.

In its submissions of the extension DAAUs, Aurizon Network highlighted its key objective was to “provide pricing, revenue and cost certainty for Aurizon Network and Access Holders in relation to Reference Tariffs for FY2018 and the first half of FY2019”.³ Aurizon Network further noted that “finalising FY2018 transitional arrangements will allow Aurizon Network to reconcile any over or under-recovery of AT₂₋₄ and AT₅ Allowable Revenues through the Revenue [Adjustment Amount] process in accordance with UT4, Schedule F, cl.4.3”.⁴

The QCA, in its May 2018 UT4 Extension DAAU approval, considered there “to be clear statements of intent by Aurizon Network, which are consistent with previous statements it made in DAAU extension submissions about its intention to apply a true-up and reconciliation process with UT5 Reference Tariffs once approved”.⁵ The QCA further noted “Aurizon Network confirmed its intention to apply a full reconciliation and true-up process once UT5 is in place. In considering the April 2018 Extension DAAU, the QCA had regard to these statements by Aurizon Network and the expectation of customers that a full reconciliation process will occur”.⁶

In accordance with Aurizon Network's stated commitment to customers and its obligations under UT5, this Reference Tariff Variation DAAU provides for the full reconciliation of Aurizon Network's Allowable Revenues across the UT5 Term as well as adjustments to volumes, QCA levies and electric energy charges. Specifically, this Reference Tariff Variation DAAU has been prepared in accordance with Section 142 of the QCA Act and seeks the QCA's complete approval to:

- reconcile Aurizon Network's Allowable Revenues across the UT5 Term accounting for:
 - 2016 and 2017 approved⁷ flood Review Event amounts included in estimation of transitional Allowable Revenues but omitted from the QCA's UT5 Final Decision Allowable Revenues in FY2018;
 - approval of Aurizon Network's FY2018 Revenue Adjustment Amounts, impacting FY2020 Allowable Revenues;
 - various modelling inconsistencies identified by Aurizon Network in its review of the UT5 Final Decision;
 - adjustments to the electric infrastructure charge (AT₅) to reflect lower connection costs incurred throughout FY2018 and FY2019; and

³ Aurizon Network. April 2018 Extension DAAU submission. 24 April 2018.

⁴ Ibid.

⁵ Queensland Competition Authority. Final Decision April 2018 Extension DAAU. 23 May 2018

⁶ Ibid.

⁷ Queensland Competition Authority. Final Decision on Aurizon Network's review event: 2016 flood claim. 24 May 2017 and Queensland Competition Authority. Final Decision on Aurizon Network's 2017 flood claim. 23 May 2018

- differences between FY2018 Transitional Allowable Revenues and UT5 Adjusted Allowable Revenues (**AAR**) accounting for approved flood Review Events.
- A reset FY2019 volume forecasts to reflect prevailing outcomes across the CQCN;
 - conditional upon the approval of the volume reset, adjust FY2019 Allowable Revenues to reflect the change in variable maintenance costs associated with the relevant AT₁ Reference Tariffs;
 - For clarity Aurizon Network is not proposing any amendments to FY2018, FY2020 or FY2021 volume forecasts as provided under the UT5 Final Decision.
- An update to tariffs approved by the QCA in the October 2018 UT4 Extension DAAU but omitted from the QCA UT5 Final Decision, including:
 - reset of the EC charge; and
 - reset of the QCA Levy.

Aurizon Network submits this DAAU to the QCA as a package of amendments to its UT5 Allowable Revenues and Reference Tariffs.

As highlighted in

Table 1, approval by the QCA of the above variations will have varying degrees of impact to Aurizon Network's Allowable Revenues for the remaining years of the UT5 Term. Aurizon Network does not propose to retrospectively adjust the Reference Tariffs billed in FY2018, as doing so would require the recalculation of Access Charges, Take or Pay and Revenue Adjustment Amounts. The difference between FY2018 Transitional and Adjusted Allowable Revenue will be included within FY2019 Reference Tariffs. Aurizon Network propose any FY2019 revenue differences resulting from the variations identified above will be submitted in due course to the QCA for approval as an Adjustment Charge in compliance with Schedule F of the 2017 Access Undertaking.

Aurizon Network recognises the QCA's consideration, and potential approval of, its May 2019 UT5 DAAU may directly impact the approval of the variations contained in this Reference Tariff Variation DAAU. It is expected that if the QCA approves the variations contained within this Reference Tariff Variation DAAU prior to the approval of the May 2019 UT5 DAAU, those outcomes will be reflected in the ultimate approval of the May 2019 UT5 DAAU. To assist the QCA with its assessment and understanding of the potential impacts associated with both DAAUs (being the May 2019 UT5 DAAU and Reference Tariff Variation DAAU) Aurizon Network has included summary tables and charts of the Adjusted Allowable Revenues and Reference Tariffs in Appendix C.

As the above variations largely result in funds being returned to customers and contain previously approved matters (e.g. flood Review Events and FY2018 Revenue Adjustment Amounts), Aurizon Network would appreciate the QCA's expedited review and where possible approval of each matter prior to 30 June 2019. While Aurizon Network appreciates such a process will create time pressures for the QCA, it considers that the benefits to customers of receiving funds sooner, rather than later, while subsequently avoiding additional DAAU processes outweighs the potential costs associated with any delays.

The balance of this submission outlines the detailed calculations supporting each of the proposed variations identified above. Where appropriate, Aurizon Network has relied on inputs sourced from the QCA's UT5 Final Decision.

Volume Reset FY2019

The QCA engaged Resource Management International (**RMI**) to advise on the reasonableness of Aurizon Network's coal volume forecasts for the UT5 Term.⁸ The RMI report was dated May 2017 and initially published at the same time as the UT5 Draft Decision on 15 December 2017. Aurizon Network expressed concerns that the RMI volume forecasts were too high throughout the UT5 consultation process.

Table 3 sets out the QCA approved volume forecasts by system as provided under the UT5 Final Decision. These volumes draw from the work of RMI and form the basis for calculation of System Reference Tariffs for the UT5 Term in accordance with Schedule F of UT5.

Table 3. Volume forecasts by system – UT5 Final Decision (million tonnes)

System	FY2018	FY2019	FY2020	FY2021
Blackwater	64.60	67.18	68.18	69.18
Goonyella	127.55	130.95	131.45	131.45
Moura	11.50	15.00	16.50	16.50
Newlands	11.70	13.20	13.20	13.20
GAPE	15.85	18.85	18.85	18.85
TOTAL	231.20	245.18	248.18	249.18

Source: Queensland Competition Authority UT5 Final Decision

Based on the financial YTD performance across the CQCN, it is likely that Aurizon Network will rail approximately 233 million tonnes in FY2019, 12 million tonnes less than the volume forecast of 245 million tonnes provided for under the UT5 Final Decision. Aurizon Network has estimated this deficit by calculating the YTD volumes to March 2019 and the UT5 Final Decision monthly volume forecast for the remaining months as shown in Table 4 below.

Table 4. CQCN FY2019 YTD and UT5 Final Decision Volumes (million tonnes)

Month	Jul-18 (A)	Aug-18 (A)	Sep-18 (A)	Oct-18 (A)	Nov-18 (A)	Dec-18 (A)
Tonnes	18.7	19.5	19.6	19.8	19.7	19.2
Month	Jan-19 (A)	Feb-19 (A)	Mar-19 (A)	Apr-19 to Jun-19 [^]	TOTAL (F)	
Tonnes	20.8	15.7	18.8	61.3	233.2	

[^] Apr-19 to Jun-19 volume forecasts sourced from the UT5 Final Decision based on one quarter of the full year volumes

This deficit in forecast volumes will result in Aurizon Network materially under-recovering its Allowable Revenues in FY2019 and will subsequently require a further revenue adjustment and higher tariffs in FY2021. Given the implications of this deficit for all stakeholders, Aurizon Network propose to reset FY2019 volume forecasts for all systems except Moura as shown in Table 5.

On the basis of the UT5 Final Decision volume forecasts, ToP is expected to trigger in the Moura system. If Moura system volumes were reduced to reflect YTD railings, it's likely that Moura system Access Holders would avoid ToP that would otherwise be payable. This is not the case for other coal systems, whose ToP position is not expected to change as a result of the proposed volume reset. For this reason, Aurizon Network considers it appropriate that Moura system volumes are not reset and remain consistent with the

⁸ Queensland Competition Authority. Final Decision. Aurizon Network's 2017 draft access undertaking. December 2018

UT5 Final Decision. For clarity, by not resetting the FY2019 volume forecasts in the Moura system, Access Holders' ToP obligations will remain in-line with the UT5 Final Decision.

On this basis, Aurizon Network's proposed 'final' FY2019 volume forecast is as follows:

Table 5. Proposed FY2019 Volume Forecasts (million tonnes)

System	FY2019 Volume
Blackwater	64.5
GAPE	17.0
Goonyella	124.8
Moura	15.0
Newlands	12.6
TOTAL	233.8

Conditional on the approval of the volume reset, Aurizon Network recognises a corresponding reduction in variable maintenance costs is warranted due to the lower volumes. These costs are reflected in the AT₁ Reference Tariff and levied on a gross tonne kilometre (**gtk**) basis. This reduction has been factored into Aurizon Network's Adjusted Allowable Revenues calculation detailed below.

Finally, as highlighted above, the basis for the volume forecast was initially determined by RMI as of May 2017, before the commencement of the UT5 Term. With the value of hindsight, it is clear these volumes do not reflect prevailing market conditions.

UT5 Revenue Reconciliation

Aurizon Network is required to recover from (or return to) Access Holders the difference between the annual Total Actual Revenue earned and the approved Allowable Revenue for the relevant Reference Tariff components for each coal system in the CQCN. Having established transitional Reference Tariffs and Allowable Revenues for the period 1 July 2017 to the earlier of the date that the QCA approved the UT5 Access Undertaking or 30 June 2019, Aurizon Network proposes a number of variations, which will provide for full reconciliation of Allowable Revenues over the UT5 regulatory period with the UT5 Final Decision.

Consistent with the April 2018 Extension DAAU Aurizon Network does not propose any further amendments to the FY2018 Reference Tariffs. All variations and the corresponding adjustments to allowable revenues described herein will subsequently impact upon the remaining years (inclusive of FY2019) of the UT5 regulatory period or be recovered from / paid to customers via submission of an Adjustment Charge in accordance with Schedule F of the 2017 Access Undertaking.

In order to reconcile its allowable revenues and thereby determine UT5 Adjusted Allowable Revenues (UT5 AAR), Aurizon Network has utilised the UT5 Final Decision Allowable Revenues prescribed by the QCA and shown in Table 6.

Table 6. UT5 Final Decision Allowable Revenues (\$m)⁹

Allowable Revenue (\$m) [^]	FY2018	FY2019	FY2020	FY2021	TOTAL
Total CQCN	1,000	1,017	1,066	1,040	4,123

[^] Before FY2016, FY2017 and FY2018 Revenue Adjustment Amounts.

Flood Review Events

Aurizon Network has first adjusted the UT5 approved Allowable Revenues for FY2018 to account for the 2016 Goonyella and 2017 Cyclone Debbie flood Review Events described below and shown in Table 7.

2016 Goonyella Flood Claim

On 24 May 2017 the QCA approved Aurizon Network's 2016 tariff variation proposal to recover damage repair costs in the Goonyella system, as submitted on 14 November 2016 (the Goonyella Flood Claim).¹⁰ The Goonyella flood claim amounted to \$1.98m (pre-escalation) for costs to be recovered in FY2018.

2017 Cyclone Debbie Flood Claim

On 23 May 2018 the QCA approved Aurizon Network's 2017 tariff variation proposal to recover 2017 tropical cyclone Debbie costs, as submitted on 22 September 2017 and amended on 21 March 2018 (the Debbie Flood Claim).¹¹ The Debbie flood claim amounted to \$16.90m (pre-escalation) for costs incurred in restoring the rail infrastructure and to be recovered in FY2018.

While the approved adjustments were incorporated into FY2018 transitional Allowable Revenues and therefore transitional Reference Tariffs, upon review of the financial models accompanying the UT5 Final Decision, these amounts have been omitted from the calculation of UT5 Allowable Revenues in FY2018. This is despite reference to the inclusion of the Goonyella flood claim in Table 5 of Appendix B of the UT5 Final Decision which sets out the QCA's final decision on UT5 Reference Tariff inputs for the Goonyella

⁹ Queensland Competition Authority. Final Decision. Aurizon Network's 2017 draft access undertaking. December 2018

¹⁰ Queensland Competition Authority. Final Decision on Aurizon Network's review event: 2016 flood claim. 24 May 2017

¹¹ Queensland Competition Authority. Final Decision on Aurizon Network's 2017 flood claim. 23 May 2018

system. The impact of their inclusion results in an uplift to total allowed revenues for FY2018 relative to the UT5 Final Decision of \$19.6m (escalated by Consumer Price Index (CPI)).

Table 7. Approved 2016 Goonyella and 2017 Cyclone Debbie Flood Costs by System (\$m)

System	FY2018
Blackwater	\$2.5
GAPE	\$1.2
Goonyella	\$14.4
Moura	\$1.1
Newlands	\$0.5
TOTAL	\$19.6

Note: Amounts escalated at CPI to FY2018.

FY2018 Revenue Adjustment Amounts

On 17 December 2018 the QCA approved Aurizon Network's amended revenue adjustment amount for 2017-18 under clause 4.3(p) of Schedule F of the UT4 access undertaking. This approval occurred after the UT5 Final Decision and provided for a revenue adjustment return of \$0.7m as per Aurizon Network's amended application resubmitted on 27 November 2018.

This adjustment is to be returned to customers in FY2020 and has been included in the Adjusted Allowable Revenue estimates below.

Modelling Inconsistencies

As discussed with QCA staff, Aurizon Network has identified a number of modelling inconsistencies as part of its review of the UT5 Final Decision. Amending these inconsistencies provides for an allowable revenue uplift over the UT5 Term and ensures for consistent treatment of costs across all systems in the CQC. Such modelling inconsistencies include:

- omitting GAPE coal volumes (gross tonne kilometre) when determining the non-coal deductions for maintenance costs across all years of the UT5 Term (+ c.\$0.7m);
- applying a 20-year asset life to capitalised ballast undercutting costs allocated to GAPE in FY2020 and FY2021 as opposed to the transitional asset lives stated in the UT5 Final Decision (+ c.\$3m); and
- double discounting of Aurizon Network's capitalised ballast undercutting costs in all systems in FY2020 and FY2021. Aurizon Network's maintenance costs were expressed in mid-year terms, while the QCA in capitalising these amounts at the start of the year has discounted these costs a further 12 months. Aurizon Network has discounted these costs back to the start of the year (6 months only) so the ballast undercutting costs are capitalised in accordance with the intent of the UT5 Final Decision (+ c.\$4m).

Aurizon Network proposes to amend the UT5 Access Undertaking to correct for the above inconsistencies, which are reflected as adjustments to allowable revenues in the relevant years. Aurizon Network will be happy to engage further with QCA staff on this matter.

Adjustments to electric infrastructure charges

As noted by the QCA, the electric transmission charges paid by Aurizon Network are determined in accordance with an established regulatory framework and oversight by the AER.¹² Aurizon Network also has an incentive to negotiate more favourable transmission connection costs to deliver a lower AT5 tariff to promote utilisation of its electric assets.¹³ The QCA's UT5 Final Decision provided for indicative transmission and connection costs for the UT5 Term as shown in Table 8.

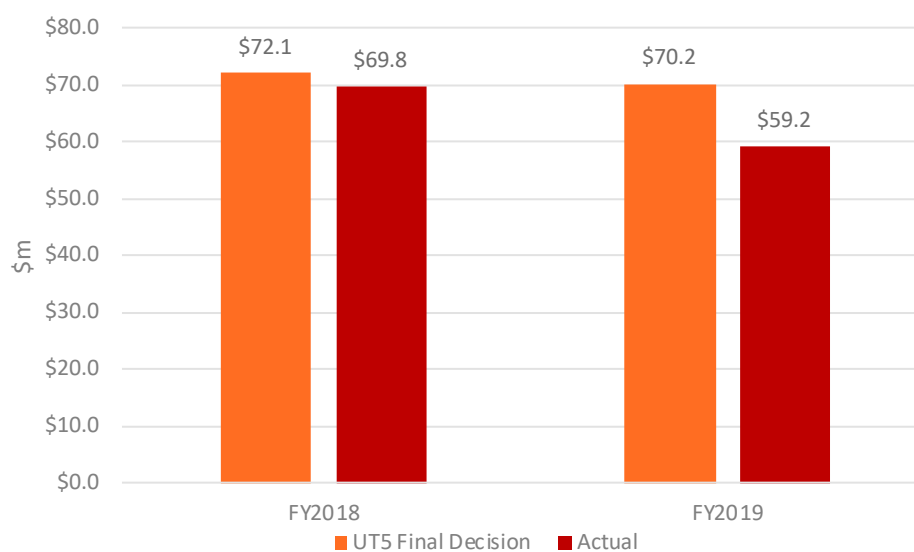
Table 8. UT5 Final Decision – Indicative transmission and connection costs (\$m)

System	FY2018	FY2019	FY2020	FY2021	Total
Blackwater (including Rolleston)	36.2	34.4	35.2	36.0	141.8
Goonyella	35.9	35.8	36.7	37.5	145.9
Total (\$m)	72.1	70.2	71.9	73.6	287.7

Source: QCA Final Decision. Aurizon Network's 2017 Draft Access Undertaking. December 2019.

Aurizon Network has incurred lower connection costs over the FY2018 and FY2019 period as shown in Figure 1. These cost savings amount to \$2.3m and \$11.0m in FY2018 and FY2019 respectively. Aurizon Network proposes to pass through these cost savings to customers as part of its overall adjustment to allowable revenues.

Figure 1. FY2018 and FY2019 Transmission and Connection Costs Incurred (\$m)



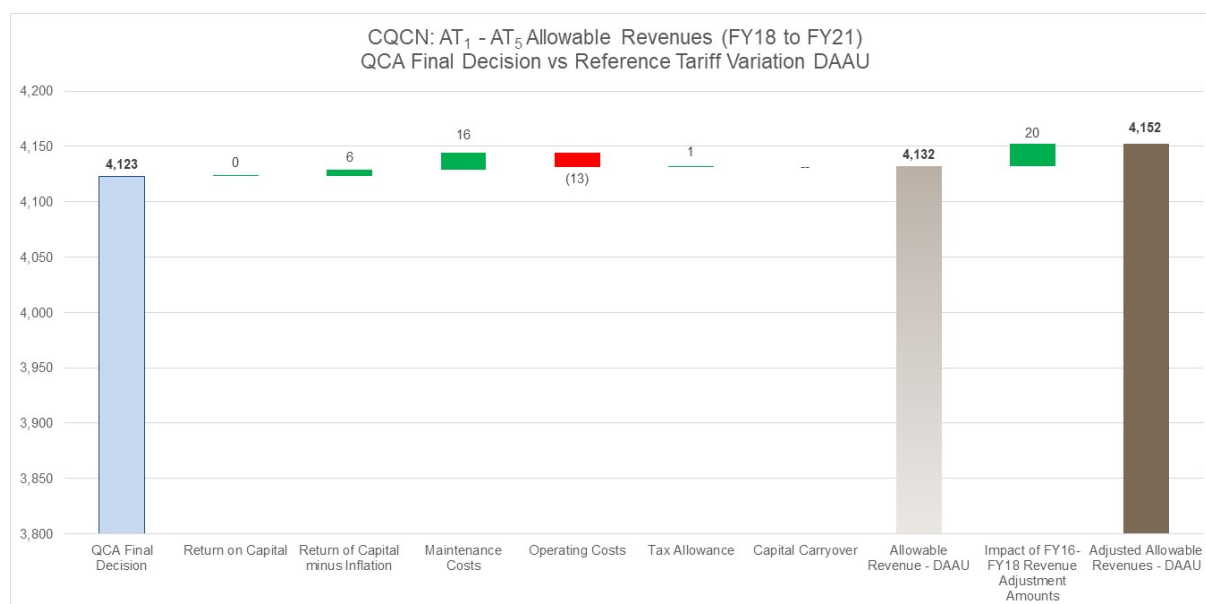
UT5 Adjusted Allowable Revenue and Reference Tariffs

Building on the UT5 Final Decision and accounting for each variation (adjustment) identified above, Aurizon Network has determined an Adjusted Allowable Revenue for UT5 of \$4,132m (or \$4,152m allowing for the impact of FY2016, FY2017 and FY2018 Revenue Adjustment Amounts). The impact of the adjustments on each allowable revenue building block is illustrated in figure 2 below.

¹² Queensland Competition Authority. Final Decision. Aurizon Network's 2017 draft access undertaking. December 2018.

¹³ Ibid.

Figure 2. Allowable Revenue variation – QCA Final Decision vs Reference Tariff variation DAAU (\$m)



Having determined the Adjusted Allowable Revenue for FY2018, Aurizon Network has reconciled this amount with the revenues earned throughout the year via transitional Reference Tariffs. This reconciliation provides for a variance of \$81m after escalation at the UT5 Final Decision Weighted Average Cost of Capital (**WACC**) of 5.7%) across all coal systems. This variance has been incorporated in the FY2019 Adjusted Allowable Revenues as shown in Table 9 and Table 10 respectively.

Subject to the QCA approving the FY2019 Adjusted Allowable Revenue, Reference Tariffs and volumes in accordance with this Reference Tariff Variation DAAU, Aurizon Network will submit an Adjustment Charge in accordance with Schedule F of the UT5 Access Undertaking.

Table 9. Non-Electric UT5 AAR (\$m)

Non-Electric Allowable Revenue	FY2018	FY2019	FY2020	FY2021	TOTAL
QCA UT5 Final Decision~	827	899	914	880	3,520
Flood Review Events	20	--	--	--	20
FY2018 Revenue Adjustment Amounts	--	--	(6)	--	(6)
Modelling Inconsistencies	0	0	5	3	8
Variable Maintenance (AT ₁) [^]	--	(5)	--	--	(5)
Adjusted Allowable Revenues (AT₁ – AT₄)	847	895	913	883	3,537
Less AT ₁	(81)	(84)	(91)	(94)	(350)
System Allowable Revenues (AT₂ – AT₄)	765	811	821	789	3,187
FY2018 Reconciliation	51	--	--	--	51
WACC Adjusted FY2018 Reconciliation	--	(54)	--	--	(54)
Proposed Final Adjusted Allowable Revenues (AT₂ – AT₄)	817	757	821	789	3,184

[^] Due to FY2019 Volume Reset.

~ Includes the impact of FY2016 and FY2017 Revenue Adjustment Amounts.

Table 10. Electric UT5 AAR (\$m)

Electric Allowable Revenue	FY2018	FY2019	FY2020	FY2021	TOTAL
QCA UT5 Final Decision~	153	163	152	155	622
Electric Transmission & Connection Charges	(2)	(11)	--	--	(13)
FY2018 Revenue Adjustment Amounts	--	--	5	--	5
Adjusted Allowable Revenues	150	152	157	155	615
FY2018 Reconciliation	25	--	--	--	25
WACC Adjusted FY2018 Reconciliation	--	(27)	--	--	(27)
Proposed Final Adjusted Allowable Revenues (AT_s)	176	125	157	155	613

~ Includes the impact of FY2016 and FY2017 Revenue Adjustment Amounts

The impact of the above adjustments by individual coal system are provided in Appendix B.

EC Tariff and QCA Levy Updates

As part of its October 2018 UT4 Extension DAAU, Aurizon Network proposed and the QCA subsequently approved amendments to the EC tariff and QCA Levy. These amendments, described in further detail below, were not reflected in the QCA's UT5 Final Decision. Aurizon Network proposes to incorporate these approved amendments into the UT5 Access Undertaking.

Electric Energy Charge

The EC tariff relates to the supply of electric energy. The QCA's approval of Aurizon Network's October 2018 UT4 Extension DAAU provided for an update to the transitional EC tariff to reflect the latest forecast of electric energy charges for FY2019 and as well as reconciliation of the estimated cumulative over-recovery of billed versus actual electric energy charges for FY2018.

For the purpose of setting a final EC charge for FY2019, Aurizon Network has taken into consideration the proposed FY2019 volume reset.

Table 11. FY2019 Final EC Charge

System	EC Charge	Unit
Blackwater	\$0.79	\$/'000 egtk
Goonyella	\$0.79	\$/'000 egtk

QCA Levy

Aurizon Network has previously acknowledged the reduction in the QCA Levy based on the final regulatory fees for FY2018 and forecast regulatory fees for FY2019. This was consistent with its proposal, and the QCA's subsequent approval, for the associated variation to the QCA Levy.¹⁴

For the purpose of setting a final QCA Levy for FY2019, Aurizon Network has taken the proposed volume reset for FY2019 into consideration.

Table 12. FY2019 Final QCA Levy

System	QCA Levy	Unit
Blackwater	0.00907	\$/nt
Goonyella	0.00907	\$/nt
Moura	0.00907	\$/nt
Newlands	0.00907	\$/nt
GAPE	0.00907	\$/nt

¹⁴ Queensland Competition Authority. Final Decision. Endorsed Variation Event: QCA Levy. 18 October 2018

Appendix A: UT5 Adjusted Reference Tariffs and System Allowable Revenues

The following tables outline the adjusted reference tariffs and allowable revenues for the UT5 regulatory period, accounting for the variations contained within this Reference Tariff Variation DAAU as well as the proposed FY2019 volume reset. It should be noted that the Reference Tariffs and System Allowable Revenue (SAR) for FY2019 incorporate the impact of the FY2018 Reconciliation.

Table 13. Blackwater – UT5 Adjusted Reference Tariffs

Financial Year	AT ₁	AT ₂	AT ₃	AT ₄	AT ₅	EC	QCA Levy
FY2018 [^]	0.92	2,161.22	6.81	2.41	3.09	1.01	0.03961
FY2019	0.93	2,264.88	6.62	2.22	2.58	0.79	0.00907
FY2020	0.95	2,318.56	6.90	2.44	3.29	0.92	0.02844
FY2021	0.97	2,373.51	6.22	2.07	3.03	0.94	0.02898

[^] As per Transitional Reference Tariffs

Table 14. Blackwater UT5 Adjusted Allowable Revenues (\$m)

Revenue	Allowable Revenue (\$m)	
	AT ₂₋₄	AT ₅
FY2018 [^]	356.5	91.2
FY2019	333.1	72.9
FY2020	368.0	91.5
FY2021	336.3	84.2

[^] As per Transitional Reference Tariffs

Table 15. Goonyella – UT5 Adjusted Reference Tariffs

Financial Year	AT ₁	AT ₂	AT ₃	AT ₄	AT ₅	EC	QCA Levy
FY2018 [^]	0.63	1,369.26	5.22	1.08	2.30	1.01	0.03961
FY2019	0.65	1,434.93	4.87	0.99	1.40	0.79	0.00907
FY2020	0.66	1,468.94	4.43	0.91	1.57	0.92	0.02844
FY2021	0.67	1,503.76	4.24	0.87	1.69	0.94	0.02898

[^] As per Transitional Reference Tariffs

Table 16. Goonyella UT5 Adjusted Allowable Revenues (\$m)

Revenue	Allowable Revenue (\$m)	
	AT ₂₋₄	AT ₅
FY2018 [^]	263.6	84.7
FY2019	280.1	51.7
FY2020	276.3	65.9
FY2021	266.1	71.1

[^] As per Transitional Reference Tariffs

Table 17. Moura – UT5 Adjusted Reference Tariffs

Financial Year	AT ₁	AT ₂	AT ₃	AT ₄	AT ₅	EC	QCA Levy
FY2018 [^]	1.70	647.37	9.00	1.43	--	--	0.03961
FY2019	1.73	670.79	7.27	1.19	--	--	0.00907
FY2020	1.77	686.69	7.67	1.25	--	--	0.02844
FY2021	1.80	702.97	7.57	1.23	--	--	0.02898

[^] As per Transitional Reference Tariffs

Table 18. Moura UT5 Adjusted Allowable Revenues (\$m)

Revenue	Allowable Revenue (\$m)	
	AT ₂₋₄	AT ₅
FY2018 [^]	36.7	--
FY2019	38.8	--
FY2020	44.7	--
FY2021	44.3	--

[^] As per Transitional Reference Tariffs

Table 19. Newlands – UT5 Adjusted Reference Tariffs

Financial Year	AT ₁	AT ₂	AT ₃	AT ₄	AT ₅	EC	QCA Levy
FY2018 [^]	1.77	289.45	10.06	1.51	--	--	0.03961
FY2019	1.81	303.33	2.82	0.36	--	--	0.00907
FY2020	1.84	310.52	3.73	0.47	--	--	0.02844
FY2021	1.88	317.88	6.86	0.87	--	--	0.02898

[^] As per Transitional Reference Tariffs

Table 20. Newlands UT5 Adjusted Allowable Revenues (\$m)

Revenue	Allowable Revenue (\$m)	
	AT ₂₋₄	AT ₅
FY2018 [^]	27.5	--
FY2019	10.1	--
FY2020	13.6	--
FY2021	24.1	--

[^] As per Transitional Reference Tariffs

Table 21. GAPE – UT5 Adjusted Reference Tariffs

Financial Year	AT ₁	AT ₂	AT ₃	AT ₄	AT ₅	EC	QCA Levy
FY2018 [^]	1.43	13,436.76	1.38	3.44	--	--	0.03961
FY2019	1.45	14,081.21	1.20	1.13	--	--	0.00907
FY2020	1.48	14,414.93	1.32	1.74	--	--	0.02844
FY2021	1.51	14,756.57	1.32	1.62	--	--	0.02898

[^] As per Transitional Reference Tariffs

Table 22. GAPE UT5 Adjusted Allowable Revenues (\$m)

Revenue	Allowable Revenue (\$m)	
	AT ₂₋₄	AT ₅
FY2018 [^]	132.3	--
FY2019	94.8	--
FY2020	118.7	--
FY2021	118.3	--

[^] As per Transitional Reference Tariffs

Appendix B: Adjusted Allowable Revenue by System

Table 23. Blackwater Non-Electric UT5 AAR (\$m)

Non-Electric Allowable Revenue	FY2018	FY2019	FY2020	FY2021	TOTAL
QCA UT5 Final Decision	372	384	384	373	1,514
Flood Review Events	2	--	--	--	2
FY2018 Revenue Adjustment Amounts	--	--	19	--	19
Modelling Inconsistencies	0	0	1	1	2
Variable Maintenance (AT ₁) [^]	--	(2)	--	--	(2)
Adjusted Allowable Revenues (AT₁ – AT₄)	375	382	404	374	1,535
Less AT ₁	(33)	(34)	(36)	(38)	(141)
System Allowable Revenues (AT₂ – AT₄)	342	349	368	336	1,395
FY2018 Reconciliation	15	--	--	--	15
WACC Adjusted FY2018 Reconciliation	--	(16)	--	--	(16)
Proposed Final Adjusted Allowable Revenues (AT₂ – AT₄)	357	333	368	336	1,394

[^] Due to FY2019 Volume Reset.

Table 24. Blackwater Electric UT5 AAR (\$m)

Electric Allowable Revenue	FY2018	FY2019	FY2020	FY2021	TOTAL
QCA UT5 Final Decision	87	90	82	84	344
Electric Transmission & Connection Charges	(2)	(11)	--	--	(13)
FY2018 Revenue Adjustment Amounts	--	--	8	--	8
Adjusted Allowable Revenues	85	80	91	84	339
FY2018 Reconciliation	6	--	--	--	6
WACC Adjusted FY2018 Reconciliation	--	(7)	--	--	(7)
Proposed Final Adjusted Allowable Revenues (AT₅)	91	73	91	84	339

Table 25. Goonyella Non-Electric UT5 AAR (\$m)

Non-Electric Allowable Revenue	FY2018	FY2019	FY2020	FY2021	TOTAL
QCA UT5 Final Decision	268	315	318	294	1,196
Flood Review Events	14	--	--	--	14
FY2018 Revenue Adjustment Amounts	--	--	(15)	--	(15)
Modelling Inconsistencies	0	(0)	1	1	2
Variable Maintenance (AT ₁) [^]	--	(2)	--	--	(2)
Adjusted Allowable Revenues (AT₁ – AT₄)	283	314	305	295	1,196
Less AT ₁	(26)	(26)	(28)	(29)	(109)
System Allowable Revenues (AT₂ – AT₄)	256	288	277	266	1,087
FY2018 Reconciliation	7	--	--	--	7
WACC Adjusted FY2018 Reconciliation	--	(8)	--	--	(8)

Non-Electric Allowable Revenue	FY2018	FY2019	FY2020	FY2021	TOTAL
Proposed Final Adjusted Allowable Revenues (AT₂ – AT₄)	264	280	276	266	1,086

^ Due to FY2019 Volume Reset.

Table 26. Goonyella Electric UT5 AAR (\$m)

Electric Allowable Revenue	FY2018	FY2019	FY2020	FY2021	TOTAL
QCA UT5 Final Decision	65	72	69	71	278
Electric Transmission & Connection Charges	0	(0)	--	--	(0)
FY2018 Revenue Adjustment Amounts	--	--	(3)	--	(3)
Adjusted Allowable Revenues	65	72	66	71	275
FY2018 Reconciliation	19	--	--	--	19
WACC Adjusted FY2018 Reconciliation	--	(20)	--	--	(20)
Proposed Final Adjusted Allowable Revenues (AT₅)	85	52	66	71	274

Table 27. Moura Non-Electric UT5 AAR (\$m)

Non-Electric Allowable Revenue	FY2018	FY2019	FY2020	FY2021	TOTAL
QCA UT5 Final Decision	39	47	52	52	191
Flood Review Events	1	--	--	--	1
FY2018 Revenue Adjustment Amounts	--	--	0	--	0
Modelling Inconsistencies	0	0	0	0	0
Variable Maintenance (AT ₁) [^]	--	--	--	--	--
Adjusted Allowable Revenues (AT₁ – AT₄)	40	47	52	52	192
Less AT ₁	(5)	(7)	(8)	(8)	(27)
System Allowable Revenues (AT₂ – AT₄)	35	40	45	44	165
FY2018 Reconciliation	2	--	--	--	2
WACC Adjusted FY2018 Reconciliation	--	(2)	--	--	(2)
Proposed Final Adjusted Allowable Revenues (AT₂ – AT₄)	37	39	45	44	164

^ Due to FY2019 Volume Reset.

Table 28. Newlands Non-Electric UT5 AAR (\$m)

Non-Electric Allowable Revenue	FY2018	FY2019	FY2020	FY2021	TOTAL
QCA UT5 Final Decision	24	23	29	29	104
Flood Review Events	1	--	--	--	1
FY2018 Revenue Adjustment Amounts	--	--	(10)	--	(10)
Modelling Inconsistencies	0	0	0	0	0
Variable Maintenance (AT ₁) [^]	--	(0)	--	--	(0)
Adjusted Allowable Revenues (AT₁ – AT₄)	24	23	19	29	95
Less AT ₁	(4)	(5)	(5)	(5)	(19)

Non-Electric Allowable Revenue	FY2018	FY2019	FY2020	FY2021	TOTAL
System Allowable Revenues (AT₂ – AT₄)	20	18	14	24	76
FY2018 Reconciliation	8	--	--	--	8
WACC Adjusted FY2018 Reconciliation	--	(8)	--	--	(8)
Proposed Final Adjusted Allowable Revenues (AT₂ – AT₄)	28	10	14	24	75

[^] Due to FY2019 Volume Reset.

Table 29. GAPE Non-Electric UT5 AAR (\$m)

Non-Electric Allowable Revenue	FY2018	FY2019	FY2020	FY2021	TOTAL
QCA UT5 Final Decision	123	130	130	132	515
Flood Review Events	1	--	--	--	1
FY2018 Revenue Adjustment Amounts	--	--	0	--	0
Modelling Inconsistencies	0	0	2	1	4
Variable Maintenance (AT ₁) [^]	--	(1)	--	--	(1)
Adjusted Allowable Revenues (AT₁ – AT₄)	125	129	133	133	519
Less AT ₁	(12)	(13)	(14)	(14)	(54)
System Allowable Revenues (AT₂ – AT₄)	112	116	119	118	465
FY2018 Reconciliation	20	--	--	--	20
WACC Adjusted FY2018 Reconciliation	--	(21)	--	--	(21)
Proposed Final Adjusted Allowable Revenues (AT₂ – AT₄)	132	95	119	118	464

[^] Due to FY2019 Volume Reset.

Appendix C: May 2019 UT5 DAAU and Reference Tariff Variation DAAU

Aurizon Network acknowledges the interdependencies between this Reference Tariff Variation DAAU and the May 2019 UT5 DAAU. For information only, the following tables outline the Adjusted Allowable Revenues and Reference Tariffs that account for all amendments contained within both the May 2019 UT5 DAAU and the Reference Tariff Variation DAAU.

Table 30. Blackwater – UT5 Adjusted Reference Tariffs

Financial Year	AT ₁	AT ₂	AT ₃	AT ₄	AT ₅	EC	QCA Levy
FY2018 [^]	0.92	2,161.22	6.81	2.41	3.09	1.01	0.03961
FY2019	0.93	2,264.88	6.66	2.23	2.60	0.79	0.00907
FY2020	0.95	2,318.56	7.06	2.49	3.35	0.71	0.02844
FY2021	0.97	2,373.51	6.61	2.20	3.12	0.76	0.02898
FY2022	0.99	2,429.76	6.54	2.32	3.10	0.75	0.02898
FY2023	1.01	2,487.34	6.30	2.23	3.08	0.75	0.02898

[^] As per Transitional Reference Tariffs

Table 31. Blackwater UT5 Adjusted Allowable Revenues (\$m)

Revenue	Allowable Revenue (\$m)	
Tariff	AT ₂₋₄	AT ₅
FY2018 [^]	356.5	91.2
FY2019	335.1	73.2
FY2020	375.4	93.1
FY2021	354.2	86.9
FY2022	362.1	87.4
FY2023	356.1	88.1

[^] As per Transitional Reference Tariffs

Table 32. Goonyella – UT5 Adjusted Reference Tariffs

Financial Year	AT ₁	AT ₂	AT ₃	AT ₄	AT ₅	EC	QCA Levy
FY2018 [^]	0.63	1,369.26	5.22	1.08	2.30	1.01	0.03961
FY2019	0.65	1,434.93	4.90	0.99	1.41	0.79	0.00907
FY2020	0.66	1,468.94	4.52	0.93	1.59	0.71	0.02844
FY2021	0.67	1,503.76	4.48	0.92	1.73	0.76	0.02898
FY2022	0.68	1,539.39	4.45	0.92	1.67	0.75	0.02898
FY2023	0.70	1,575.88	4.34	0.89	1.68	0.75	0.02898

[^] As per Transitional Reference Tariffs

Table 33. Goonyella UT5 Adjusted Allowable Revenues (\$m)

Revenue	Allowable Revenue (\$m)	
	AT ₂₋₄	AT ₅
Tariff		
FY2018 [^]	263.6	84.7
FY2019	281.3	51.9
FY2020	281.2	66.7
FY2021	279.5	72.7
FY2022	279.4	70.2
FY2023	274.5	70.8

[^] As per Transitional Reference Tariffs

Table 34. Moura – UT5 Adjusted Reference Tariffs

Financial Year	AT ₁	AT ₂	AT ₃	AT ₄	AT ₅	EC	QCA Levy
FY2018 [^]	1.70	647.37	9.00	1.43	--	--	0.03961
FY2019	1.73	670.79	7.32	1.20	--	--	0.00907
FY2020	1.77	686.69	7.88	1.28	--	--	0.02844
FY2021	1.80	702.97	8.02	1.30	--	--	0.02898
FY2022	1.84	719.63	7.52	1.22	--	--	0.02898
FY2023	1.87	736.68	7.02	1.14	--	--	0.02898

[^] As per Transitional Reference Tariffs

Table 35. Moura UT5 Adjusted Allowable Revenues (\$m)

Revenue	Allowable Revenue (\$m)	
	AT ₂₋₄	AT ₅
Tariff		
FY2018 [^]	36.7	--
FY2019	39.0	--
FY2020	45.8	--
FY2021	46.7	--
FY2022	46.2	--
FY2023	45.6	--

[^] As per Transitional Reference Tariffs

Table 36. Newlands – UT5 Adjusted Reference Tariffs

Financial Year	AT ₁	AT ₂	AT ₃	AT ₄	AT ₅	EC	QCA Levy
FY2018 [^]	1.77	289.45	10.06	1.51	--	--	0.03961
FY2019	1.81	303.33	2.87	0.37	--	--	0.00907
FY2020	1.84	310.52	3.95	0.50	--	--	0.02844
FY2021	1.88	317.88	7.29	0.93	--	--	0.02898

Financial Year	AT ₁	AT ₂	AT ₃	AT ₄	AT ₅	EC	QCA Levy
FY2022	1.91	325.41	7.34	0.93	--	--	0.02898
FY2023	1.95	333.12	7.30	0.93	--	--	0.02898

[^] As per Transitional Reference Tariffs

Table 37. Newlands UT5 Adjusted Allowable Revenues (\$m)

Revenue	Allowable Revenue (\$m)	
	AT ₂₋₄	AT ₅
Tariff		
FY2018 [^]	27.5	--
FY2019	10.3	--
FY2020	14.3	--
FY2021	25.6	--
FY2022	25.8	--
FY2023	25.7	--

[^] As per Transitional Reference Tariffs

Table 38. GAPE – UT5 Adjusted Reference Tariffs

Financial Year	AT ₁	AT ₂	AT ₃	AT ₄	AT ₅	EC	QCA Levy
FY2018 [^]	1.43	13,436.76	1.38	3.44	--	--	0.03961
FY2019	1.45	14,081.21	1.12	1.20	--	--	0.00907
FY2020	1.48	14,414.93	1.36	1.90	--	--	0.02844
FY2021	1.51	14,756.57	1.39	1.91	--	--	0.02898
FY2022	1.54	15,106.30	1.38	1.95	--	--	0.02898
FY2023	1.57	15,464.32	1.37	1.80	--	--	0.02898

[^] As per Transitional Reference Tariffs

Table 39. GAPE UT5 Adjusted Allowable Revenues (\$m)

Revenue	Allowable Revenue (\$m)	
	AT ₂₋₄	AT ₅
Tariff		
FY2018 [^]	132.3	--
FY2019	95.5	--
FY2020	122.0	--
FY2021	124.2	--
FY2022	126.6	--
FY2023	125.7	--

[^] As per Transitional Reference Tariffs

Appendix D: Draft Amending Access Undertaking (Clean)

Appendix E: Draft Amending Access Undertaking (Mark-Up)