

Quarterly Maintenance Cost Report

October – December 2018

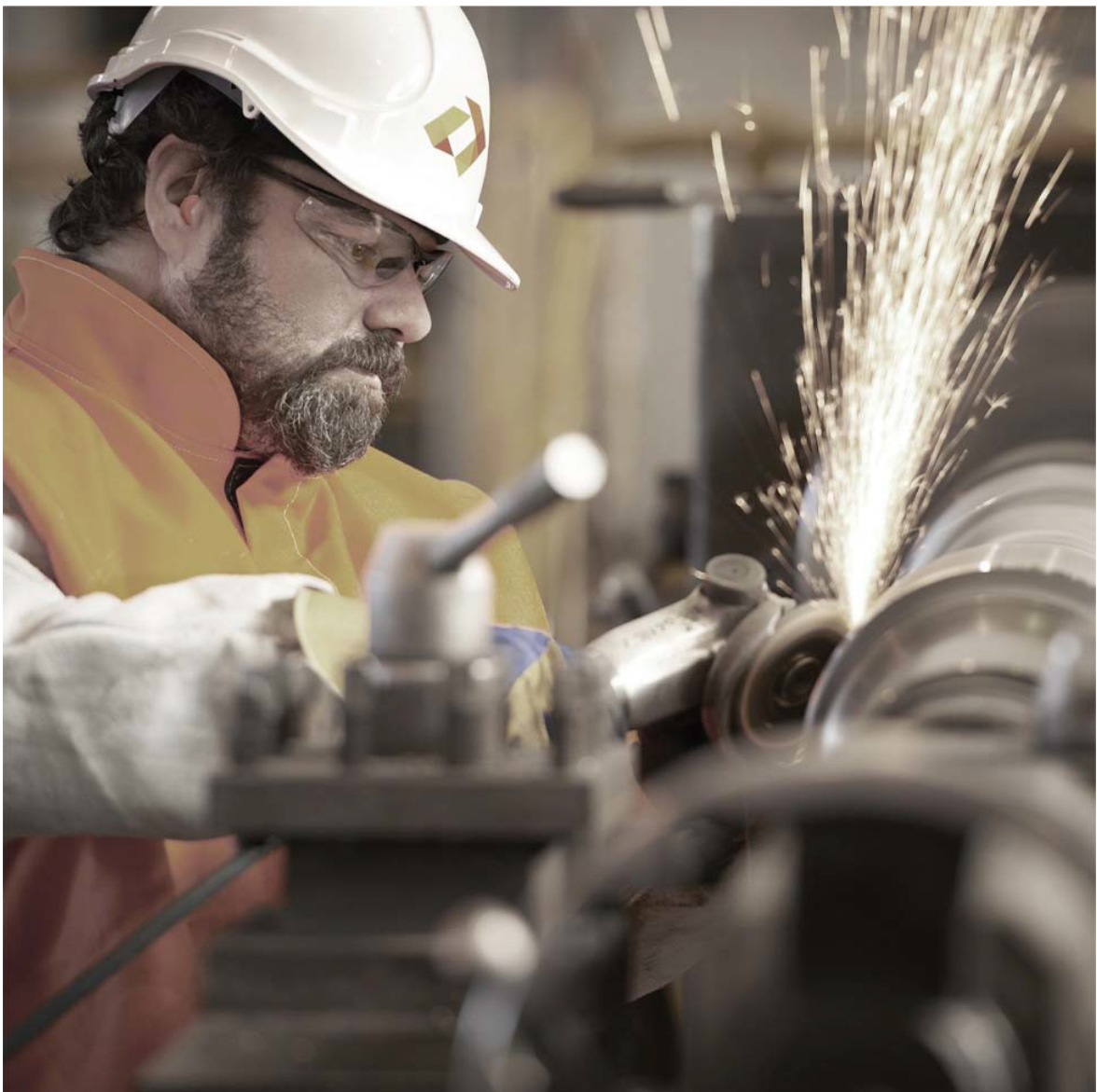


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1.0 Report Contents

This report is provided to the QCA in accordance with Aurizon Network's 2016 Access Undertaking (**UT4**); clause 10.3.2 (c).

It provides transparency around Aurizon Network's maintenance performance by comparing scope delivered and costs incurred for the quarter, October to December 2018 (**Reporting Period**), to the QCA's Final Decision on Aurizon Network's 2017 Draft Access Undertaking issued in December 2018 (**UT5 Final Decision**). The forecast scope and costs within the UT5 Final Decision were published as annual totals. To provide a meaningful comparison for the Reporting Period, the FY2019 totals provided in the UT5 Final Decision have been apportioned to the Reporting Period based on Aurizon Network's annual budget, which is phased quarterly.

This information is provided for the four coal systems in the Central Queensland Coal Network (**CQCN**); Blackwater, Goonyella, Moura, and Newlands.

It should be noted that while the UT5 Final Decision contains individual Reference Tariffs and Allowable Revenues for the Goonyella to Abbot Point Expansion (**GAPE System**), the GAPE System is not a geographically distinct coal system. Rather, it is akin to an expansion tariff required to facilitate the pricing arrangements attributable to GAPE Train Services. The scope of the GAPE project included significant infrastructure upgrades in the Newlands system, which are utilised by all GAPE and Newlands Train Services. Similarly, all GAPE Train Services utilise existing Newlands system infrastructure. As a result, Newlands and GAPE are treated as a single system for this report.

Some of the data in this report will also be included in Aurizon Network's Quarterly Performance Report, which will be published at the following link:

<http://www.aurizon.com.au/what-we-deliver/network/network-downloads>.

2.0 Network Performance Metrics

2.1 Safety

Safety is Aurizon Network's core value. Aurizon Network aspires to be world class in safety through its journey to ZEROHARM, which has delivered tangible benefits in terms of safety performance and safety culture. ZEROHARM comprises:

The logo for ZEROHARM, with 'ZERO' in a larger, bold, orange font and 'HARM' in a smaller, regular, orange font.

- ZERO incidents;
- ZERO injuries;
- ZERO work-related illnesses; and
- ZERO environmental incidents.

Injury Reporting Metrics

Aurizon Network's strong safety performance directly benefits the coal supply chain by:

- > reducing the number of unplanned system interruptions; and
- > allowing Aurizon Network to maximise productive time within maintenance track possessions.

This ultimately promotes greater network reliability through a more effective and productive asset maintenance regime.

Aurizon's primary injury reporting metrics include the:

- > Total Recordable Injury Frequency Rate (**TRIFR**), which measures the number of incidents per million person-hours worked; and
- > Lost Time Injury Frequency Rate (**LTIFR**), which measures the number of lost time injuries occurring in a workplace per million hours worked.

To continue the journey to becoming world leading in safety, Aurizon Network revised its injury definitions from 1 July 2017. The key changes include:

- > the inclusion of contractors in all injury metrics;
- > widening the scope of total recordable injuries to include all restricted work injuries; and
- > expanding the definition of 'Lost Time Injuries' such that it captures any lost day of work following the injury¹.

Figure 1 illustrates the TRIFR for Aurizon staff since June 2011, as compared with the LTIFR. Since that time, there has been a noticeable improvement in safety performance in terms of TRIFR.

¹ The previous definition of 'Lost Time Injuries' only captured instances where the injury impacted the next rostered shift.

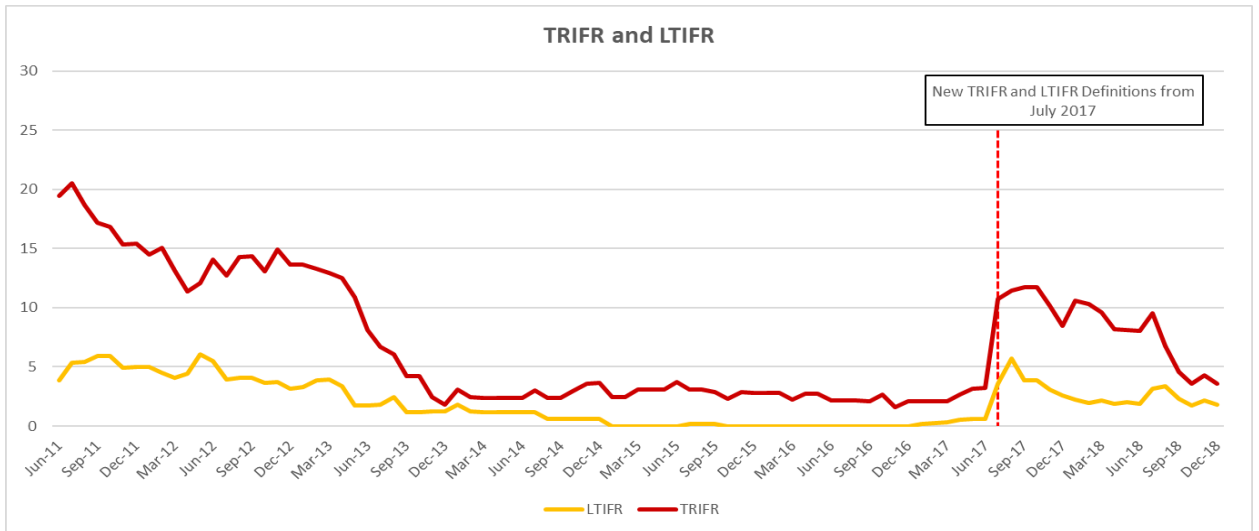


Figure 1 – TRIFR and LTIFR

Major Reportable Safety Incidents

Aurizon Network confirms that there were two major reportable safety incidents reported to the Safety Regulator during the Reporting Period.

Major reportable safety incidents reported to the Safety Regulator		Blackwater	Goonyella	Moura	Newlands	GAPE
Oct-Dec 2018	Number of instances	1	--	1	--	--

Table 1 - Number of major reportable safety incidents reported to the Safety Regulator in the quarter

2.2 Network Reliability

Coal Carrying Train Services

Table 2 provides a measure of the throughput achieved by coal system, for each month within the Reporting Period. It presents the aggregate gross tonne kilometres, net tonnes, net tonne kilometres and electric gross tonne kilometres for Coal Carrying Train Services.

		Coal				
Coal Carrying Train Service Performance ('000)		Blackwater	Goonyella	Moura	Newlands	GAPE
Oct 18	Gross Tonne Kilometres (GTK'000)	2,932,310	3,550,718	325,882	224,200	737,316
	Net Tonnes (NT)	5,131,308	10,775,075	1,268,096	1,137,734	1,456,237
	Net Tonne Kilometres (NTK'000)	1,829,644	2,222,096	203,218	139,600	457,319
	Electric Gross Tonne Kilometres (EGTK'000)	2,345,710	3,323,720	--	--	--
Nov 18	Gross Tonne Kilometres (GTK'000)	2,812,861	3,474,309	328,130	252,713	753,377
	Net Tonnes (NT)	4,907,445	10,853,150	1,268,948	1,226,620	1,448,830
	Net Tonne Kilometres (NTK'000)	1,759,006	2,179,490	204,583	156,157	468,378
	Electric Gross Tonne Kilometres (EGTK'000)	2,229,890	3,245,947	--	--	--
Dec 18	Gross Tonne Kilometres (GTK'000)	3,077,136	3,421,510	284,608	207,907	642,594
	Net Tonnes (NT)	5,414,231	10,419,687	1,120,686	998,541	1,200,471
	Net Tonne Kilometres (NTK'000)	1,924,445	2,143,579	177,954	129,091	397,745
	Electric Gross Tonne Kilometres (EGTK'000)	2,453,389	3,149,115	--	--	--

Table 2 - Coal Carrying Train Service Performance

Dewirements

The number of dewirements recorded for each quarter since Q1 FY2010, are shown in **Table 3** below.

There were no dewirements during the Reporting Period.

Number of Dewirements	Blackwater	Goonyella
Jul-Sept 2010	--	2
Oct-Dec 2010	--	--
Jan-Mar 2011	--	2
Apr-Jun 2011	--	--
Jul-Sept 2011	--	1
Oct-Dec 2011	1	--
Jan-Mar 2012	1	1
Apr-Jun 2012	1	1
Jul-Sept 2012	1	--
Oct-Dec 2012	--	--
Jan-Mar 2013	--	--
Apr-Jun 2013	--	1
Jul-Sept 2013	1	--
Oct-Dec 2013	1	--
Jan-Mar 2014	--	--
Apr-Jun 2014	--	1
Jul-Sept 2014	--	2
Oct-Dec 2014	--	--
Jan-Mar 2015	--	--
Apr-Jun 2015	--	--
Jul-Sept 2015	--	--
Oct-Dec 2015	--	--
Jan-Mar 2016	--	--
Apr-Jun 2016	1	--
Jul-Sept 2016	--	--
Oct-Dec 2016	--	1
Jan-Mar 2017	--	1
Apr-Jun 2017	--	--
Jul-Sept 2017	--	--
Oct-Dec 2017	1	1
Jan-Mar 2018	2	1
Apr-Jun 2018	--	--
Jul-Sep 2018	1	--
Oct-Dec 2018	--	--

Table 3 - Number of Dewirements

Derailments

A Derailment occurs where one (or more) rolling stock wheel(s) leave the rail or track during railway operations. The number of derailments recorded for each quarter since Q1 FY2010 is outlined in **Table 4** below.

There were four (4) derailments during the Reporting Period.

Number of Derailments	Blackwater	Goonyella	Moura	Newlands
Jul-Sept 2010	8	11	1	2
Oct-Dec 2010	1	5	3	1
Jan-Mar 2011	7	7	6	1
Apr-Jun 2011	3	8	1	2
Jul-Sept 2011	3	7	3	3
Oct-Dec 2011	5	2	1	--
Jan-Mar 2012	9	5	4	1
Apr-Jun 2012	5	7	3	4
Jul-Sept 2012	6	6	3	--
Oct-Dec 2012	4	6	3	1
Jan-Mar 2013	3	6	2	--
Apr-Jun 2013	3	1	1	--
Jul-Sept 2013	5	4	3	--
Oct-Dec 2013	4	2	--	--
Jan-Mar 2014	6	3	4	1
Apr-Jun 2014	2	3	--	1
Jul-Sept 2014	2	8	2	--
Oct-Dec 2014	5	3	--	1
Jan-Mar 2015	2	4	--	--
Apr-Jun 2015	2	--	--	--
Jul-Sept 2015	--	1	--	--
Oct-Dec 2015	2	3	--	--
Jan-Mar 2016	8	2	--	--
Apr-Jun 2016	1	3	1	--
Jul-Sept 2016	--	1	--	2
Oct-Dec 2016	--	2	1	--
Jan-Mar 2017	2	1	1	--
Apr-Jun 2017	--	--	--	--
Jul-Sept 2017	3	1	1	1
Oct-Dec 2017	2	2	1	--
Jan-Mar 2018	3	--	--	1
Apr-Jun 2018	1	6	--	--
Jul-Sep 2018	1	--	--	--
Oct-Dec 2018	2	1	1	--

Table 4 - Number of Derailments

Derailments with a cost of recovery exceeding \$100,000

Aurizon Network confirms that during the Reporting Period, there were two derailments in which the cost to Aurizon Network of recovery exceeded \$100,000.

During the Reporting Period, Aurizon Network also incurred financial 'settlement' costs in relation to three derailments (Windah Westwood, Duaringa and Waitara), which occurred during FY2018.

Derailment Incident	Date	Location	Cost (\$)
DR917641	18/08/2017	Windah Westwood	1,433,357
D1019244	24/01/2018	Duaringa	2,050,049
D1109439	9/06/2018	Waitara	152,368
D1177754	6/10/2018	Dakenba	291,061
D1200068	24/11/2018	Marmor	316,876

Table 5 - Derailments with a cost of recovery exceeding \$100,000

Temporary Speed Restrictions

Imposed Temporary Speed Restrictions (TSR) indicate the level of controlled defects on the Network and Removed TSR indicate maintenance undertaken by Aurizon Network to remove the constraint on the Network. TSR are put in place to ensure levels of operational safety are maintained during, for example, track maintenance work.

Figure 2 below shows the number of TSR imposed on and removed from the network within each quarterly reporting period since FY2010.

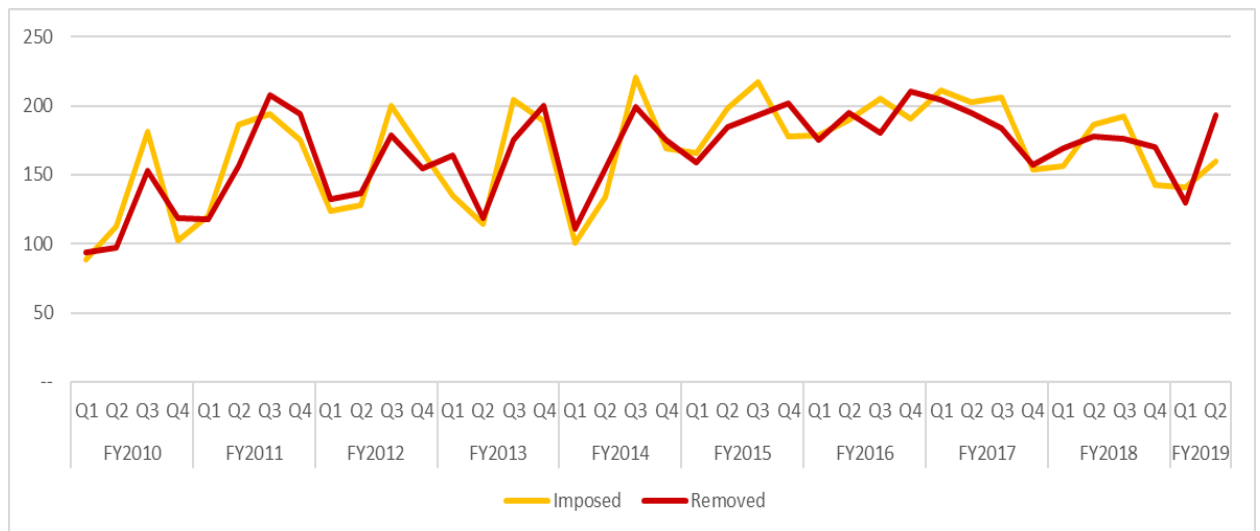


Figure 2 - Temporary Speed Restrictions Imposed and Removed

Below Rail Cancellations

Figure 3 below illustrates the percentage of train services cancelled due to a Below Rail cause.

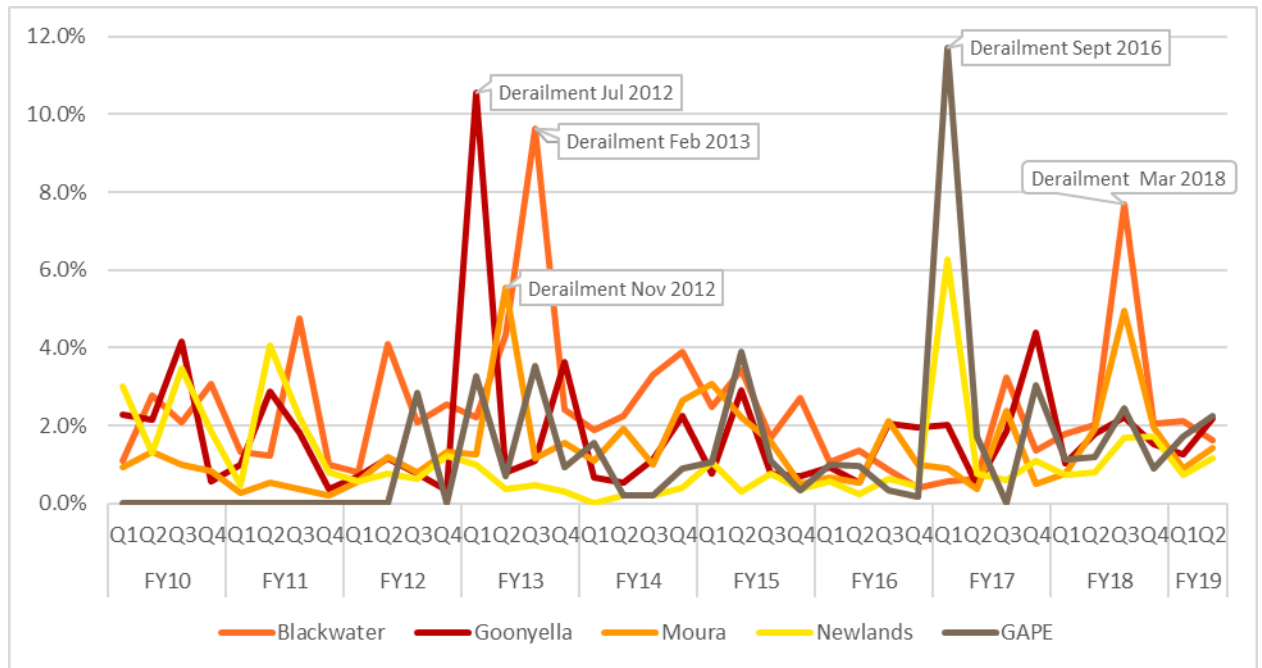


Figure 3 - Percentage of Cancellations due to a Below Rail Cause

Overall Track Condition Index

The Overall Track Condition Index (OTCI) is a measure of quality of the network for each Coal System. It provides a general indicator of track geometry variation over time. The index is calculated from data captured by track recording vehicles and is used by Aurizon Network to monitor trends in track condition. An OTCI that is trending downwards is indicative of improving track quality. Conversely, an OTCI that is trending upwards may indicate that the track condition is either deteriorating or is being managed in a way that is 'fit for purpose' as determined by the Rail Infrastructure Manager.

Please note that the OTCI values presented below reflect an average over a defined length. It cannot reflect all the variations in track quality which may exist within a coal system. Consequently, it should be interpreted as an indicator of abnormality.

Table 6 provides the OTCI for the Reporting Period.

Overall Track Condition Index	Blackwater	Goonyella	Moura	Newlands
Oct-Dec 2018	29.92	28.05	27.82	25.77

Table 6 - Overall Track Condition Index

Below Rail Transit Time

Below Rail Transit Time (**BRTT**) is an indicator of operational performance of each Coal System. The BRTT includes the following:

- > Section Running Times;
- > Delays from scheduled train path in the daily train plan that can be directly attributed to Aurizon Network but excludes cancellations, delays resulting from compliance with a passenger priority obligation and delays resulting from a force majeure event;
- > Time taken in crossing other trains; and
- > Delays due to operational constraints:
 - directly caused by the activities of Aurizon Network in maintaining the CQCN; or
 - due to a fault or deficiency in the CQCN provided such delays are not contributed to by a railway operator or force majeure events.

Table 7 below outlines this performance measure for each individual coal system during the Reporting Period.

Below Rail Transit Time %	Blackwater	Goonyella	Moura	Newlands	GAPE
Oct-Dec 2018	106.02%	106.48%	125.65%	125.25%	126.24%

Table 7 - Below Rail Transit Time Percentage

The BRTT for all coal systems was within the respective requirement during the Reporting Period. This outcome is indicative of a well performing, fit for purpose network.

3.0 Maintenance Performance

3.1 General Maintenance

Track Defects

Aurizon Network's Network Asset Management System (**NAMS**) uses notifications to request works where a track defect has been identified. The following data in **Table 8** represents the number of Notifications which have been raised for rectification during the Reporting Period.

Rectification Period	Number of Notifications
Under 30 days	2,851
30-90 days	1,701
90 days and over	1,028
Total	5,580

Table 8 – Number of Notifications

Work Orders vs Maintenance Completed

The number of Work Orders Created is compared with the number of Maintenance Tasks Completed, for the Reporting Period, in **Table 9** below.

Work Order type	Number of Work Orders Created	Number of Maintenance Tasks Completed
Immediate	2,394	2,363
Corrective	2,686	3,030
Preventive	8,774	7,997
Total	13,854	13,390

Table 9 - Work Orders vs Maintenance Completed

Depending on the severity of the defect, work orders created during the Reporting Period may be scheduled for execution over varying time horizons, for example, immediate, 1 week, 3 months or 12 months etc. Consequently, the number of maintenance tasks completed for the quarter will not necessarily match the number of work orders created.

Similarly, please note that the data relating to the:

- > number of work orders created; and
- > maintenance tasks completed,

includes planned maintenance tasks (e.g. inspections). These tasks are periodic in nature, and do not have a corresponding Notification; hence there were more Work Orders created than Notifications raised.

4.0 Network Maintenance Costs

This section outlines Aurizon Network's actual maintenance performance for the Reporting Period in terms of costs incurred for CQCN maintenance activities and scope delivered for mechanised maintenance activities.

The QCA's Final Decision on UT5 was published on 6 December 2018 and consequently, this report compares Aurizon Network's actual maintenance cost and scope to the forecasts outlined in the UT5 Final Decision. It should also be noted that the UT5 Final Decision does not present costs on a quarterly basis. To facilitate a comparison for the Reporting Period, the annual costs outlined in the UT5 Final Decision have been apportioned in line with Aurizon Network's maintenance budget phasing for FY2019.

4.1 Overall Maintenance Costs

Total Direct Maintenance Cost - CQCN

The total direct maintenance costs incurred during the Reporting Period is shown in **Figure 4** below. For comparative purposes, actual costs for the Reporting Period are compared to both the QCA's UT5 Final Decision and the costs incurred during the same quarter in the previous financial year.

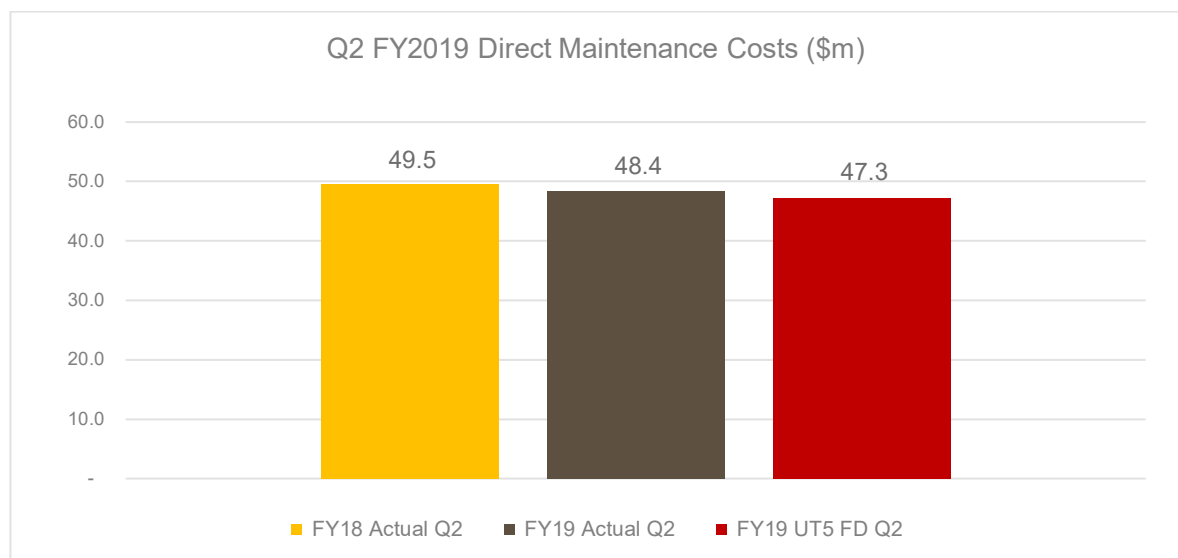


Figure 4 - Total Network Direct Maintenance Cost

Aurizon Network's direct maintenance expenditure for Q2 FY2019 was \$48.4 million; an amount 2% higher than the apportioned UT5 Final Decision and 2% lower than Q2 FY2018.

In comparison to the apportioned UT5 Final Decision, Aurizon Network saw overspends in Track, General and Structures maintenance activities and underspends in Rail Grinding, Signalling and Telecommunications maintenance.

The overspend in Track maintenance during the quarter was due to the continued focus on the removal of temporary speed restrictions, as indicated in Figure 2. This included minor (non-mechanised) ballast undercutting works, sleeper management, track recording, track inspections and turnout maintenance. These maintenance activities were necessary to conform with track geometry standards. The overspend in structures maintenance was attributable to additional culvert cleaning works.

During the reporting period, Rail Grinding production (and hence, expenditure) was adversely impacted by fire bans resulting from extreme temperatures and weather conditions. These fire bans impacted Aurizon

Network's ability to complete all planned rail grinding work due to the inherent fire risk associated with this activity.

Direct Maintenance Cost by Activity

Figure 5 below identifies the total direct maintenance costs incurred during the Reporting Period by activity, in comparison to the apportioned UT5 Final Decision and the same quarter in the previous year.

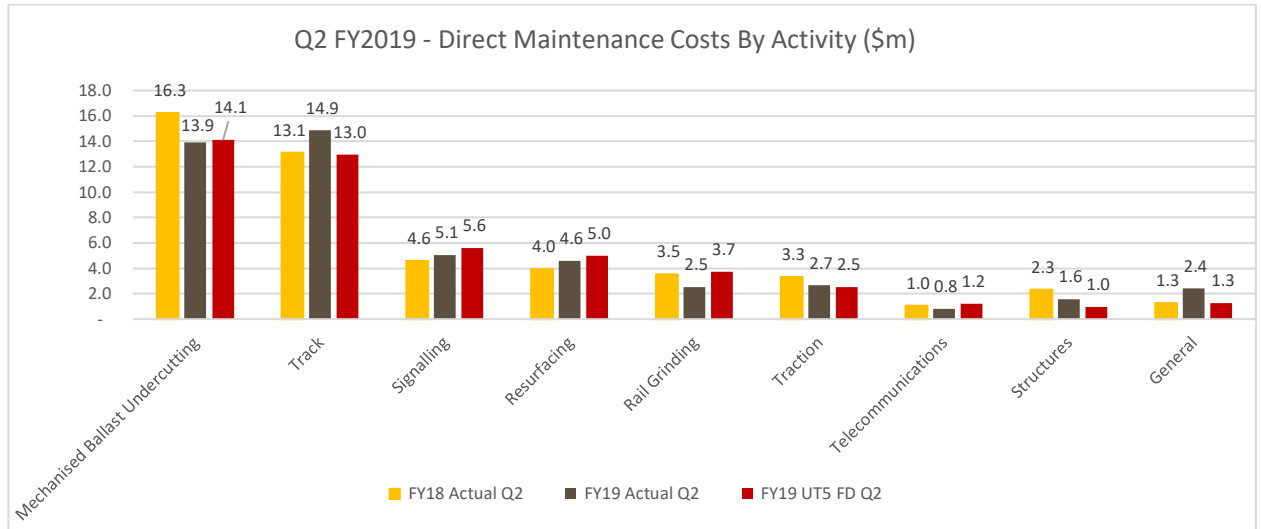


Figure 5 – Direct Maintenance Cost by Activity

A comparison of the actual Gross Tonne Kilometres (GTK) railed during the Reporting Period, relative to the forecast GTK from UT5 Final Decision is outlined in **Figure 6** below.

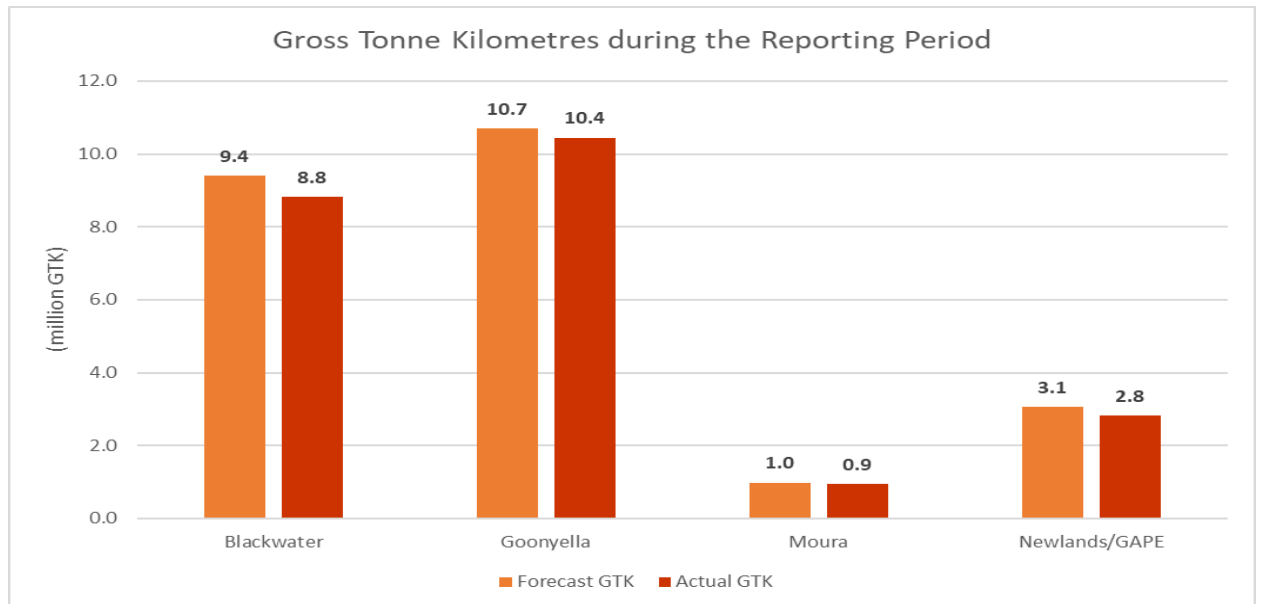


Figure 6 - Forecast GTK vs Actual GTK

Direct Maintenance Cost by System

The direct maintenance cost incurred for the Reporting Period compared against the apportioned UT5 Final Decision and the same quarter in the previous year is shown below for Blackwater (**Figures 7 and 8**), Goonyella (**Figure 9 and 10**), Moura (**Figure 11 and 12**) and Newlands (**Figure 13 and 14**). These costs are broken down per activity for the separate systems.

Blackwater

The direct maintenance costs incurred during the Reporting Period for the Blackwater system was \$26m which was 12% higher than the apportioned UT5 Final Decision for the same period and 39% higher than the second quarter in the prior year.

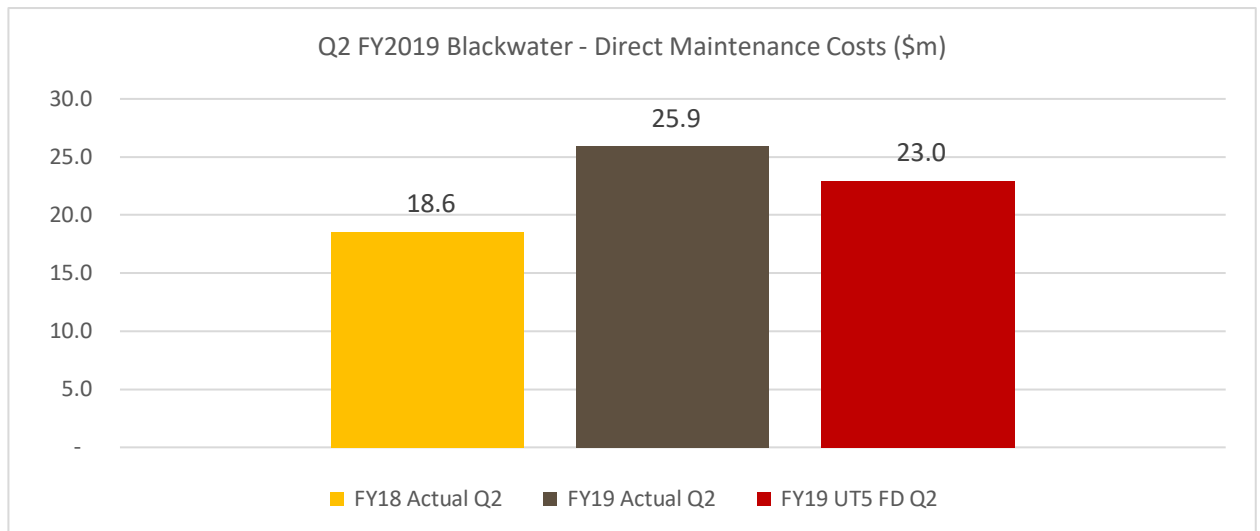


Figure 7 – Blackwater Direct Maintenance Cost

The main overspends during the Reporting Period were in Ballast Undercutting, Track maintenance, General maintenance, and Traction maintenance activities. With the continued focus on the reduction of temporary speed restrictions, higher spend was seen in Mechanised Ballast Undercutting and Track maintenance to address defects identified by the track recording vehicle and infrastructure maintenance inspections. The track maintenance activities related to minor (non-mechanised) ballast undercutting works and turnout maintenance. The increase in general maintenance activities was attributable to the standby costs of the on-call maintenance teams being captured separately at the activity level as compared to the allocation of Final Decision which was mainly in signalling, consequently reflecting savings in Preventative Signalling maintenance.

As outlined above extreme temperatures and bushfires adversely impacted rail grinding production (and costs incurred) as the heightened risk of fire made it unsafe to grind.

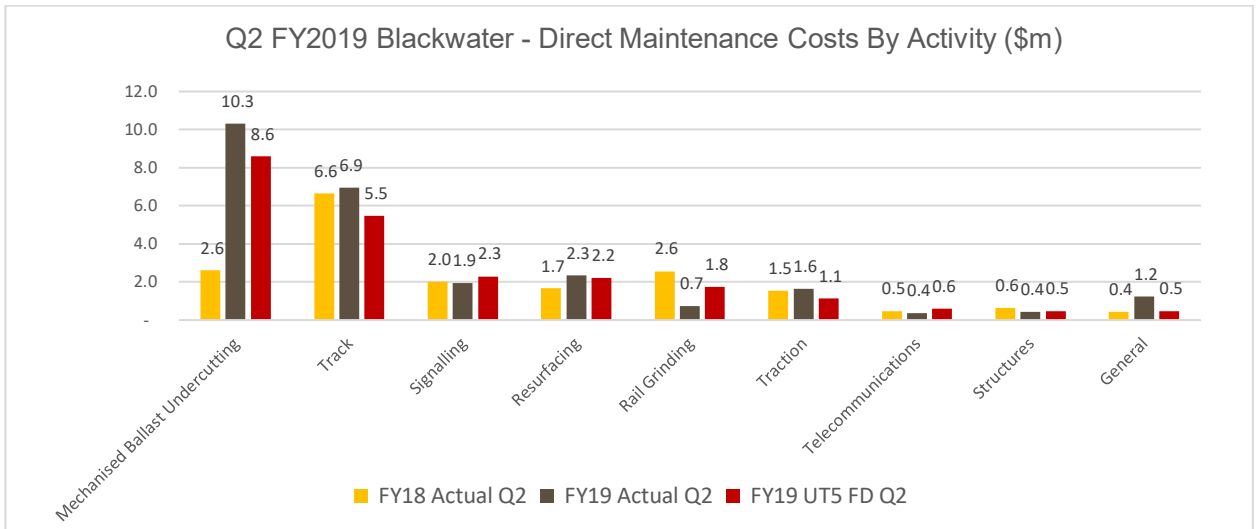


Figure 8 - Blackwater Direct Maintenance Cost by Activity

Goonyella

The direct maintenance costs incurred during the Reporting Period for the Goonyella system was \$15m, which was approximately \$3m, or 15% lower than the UT5 Final Decision apportionment. This represents a \$9m, or 37% decrease from the comparative period in FY18.

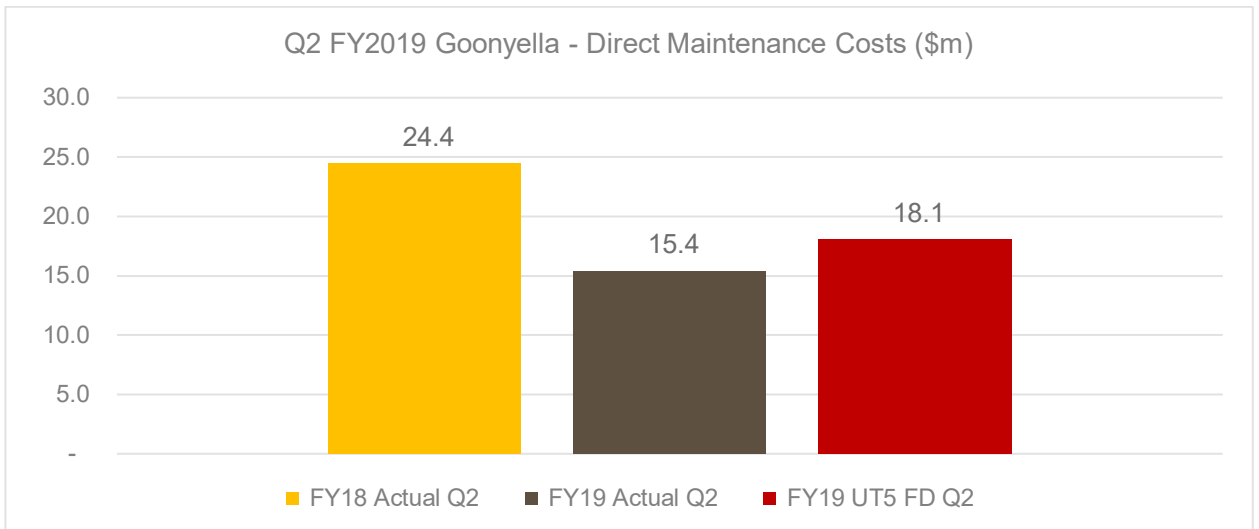


Figure 9 - Goonyella Direct Maintenance Cost

Goonyella's maintenance cost by activity is shown in **Figure 10**. The underspends against the UT5 Final Decision are attributable to ballast undercutting, resurfacing, signalling and traction maintenance activities. This was slightly offset by a higher spend on Track maintenance.

The underspend on ballast undercutting was due to the timing of assumptions for the delivery of scope against the apportionment of the UT5 Final Decision.

The underspend on resurfacing during the reporting period was attributable to extreme weather restrictions² and fleet redeployment to support emergency works. These factors impacted production on Network Maintenance Plan activities.

Other savings were achieved in Preventative Signalling Field Maintenance and Preventative Overhead maintenance.

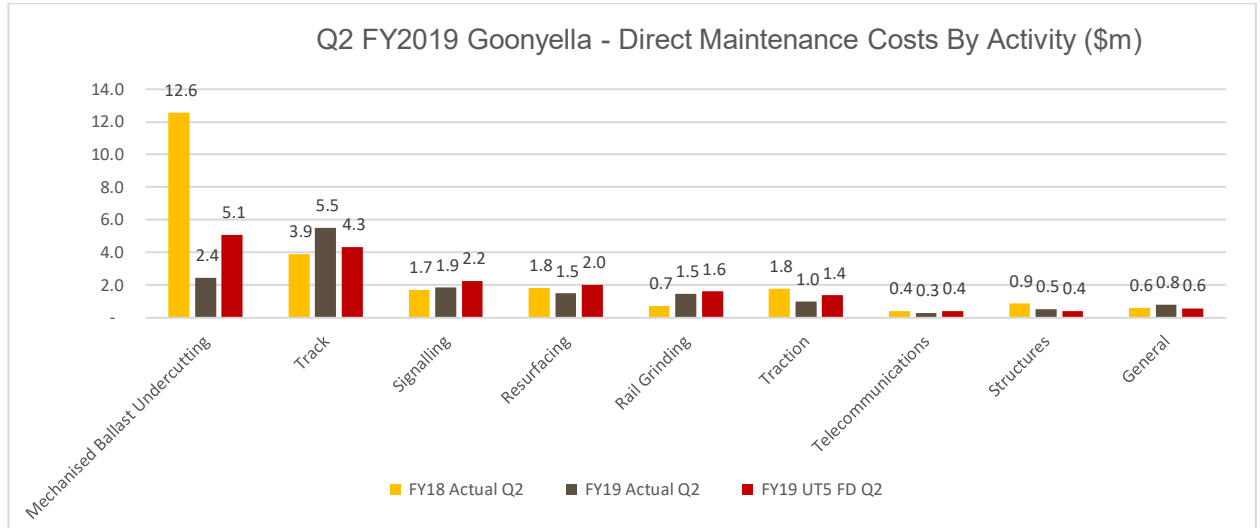


Figure 10 – Goonyella Direct Maintenance Cost by Activity

Moura

The direct maintenance costs incurred during the Reporting Period for the Moura system was \$3m, which was \$0.6m higher than the UT5 Final Decision and \$0.5m lower than the comparative period from the previous year.

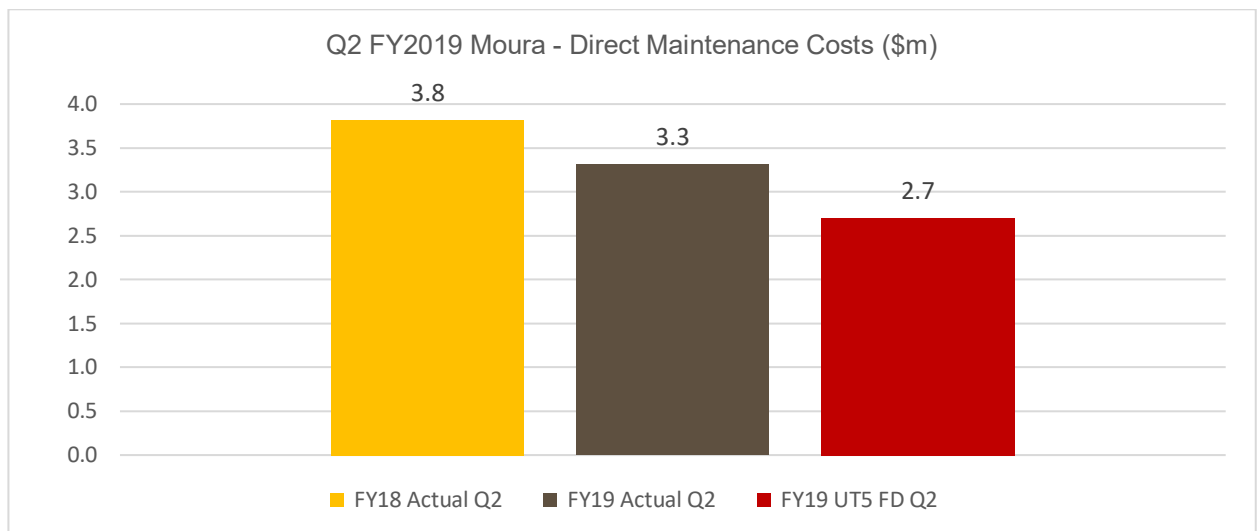


Figure 11 - Moura Direct Maintenance Cost

² Temperatures in excess of acceptable tolerances create a heightened risk of track buckles. In such conditions, resurfacing production must cease to avoid damaging the rail infrastructure.

The primary contributors to the overspend were ballast undercutting, signalling, and structures maintenance activities. These variances were due to the timing of activities compared to the apportionment of the UT5 Final Decision.

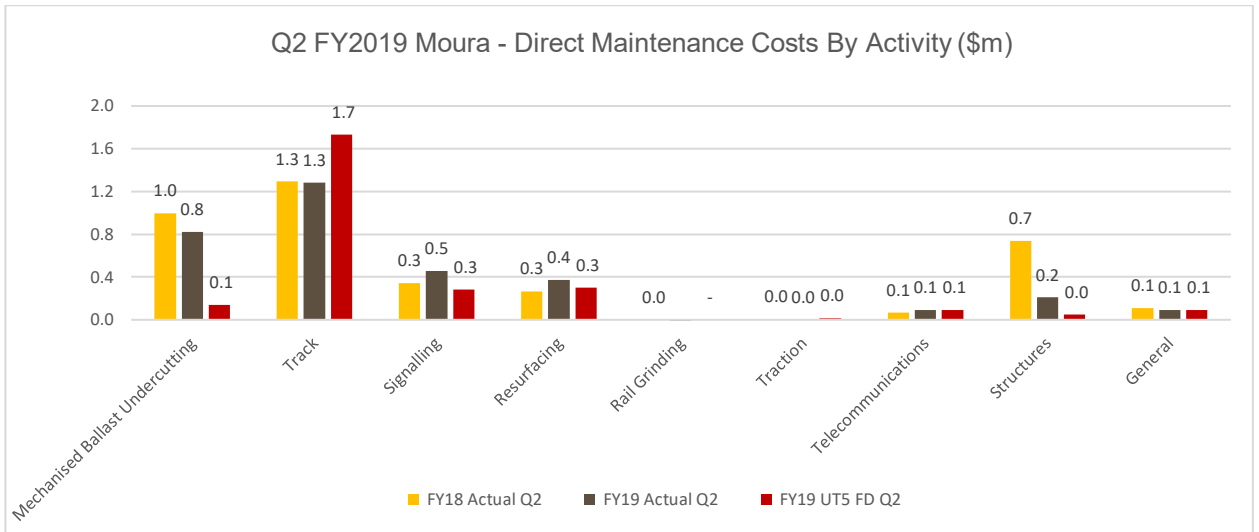


Figure 12 - Moura Direct Maintenance Cost by Activity

Newlands

The direct maintenance costs incurred during the Reporting Period for the Newlands system was \$4m, which was broadly in line with the UT5 Final Decision apportionment and \$1m higher than the comparative period from the previous year.

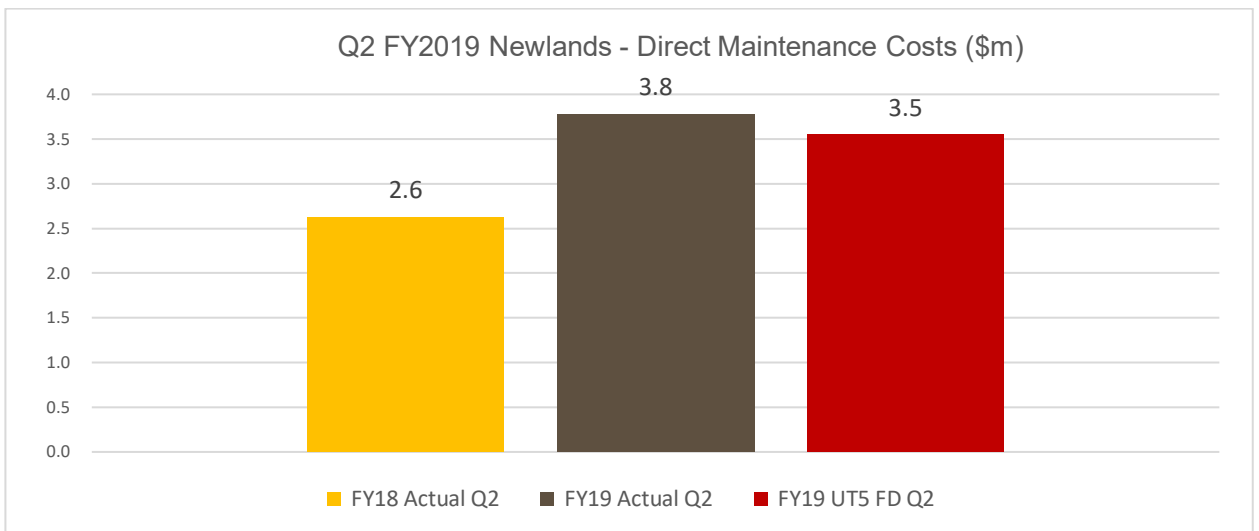


Figure 13 - Newlands Direct Maintenance Cost

Overspends in structures and general maintenance activities were slightly offset by an underspend against the allowance for track maintenance activities. These variances were due to the timing of activities compared to the apportionment of the UT5 Final Decision.

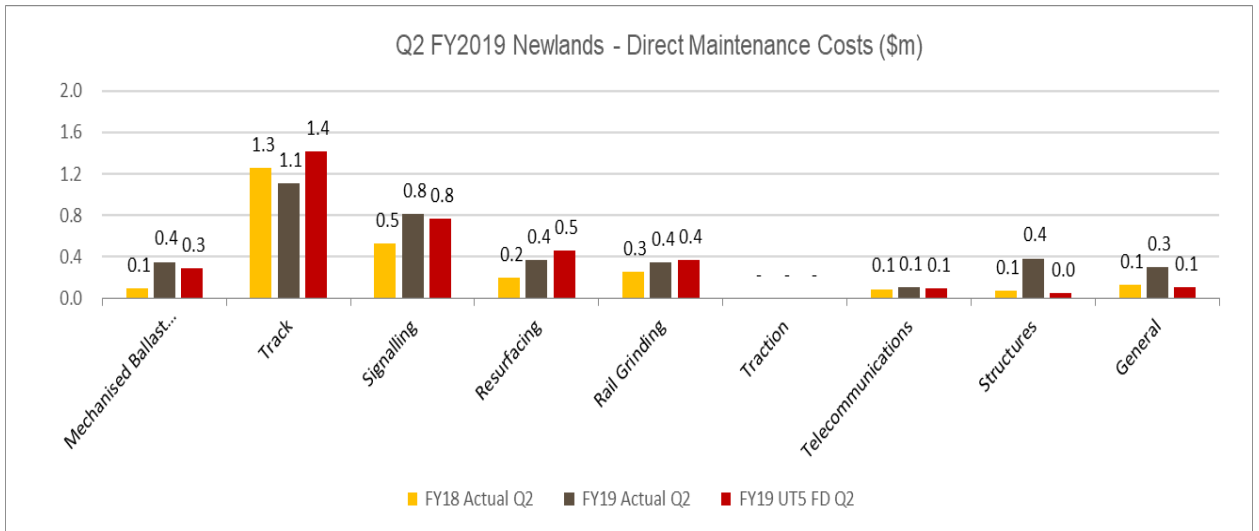


Figure 14 - Newlands Direct Maintenance Cost by Activity

4.2 Mechanised Maintenance

Mechanised maintenance works utilise mechanical machinery and comprise the following categories: Ballast Undercutting, Rail Grinding, and Resurfacing. Mechanised maintenance scope performance for the Reporting Period is outlined in more detail below. Please note that the UT5 Final Decision scope for each coal system is typically set in advance of the regulatory period. The distribution of executable scope between systems is based on a detailed assessment by Aurizon Network's engineers and planners, who prioritise scope based on asset condition and criticality.

Ballast Undercutting

Ballast Undercutting by system for the Reporting Period is shown below in **Figure 15** and **Figure 16**, in terms of both linear kilometres and number of turnouts, compared with the UT5 Final Decision. During Quarter 2 of FY2019, extreme weather conditions and unscheduled emergency works impacted production with 36% less Mainline Ballast Undercutting scope being delivered.

During the Reporting Period, the Mechanised Production team have delivered 16% of the FY2019 mainline undercutting scope with Moura exceeding the full year scope in the previous quarter. At this stage, the RM900 is not expected to deliver any further Mainline Ballast Undercutting work in the Moura system for the remainder of the financial year.

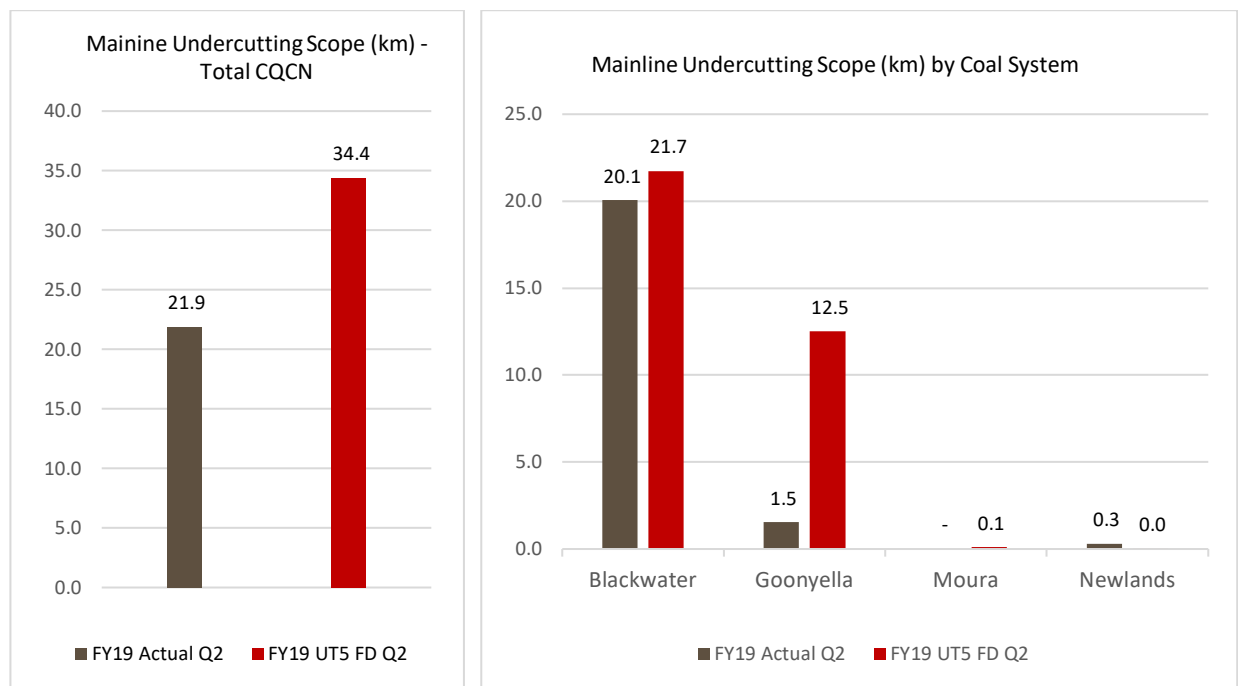


Figure 15 – Mainline Ballast Undercutting scope by System

The Turnout Ballast Undercutting compared with the UT5 Final Decision is shown in **Figure 16**

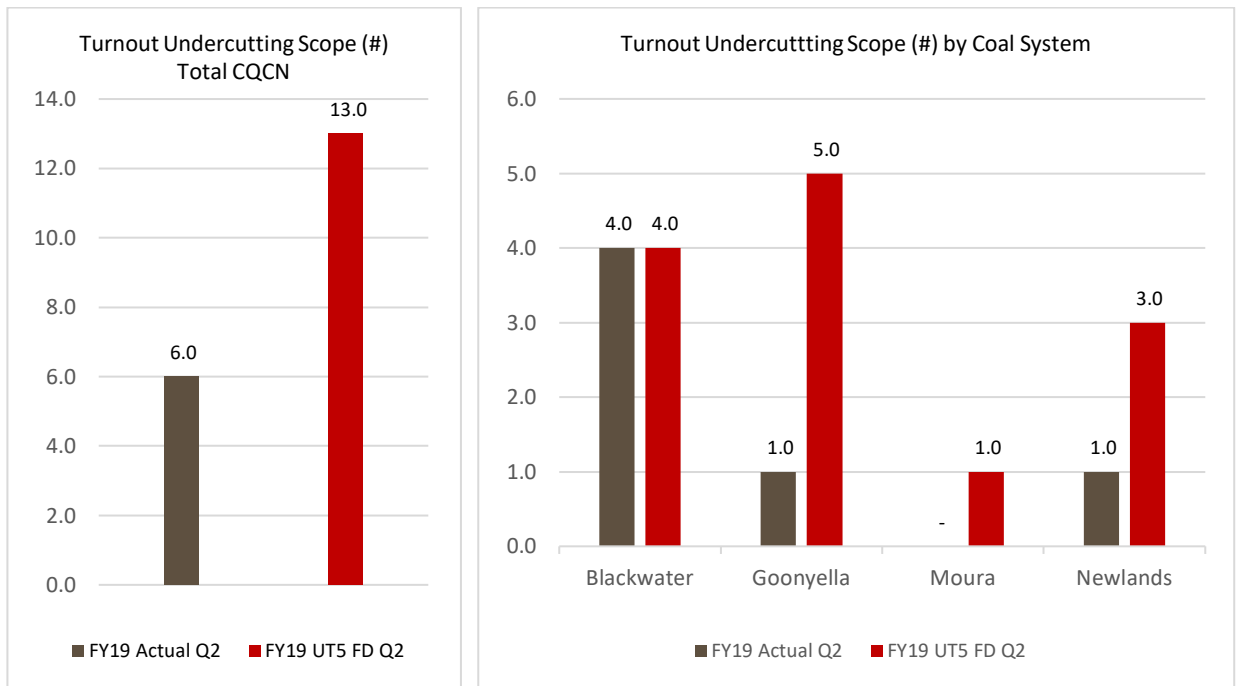


Figure 16 - Ballast Undercutting (Turnouts) by System

Figure 16 above presents Turnout Undercutting scope achieved in comparison to the apportioned UT5 Final Decision for the Reporting Period. The Mechanised Production team undercut a total of 6 turnouts during the Reporting Period, which was 7 lower than the apportioned UT5 Final Decision. 4 turnouts were undercut in Blackwater, 1 in Goonyella and 1 in Newlands.

Ballast Undercutting scope variations in the:

- > Goonyella, Moura and Newlands systems were due to the timing of scope delivery relative to the apportioned UT5 Final Decision; while
- > Blackwater system was driven by the requirements of the asset and scope prioritisation (as determined by track recording vehicle data and inspection).

Rail Grinding

Mainline Rail Grinding by system for the Reporting Period is shown in **Figure 17** below. During the Reporting Period, 681km of Mainline Grinding scope was delivered, which was 2% higher than the UT5 Final Decision.

At a system level, Goonyella achieved 99km more than was planned for the Reporting Period as compared to the UT5 Final Decision. This result was attributable to strong production earlier in the Reporting Period. The over delivery in Goonyella was slightly offset by the under delivery of mainline kms in Blackwater (and Goonyella later in the Reporting Period) due to extreme temperatures and total fire ban in these systems.

During the Reporting Period, 17% of the total Mainline Rail Grinding scope for FY2019 was delivered. Production during the Reporting Period (relative to the apportioned UT5 Final Decision) was however, impacted by extreme weather conditions and bush fires.

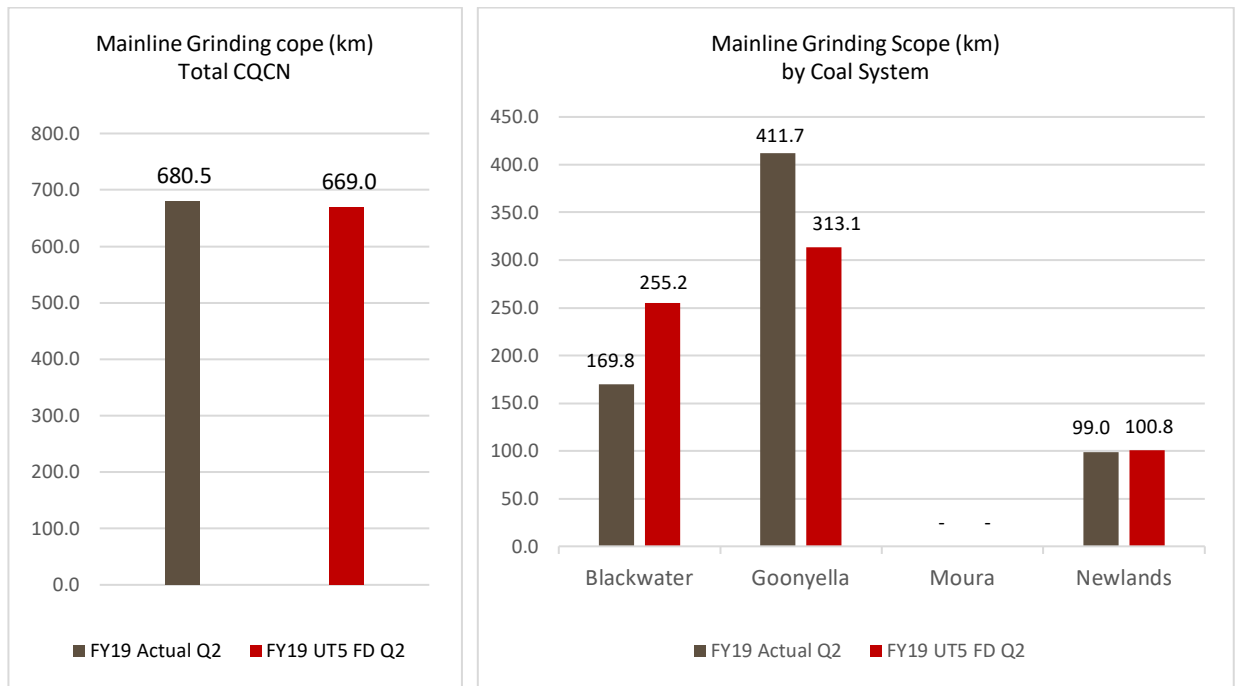


Figure 17 - Rail Grinding (Mainline) by System

Rail Grinding (Turnouts) by system for the Reporting Period is shown in **Figure 18** below.

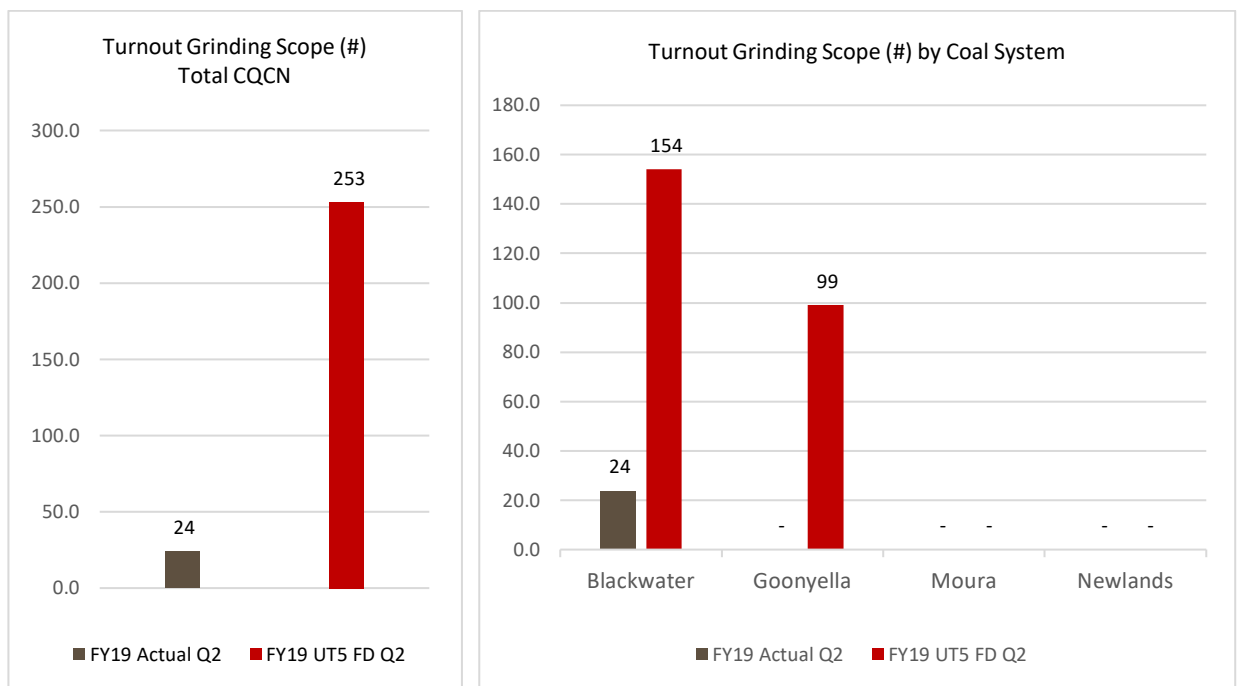


Figure 78 - Rail Grinding (Turnouts) by System

During the Reporting Period, rail grinding was completed on 24 turnouts; 229 less than the apportioned UT5 Final Decision. This variance was due to the scheduled maintenance shutdown of the turnout grinding machine in October as part annual maintenance program, extreme weather conditions and bush fires in November and December in the Blackwater and Goonyella systems.

During the Reporting Period, 3% of the total Turnout Grinding scope for FY2019 was completed with 63% being completed within the first half year, including completing the full annual turnout grinding scope for the Moura system.

Resurfacing

Resurfacing (Mainline) by system for the Reporting Period is shown below in **Figure 19**. During the reporting period, Aurizon Network delivered 374 kilometres of Mainline Resurfacing; which was 138km or 27% lower than the UT5 Final Decision equivalent. This result was primarily driven by lower production in the:

- > Goonyella, Moura and Newlands systems due to the planned shutdown of a Resurfacing machine, several unplanned emergency response works and excessive temperatures impacting the continuation of production; partially offset by
- > Blackwater system, where Aurizon Network were able to better coordinate resources and utilise possessions to complete Network Maintenance Plan work.

During the Reporting Period, Mechanised Production team delivered 18% of the total UT5 Final Decision Mainline scope for FY2019.

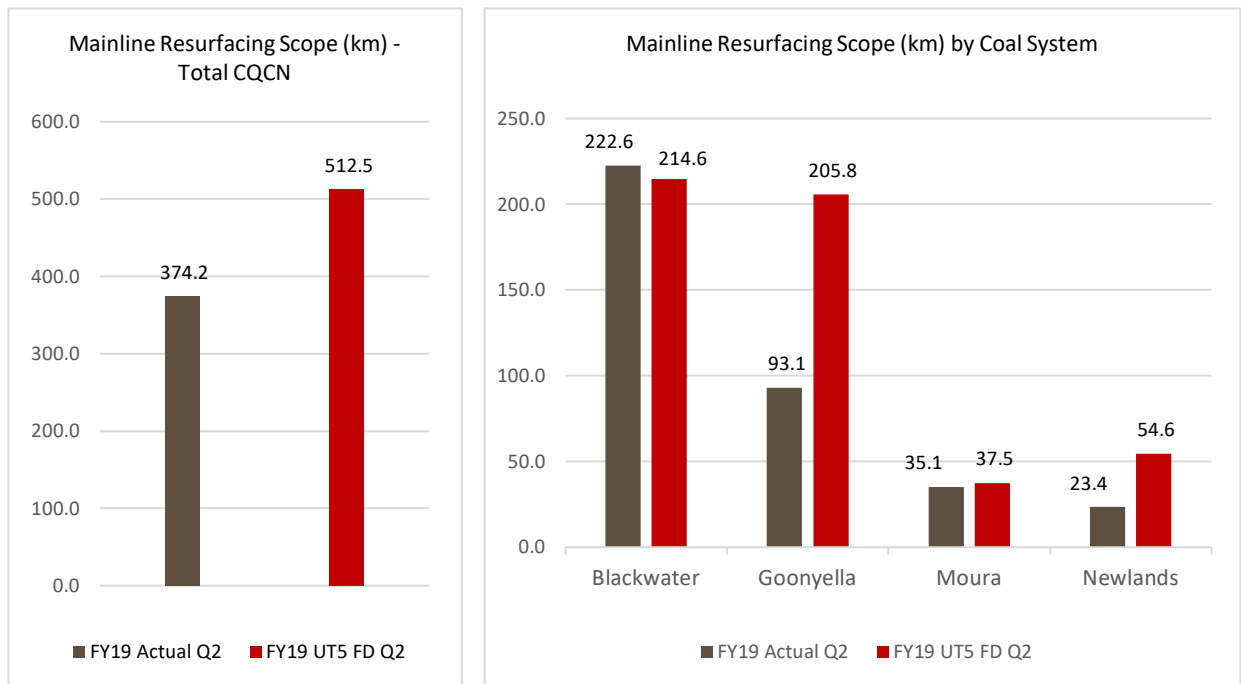


Figure 8 - Resurfacing (Mainline) by System

Resurfacing (Turnouts) by system for the Reporting Period is shown below in **Figure 20**.

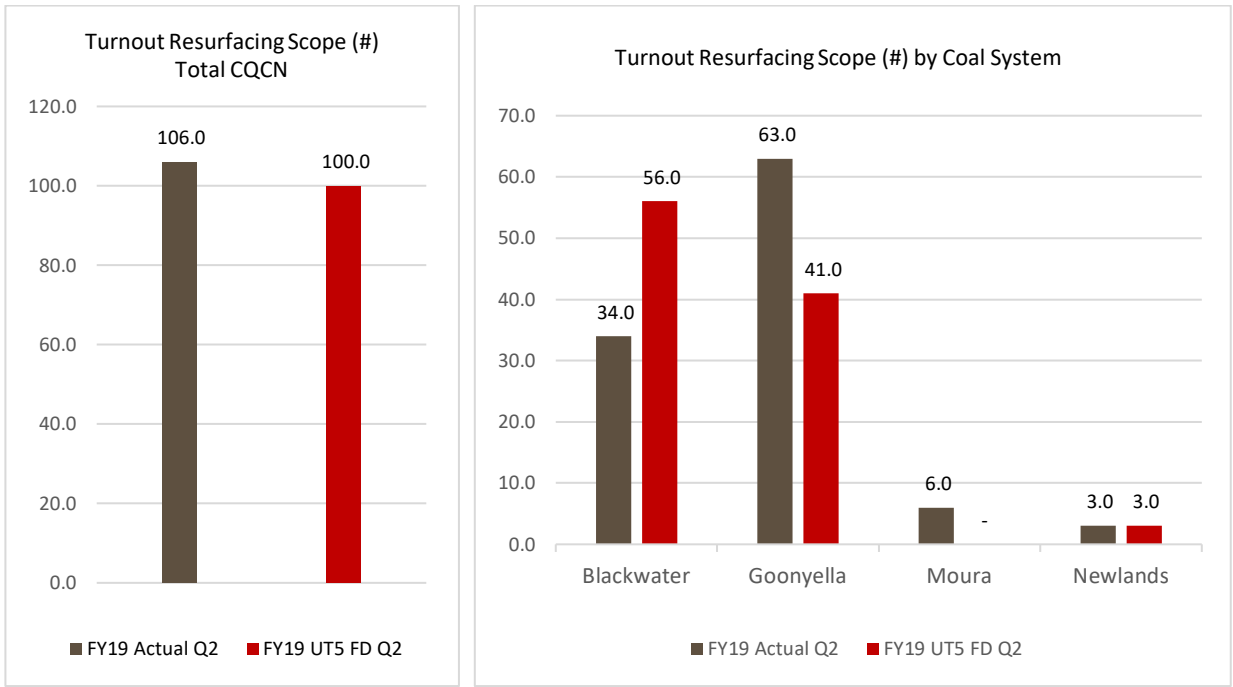


Figure 20 - Resurfacing (Turnouts) by System

During the Reporting Period, Aurizon Network completed resurfacing works of 106 turnouts; 6 turnouts more than the UT5 Final Decision equivalent. Improved planning enabled increased production and strong performance to be achieved in the Goonyella system to offset the lower production in Blackwater which was impacted by the fire events and emergency work. Additional scope was also completed in Moura to rectify defects identified by the track recording vehicle and infrastructure maintenance inspections.