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Executive Summary

An effective, prudent and efficient asset maintenance regime is essential for:

> promoting the economically efficient operation of the Central Queensland Coal Network (CQCN); and
> improving its resilience to the climatic extremes prevalent in Central Queensland.

The Queensland Competition Authority’s (QCA’s) Final Decision on Aurizon Network’s 2016 Access Undertaking (UT4) accepted forecast maintenance costs and scope for the purpose of determining FY2017 Reference Tariffs. This report compares that forecast to Aurizon Network’s actual maintenance performance in FY2017, in terms of costs incurred and scope delivered.

Aurizon Network is focussed on delivering a prudent and effective maintenance programme that ensures the CQCN is fit for purpose. Its tactical maintenance programme is refined annually through data analysis and a comprehensive inspection regime to provide optimal capacity and operating capability to all CQCN customers.

While not all maintenance activities can be readily measured via a quantifiable scope, the effectiveness of Aurizon Network’s CQCN maintenance programme is demonstrated through:

> Overall Track Condition Index (OTCI) for each system (presented in Appendix A); and
> a reduction in cancellations attributable to below-rail events.

Furthermore, the independent FY2016 Condition Based Assessment, concluded that:

“…there is no evidence to support that the CQCN has deteriorated in excess of what could be reasonably expected for an operational asset over time. Aurizon Network has adopted good operating practice and prudent and effective maintenance and asset replacement policies and practices.”

Aurizon Network’s maintenance performance against the forecast scope for mechanised production (e.g. Ballast Undercutting, Resurfacing and Rail Grinding) can be quantified. The mechanised production scope delivered in FY2017 and for the UT4 regulatory period in aggregate has been compared to the forecasts approved in the UT4 Final Decision.

The results, which are summarised in Table 1 below, show that Aurizon Network has successfully delivered a mechanised maintenance programme, which has broadly exceeded the forecast UT4 maintenance scope.

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1 Advisian, Central Queensland Coal Network (CQCN) Condition Based Assessment FY 2016, 5 May 2017, pg. ii.
### Table 1: FY2017 Maintenance Scope - Mechanised Production

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Forecast</td>
<td>Actual</td>
</tr>
<tr>
<td>Ballast Undercutting</td>
<td></td>
<td></td>
</tr>
<tr>
<td>– Mainline (km)</td>
<td>140</td>
<td>135</td>
</tr>
<tr>
<td>– Turnouts (no.)</td>
<td>41</td>
<td>20</td>
</tr>
<tr>
<td>Resurfacing</td>
<td></td>
<td></td>
</tr>
<tr>
<td>– Mainline (km)</td>
<td>2,376</td>
<td>2,404</td>
</tr>
<tr>
<td>– Turnouts (no.)</td>
<td>419</td>
<td>448</td>
</tr>
<tr>
<td>Rail Grinding</td>
<td></td>
<td></td>
</tr>
<tr>
<td>– Mainline (km)</td>
<td>3,874</td>
<td>3,657</td>
</tr>
<tr>
<td>– Turnouts (no.)</td>
<td>727</td>
<td>738</td>
</tr>
</tbody>
</table>

Aurizon Network’s direct maintenance cost performance for FY2017 was approximately 3% lower than the adjusted forecast accepted by the QCA for the purpose of setting Reference Tariffs. Across the full 4-year UT4 regulatory period, actual maintenance cost performance resulted in an aggregate overspend of 4%.

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3 Aurizon Network had delivered the full UT4 turnout undercutting scope by mid-FY2017. Aurizon Network engages contractors to perform turnout undercutting activities in order to maintain a degree of resource flexibility. Where required, contractors were redeployed to assist with excavator undercutter activities.

3 Aurizon Network’s cost performance is outlined in further detail in section 3 of this report.
1. Overview of Report

Background
Aurizon Network is a capital intensive business with a ~$6 billion Regulated Asset Base (RAB) in rail and supporting infrastructure comprising the CQCN. The RAB includes 2,670 kilometres (kms) of track, of which 1,945 km is electrified, servicing over 40 mines.

An effective, prudent and efficient asset maintenance regime is essential for:

> promoting the economically efficient operation of the CQCN; and
> improving its resilience to the climatic extremes prevalent in Central Queensland.

Aurizon Network’s asset maintenance regime strives to create value for all supply chain participants now and into the future, by emphasizing long-term, sustainable asset management practices. These practices are delivered in accordance with standards and processes that are appropriate for a narrow gauge, heavy haul railway. Furthermore, these practices and are continually refined in order to provide the optimal levels of asset availability whilst delivering efficient whole of life costs for the CQCN.

The CQCN maintenance regime is a critical aspect of the overall efficiency of the supply chain competitiveness of Australian coal. The regime is focused on a range of outcomes, including:

> ZEROHarm;
> network reliability, allowing customers to contract access with confidence in the network;
> Continuous innovation to minimise the impact of maintenance activities on network availability;
> delivering prudent maintenance scope underpinning optimal levels of asset availability and efficient maintenance delivery; and
> meeting all legislative and regulatory requirements associated with CQCN maintenance activities.

Regulatory requirements and assumptions
This report is provided to the QCA in accordance with clause 10.3.3 of UT4. It provides transparency around Aurizon Network’s maintenance performance by comparing FY2017 scope delivered and costs incurred to the forecasts approved by the QCA in their UT4 Final Decision.

This information is provided for the four (4) coal systems in the CQCN; Blackwater, Goonyella, Moura and Newlands. It should be noted that while UT4 contains individual Reference Tariffs and System 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 the majority of existing Newlands system infrastructure. As a result, Newlands and GAPE are treated as a single system for the purpose of this report.

While the UT4 Final Decision set an approved a maintenance allowance for FY2017 in aggregate, the QCA did not explicitly publish an allowance or scope for each maintenance activity or by coal system; for example, there is no published resurfacing allowance for the Blackwater coal system. For the purpose of this report, where a benchmark is required at an activity level by coal system and this was not explicitly published as part of the UT4 Final Decision, Aurizon Network has allocated the allowance and/or scope in proportion with its FY2017 financial budgeting assumptions.
Structure of Report

For the remainder of this report:

> **section 2** outlines Aurizon Network’s FY2017 safety performance, and reports the number of derailments in which the cost of recovery was in excess of AU$100,000;

> **section 3** details FY2017 maintenance expenditure and scope delivered; and

> **section 4** outlines the impact of the Maintenance Cost Index on the forecast maintenance costs accepted by the QCA for FY2017.

The report also contains:

> **Appendix A**, which provides the FY2017 Below Rail Transit Times and the Overall Track Condition Index (OTCI) for each Coal System and for the CQCN in aggregate.

Aurizon Network confirms that this report contains no confidential information and may be considered a public document.
2. 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:

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

Aurizon’s primary injury reporting metric is the Total Recordable Injury Frequency Rate (TRIFR), which measures the number of incidents per million person-hours worked. Figure 1 illustrates the TRIFR for Aurizon staff since June 2011. Since that time, there has been a noticeable improvement in safety performance. As at June 2017, Aurizon’s TRIFR was 2.69 per million hours worked, a 37% improvement on FY2016.

![Total Recordable Injury Frequency Rate (TRIFR)](image)

**Figure 1: Aurizon Network Lost Time Injury Frequency Rate (LTIFR)**

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 maintains the reliability of the network through a more effective and productive asset maintenance regime.

In order to continue the journey to becoming world leading in safety, we reviewed our injury definitions and implemented a new set of definitions effective 1 July 2017. The key changes are the inclusion of contractors in all injury metrics and widening the scope of total recordable injuries to include all restricted work injuries.
FY2017 Derailments

This section details the FY2017 derailments where the cost of recovery was in excess of AU$100,000. These are outlined in Table 2 below.

<table>
<thead>
<tr>
<th>Derailment Incident</th>
<th>Date</th>
<th>Location</th>
<th>Cost</th>
</tr>
</thead>
<tbody>
<tr>
<td>IR16-08281</td>
<td>11/09/2016</td>
<td>Havilah-Cockool Derailment</td>
<td>$7,789,111</td>
</tr>
<tr>
<td>IR17-0059</td>
<td>17/01/2017</td>
<td>Gentle Annie Xing Derailment</td>
<td>$945,456</td>
</tr>
<tr>
<td></td>
<td>9/03/2017</td>
<td>Running Derailment Tunnel 73km</td>
<td>$452,848</td>
</tr>
<tr>
<td>IR16-11498</td>
<td>18/12/2016</td>
<td>Dakenba Derailment</td>
<td>$131,134</td>
</tr>
</tbody>
</table>

Table 2: FY2017 Derailment Incidents and costs exceeding $100,000

The derailment incidents had minimal impact on Aurizon Network’s maintenance works in FY2017.

Other Major Reportable Safety Incidents

In accordance with the requirements of UT4, clause 10.3.3(c)(v)(C), Aurizon Network must also report the number of major reportable safety incidents reported to the Safety Regulator.

Figure 2: Number of major reportable safety incidents reported to the Safety Regulator in FY2017

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4 As required by clause 10.3.3 (vi) of the 2016 Access Undertaking.
3. Maintenance Expenditure and Scope

This section outlines Aurizon Network’s actual maintenance performance (in terms of costs incurred and scope delivered) in comparison to the forecasts accepted by the QCA for the purpose of determining FY2017 Reference Tariffs.

It also includes an explanation on significant variations between planned and actual maintenance on both scope and costs.

FY2017 Maintenance Costs for the CQCN

QCA’s FY2017 maintenance cost forecast
In its UT4 Final Decision, the QCA accepted a total maintenance cost forecast of $207 million for FY2017. The composition of this amount includes:

> $202.8 million for direct maintenance costs; and
> $4.2 million for indirect costs, which provides a return on inventory holdings and maintenance assets that are not part of Aurizon Network’s RAB, e.g. ballast undercutting machine, trucks, excavators, welding trucks, etc

To provide an accurate comparison to costs incurred, the QCA’s forecast allowance is adjusted to reflect:

> the removal of indirect costs (including return on assets and inventory) which do not form part of Aurizon Network’s maintenance spend;
> inflationary impact on input costs. This is forecast through the Maintenance Cost Index (MCI) and is reconciled through the annual Revenue Cap adjustment (please refer to section 4); and
> the reduction in AT1 revenue through the volume variation relative to forecast.

Volume adjustment for actual railings
In FY2017, Aurizon Network hauled 211 million tonnes of coal relative to the approved forecast of 222.0 million tonnes (see Figure). This shortfall of 11.2 million tonnes (approximately 5%) was primarily due to the impact of Tropical Cyclone Debbie.

As a result of lower railings relative to forecast, Aurizon Network under-recovered its AT1 access revenue. This volume adjustment would see a $6.8m reduction in the forecast maintenance allowance.
As a result of the above, Aurizon Network’s adjusted maintenance cost allowance for FY2017 is:

<table>
<thead>
<tr>
<th>Description</th>
<th>Amount (Sm)</th>
</tr>
</thead>
<tbody>
<tr>
<td>QCA maintenance forecast – FY2017</td>
<td>207.0</td>
</tr>
<tr>
<td>Adjustments</td>
<td></td>
</tr>
<tr>
<td>- Indirect Costs</td>
<td>(4.2)</td>
</tr>
<tr>
<td>- MCI impact</td>
<td>(3.7)</td>
</tr>
<tr>
<td>- AT1 impact</td>
<td>(6.8)</td>
</tr>
<tr>
<td>Adjusted FY2017 maintenance allowance</td>
<td>192.3</td>
</tr>
</tbody>
</table>

Table 3: Adjusted FY2017 maintenance cost allowance
Actual FY2017 maintenance costs

Aurizon Network’s direct maintenance expenditure for FY2017 was $187.0 million, representing an underspend of $5.3 million against Aurizon Network’s adjusted maintenance allowance of $192.3 million. This compares with an aggregate overspend across the UT4 period of $31 million, details of which are set out in a separate section below.

The primary reasons for this variation in FY2017 includes:

> Under-spend of $13 million on Ballast Undercutting through a combination of:
  – improved track access in the first half of FY2017 facilitating greater productive output and reducing unit rates
  – greater ballast screenability in track locations undercut during FY2017. This resulted in cost savings because a higher proportion of existing ballast could be cleaned and returned to track;
  – changes to the resourcing model for operating and maintaining the ballast undercutting machine;
  – 5km volumetric scope mainline under-delivery as a consequence of lost track access during Tropical Cyclone Debbie; and
  – completion of some FY2017 turnout undercutting scope in previous years.

> $3 million saving in signalling maintenance costs as a result of changes to our Enterprise Agreements;

> Resurfacing costs were $3 million lower due to the change in the operating / maintaining model for the resurfacing plant;

> Overspend of $3 million in the ‘structures’ category attributable to additional drainage and culvert maintenance as part of our flood readiness programme; and

> An insufficient\(^5\) UT4 maintenance allowance for rail grinding, resulting in a $5 million “over-spend”.

It should be noted that following Tropical Cyclone Debbie, Aurizon Network maintenance staff assisted with the initial inspection, damage control, and initial rectification works. For clarity, such labour costs have historically been not deemed to be incremental by the QCA, and were not included within the Review Event Claim associated with Tropical Cyclone Debbie; nor are they contained in the $187m of actual direct maintenance costs presented in this report.

FY2017 maintenance costs by activity

The contribution of each maintenance activity to total direct maintenance costs in FY2017 is outlined below in Figure 5.

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\(^{5}\) In the UT4 Final Decision, the QCA assumed costs were directly variable with forecast CQCN volumes, and adjusted the rail grinding allowance accordingly. In Aurizon Network’s view, this approach was incorrect and resulted in an insufficient maintenance allowance.
Figure 5: FY2017 Maintenance Cost by Activity

Note: The ‘General’ category in Figure 5 relates to support activities for maintenance including asset & inventory management, planning and administration. The UT4 Final Decision did not explicitly identify an allowance for this category. Instead, the allowance for this category was incorporated into the forecast costs allowed for other direct maintenance activities. Aurizon Network has sought to provide greater transparency of these costs, by separately reporting its actual spend on these activities.

FY2017 Maintenance costs by Coal System

As part of the development of a new Access Undertaking, Aurizon Network submits a maintenance cost and scope proposal, developed on the basis of a strategic, four year scope by system.

During the regulatory period a more refined, tactical scope is determined on the basis of more updated and detailed information from work outs and inspection vehicle runs. The tactical scope is ultimately executed by Aurizon Network’s asset maintenance teams, and it is reasonable to expect a small variance from the system level strategic scope proposed at the beginning of the regulatory period.

Figure 6 shows the FY2017 maintenance cost by system. Both Blackwater and Goonyella systems saw underspends compared to the allowance. As outlined at the beginning of this section, this is due to:

- ballast undercutting works being lower in scope and cost, along with savings in signalling and resurfacing maintenance activities versus the allowance; and
- offset by an overspend in rail grinding where the QCA approved allowance was insufficient to cover the costs of performing this activity.
Overall UT4 Maintenance Cost performance

Across the 4-year regulatory period⁶, Aurizon Network over-spent its adjusted, aggregate maintenance allowance by $31 million; or approximately 4%. On average, this equates to an over-spend of $7.8 million per annum. This result was driven by the following:

> Rail Grinding: over-spend of $12.1 million. This was due to a cost adjustment in the UT4 Final Decision, which (in Aurizon Network’s view) incorrectly assumed costs were directly variable with forecast CQCN volumes. This cost challenge could not be met due to the highly fixed nature of their cost base (plant and labour costs);

> Rail Renewals: $9.8 million overspend in FY2014 and FY2015, reflecting Aurizon Network’s deliberate focus to improve the condition of its ageing rail infrastructure. The rail renewal program was capitalised and removed from the maintenance allowance for FY2016 & FY2017;

> Structures: over-spend of $3.8 million. As part of Aurizon Network’s focus on network resilience, Aurizon Network spent additional funds in on drainage maintenance as part of its flood readiness plan; and

> the adjustment to the allowance resulting from the shortfall in AT₁ revenue. This adjustment was primarily due to the reduction in volume throughput as a result of Tropical Cyclone Debbie.

Aurizon Network’s direct maintenance expenditure, relative to the forecast approved in the UT4 Final Decision (adjusted for MCI and AT₁ variations), is summarised in Figure 7 below.

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⁶ The UT4 regulatory period covers the period from FY2014 to FY2017 inclusive.
Mechanised Maintenance Scope

Mechanised maintenance works form the majority of required maintenance works in FY2017. These works utilise mechanical machinery and comprise the following categories:

> Ballast undercutting
> Rail grinding
> Track resurfacing.

Ballast Undercutting by System

Aurizon Network completed 133 linear kilometres of ballast undercutting works in FY2017 (see Figure 8).
While completed actual kilometres is slightly less than the approved scope of 140 kilometres (which was estimated assuming a consistent ballast depth of 300 millimetres), the comparison does not recognise the fact that ballast undercutting works required will depend on the actual depth of ballast throughout the CQCN. In particular, the performance of ballast undercutting works relies on the amount of existing ballast that can be reused (i.e. ballast return rate) and the depth of the ballast in situ. Existing ballast that is fouled by a combination of mud, coal, ballast fines, and/or has lost its angularity needs to be replaced with clean ballast.

In this regard, an alternative is to determine the amount of ballast undercutting works completed using a volumetric measure in cubic metres (or m³). It is important that this is observed alongside completed actual kilometres for a proper comparison of forecast versus actual scope of ballast undercutting works in any particular year.

In volumetric terms, Aurizon Network completed 135 linear equivalent kilometres of ballast undercutting works. This is only 4% behind the QCA approved scope for FY2017, and reflects a reduction in track access following Tropical Cyclone Debbie. It should be noted, however, that over the UT4 regulatory period in aggregate, Aurizon Network exceeded the forecast maintenance scope for mainline ballast undercutting.

In FY2017, Aurizon Network delivered just less than 50% of the QCA approved scope for turnout undercutting in FY2017 (see Figure). It should be noted, however, that Aurizon Network achieved higher turnout undercutting production in previous years of the UT4 regulatory period. For clarity, over the total UT4 period in aggregate, Aurizon Network has delivered the full Turnout Ballast Undercutting scope.

![Figure 9: FY2017 Ballast Undercutting (Turnouts) by System](image)

**Rail Grinding by System**

Aurizon Network completed 94% of the planned scope of works for mainline rail grinding. Rail grinding is a volume driven activity. The reduction in volume as a consequence of the flood ultimately reduced the quantum of grinding required.
Aurizon Network completed the required turnout grinding scope in aggregate across the CQCN, however there were some variances at a system level (see Figure 1).

Aurizon Network resurfacing teams delivered the FY2017 scope of works for mainline resurfacing in FY2017 (see Figure 12). The tactical resurfacing scope is informed by track geometry data that is generated from Aurizon Network’s track recording car runs. This data identified that the actual maintenance requirements varied from the original UT4 scope forecast for FY2017 at a system level. These variances are also outlined below.

Aurizon Network delivered above the planned scope of works for turnout resurfacing (see Figure 13).
Aurizon Network’s maintenance performance throughout the UT4 regulatory period has seen scope broadly delivered across the majority of mechanised production activities. Aurizon Network’s mechanised maintenance scope, relative to the forecast approved in the UT4 Final Decision, is summarised in Table 4 below.

<table>
<thead>
<tr>
<th>Mechanised maintenance scope performance (CQCN)</th>
<th>Total UT4 Period (FY2014 – FY2017)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Forecast</td>
</tr>
<tr>
<td>Ballast Undercutting</td>
<td></td>
</tr>
<tr>
<td>– Mainline (km)</td>
<td>520</td>
</tr>
<tr>
<td>– Turnouts (no.)</td>
<td>162</td>
</tr>
<tr>
<td>Resurfacing</td>
<td></td>
</tr>
<tr>
<td>– Mainline (km)</td>
<td>8,577</td>
</tr>
<tr>
<td>– Turnouts (no.)</td>
<td>1,520</td>
</tr>
<tr>
<td>Rail Grinding</td>
<td></td>
</tr>
<tr>
<td>– Mainline (km)</td>
<td>13,827</td>
</tr>
<tr>
<td>– Turnouts (no.)</td>
<td>2,678</td>
</tr>
</tbody>
</table>

Table 4: FY2017 Maintenance Scope - Mechanised Production

Figure 13: FY2017 Resurfacing (Turnouts) by System
4. Maintenance Cost Index

Table 5 shows both the forecast and actual values for each sub-index used to construct the MCI. Other than accommodation, the actual for the sub-indices fell below the forecast index values, which is reflective of the subdued economic conditions in Australia.

<table>
<thead>
<tr>
<th>Index</th>
<th>FY2016 Forecast</th>
<th>FY2016 Actual</th>
<th>FY2017 Forecast</th>
<th>FY2017 Actual</th>
</tr>
</thead>
<tbody>
<tr>
<td>Accommodation</td>
<td>98.4</td>
<td>99.7</td>
<td>100.8</td>
<td>109.7</td>
</tr>
<tr>
<td>CPI</td>
<td>109.5</td>
<td>108.5</td>
<td>112.3</td>
<td>110.4</td>
</tr>
<tr>
<td>Consumables</td>
<td>106.1</td>
<td>104.5</td>
<td>108.8</td>
<td>107.1</td>
</tr>
<tr>
<td>Fuel Price</td>
<td>94.2</td>
<td>76.9</td>
<td>96.6</td>
<td>79.7</td>
</tr>
<tr>
<td>Labour</td>
<td>111.5</td>
<td>110.8</td>
<td>114.5</td>
<td>112.4</td>
</tr>
<tr>
<td>Weighted Index</td>
<td>109</td>
<td>107.4</td>
<td>111.6</td>
<td>109.6</td>
</tr>
</tbody>
</table>

Table 5: Proposed Forecast & Actual MCI and Sub-Indices

The reduction in MCI will flow through to Aurizon Network’s maintenance cost allowance, which will consequentially be reduced by approximately $3.7 million. The revenue difference between the FY2017 maintenance cost forecast accepted in the QCA’s UT4 Final Decision and the “MCI-adjusted” allowance, will be reconciled through the FY2017 Revenue Cap adjustment which is currently under review by the QCA.
Appendix A: OTCI and BRTT

This appendix provides information relating to the overall condition of track as well as the below-rail transit time in each rail system in the CQCR over FY2017.

Overall Track Condition Index

The overall track condition in each system is represented by the Overall Track Condition Index (OTCI). The lower the index, the better is the condition of track.

The OTCI for all rail systems fell within the acceptable tolerances and remained consistent during FY2017.

Below-rail Transit Time

Below-rail transit time (BRTT) is an indicator that measures the performance of trains travelling in a rail system.

The BRTT for all rail systems fell within each system’s requirement and remained consistent during FY2017, which is indicative of a well performing network.

The BRTT includes the following:

- sectional running times
- delays from scheduled train path in the daily train plan and 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
- delays due to operational constraints:
  - directly caused by the activities of Aurizon Network in maintaining the central Queensland coal network; 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.
1. Blackwater System

Figure 14: 2016/17 Blackwater System Overall Track Condition Index (OTCI)

Figure 15: 2016/17 Blackwater System Below-Rail Transit Time (BRTT)
2. Moura System

Figure 16: 2016/17 Moura System Overall Track Condition Index (OTCI)

Figure 17: 2016/17 Moura System Below-Rail Transit Time (BRTT)
3. Goonyella System

Figure 18: 2016/17 Goonyella System Overall Track Condition Index (OTCI)

Figure 19: 2016/17 Goonyella System Below-Rail Transit Time (BRTT)
4. Newlands System (including GAPE)

Figure 20: 2016/17 Newlands System Overall Track Condition Index (OTCI)

Figure 21: 2016/17 Newlands System Below-Rail Transit Time (BRTT)

Figure 22: 2016/17 Goonyella to Abbot Point System Below-Rail Transit Time (BRTT)