



Aurizon Network FY2024 Capital Expenditure Claim

Prepared by Aurizon Network
September 2024



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1. Executive Summary

Aurizon Network Pty Ltd (**Aurizon Network**) welcomes the opportunity to submit to the Queensland Competition Authority (**QCA**) its capital expenditure claim (**Capex Claim**) for the Financial Year ending 30 June 2024 (**FY24**). This submission provides evidence to support the QCA's prudence and efficiency assessment of the FY24 Capex Claim and the subsequent inclusion of Aurizon Network's capital expenditure into the Regulatory Asset Base (**RAB**).

Aurizon Network notes that the FY24 Capex Claim follows the collaborative provisions of the QCA approved 2017 Access Undertaking (**UT5**). Aurizon Network's FY24 Renewals Strategy and Budget (**Approved RSB**) was approved by the Rail Industry Group (**RIG**) on 14 February 2023 for the Blackwater, Goonyella and Moura Coal Systems in the Central Queensland Coal Network (**CQCN**).

The FY24 RSB for the Newlands Coal System and Goonyella to Abbot Point Expansion (**GAPE**) was not approved by the RIG, due to concerns regarding the cost allocation methodology. End Users indicated a willingness to support the FY24 RSB, however, if this issue was resolved. Aurizon Network implemented its final draft RSB, i.e. the Interim Renewals Strategy and Budget (**Interim RSB**) in accordance with clause 7A.11.3(m)(iii) of UT5. The Capital Indicator associated with the Interim RSB for Newlands and GAPE was approved by the QCA on 26 May 2023 in its decision on the Reset Schedule F Preliminary Values. Aurizon Network also addressed the cost allocation concern that Newlands and GAPE users considered in their vote on the FY24 RSB, through a voluntarily submitted Draft Amending Access Undertaking (**DAAU**) that was subsequently approved by the QCA on 22 February 2024.

Throughout FY24, Aurizon Network has sought wherever reasonably possible to deliver asset replacement and renewals activity in each Coal System in a manner that is consistent with either the Approved RSB, or, where relevant, the Interim RSB.

This submission seeks QCA approval of Aurizon Network's FY24 Asset Replacement and Renewal Expenditure (**Renewals Capex Claim**) of \$335.9m including Interest During Construction (**IDC**). This submission:

- i. demonstrates the extent to which Aurizon Network's capital expenditure and scope of work is consistent with the Approved or Interim RSB for each Coal System;
- ii. seeks QCA approval of additional costs where the Renewals Capex Claim departs from the Approved or Interim RSB for each Coal System in accordance with clause 7A.11.6 (b)(iv)(B);
- iii. seeks QCA approval for the prudent and efficient value of the applicable assets where Aurizon Network's capital expenditure and scope of work was not included in the Approved or Interim RSB for any Coal System in accordance with Clause 2.2 of Schedule E of UT5.

Capitalised terms in this submission have the meaning given in UT5, unless otherwise defined.

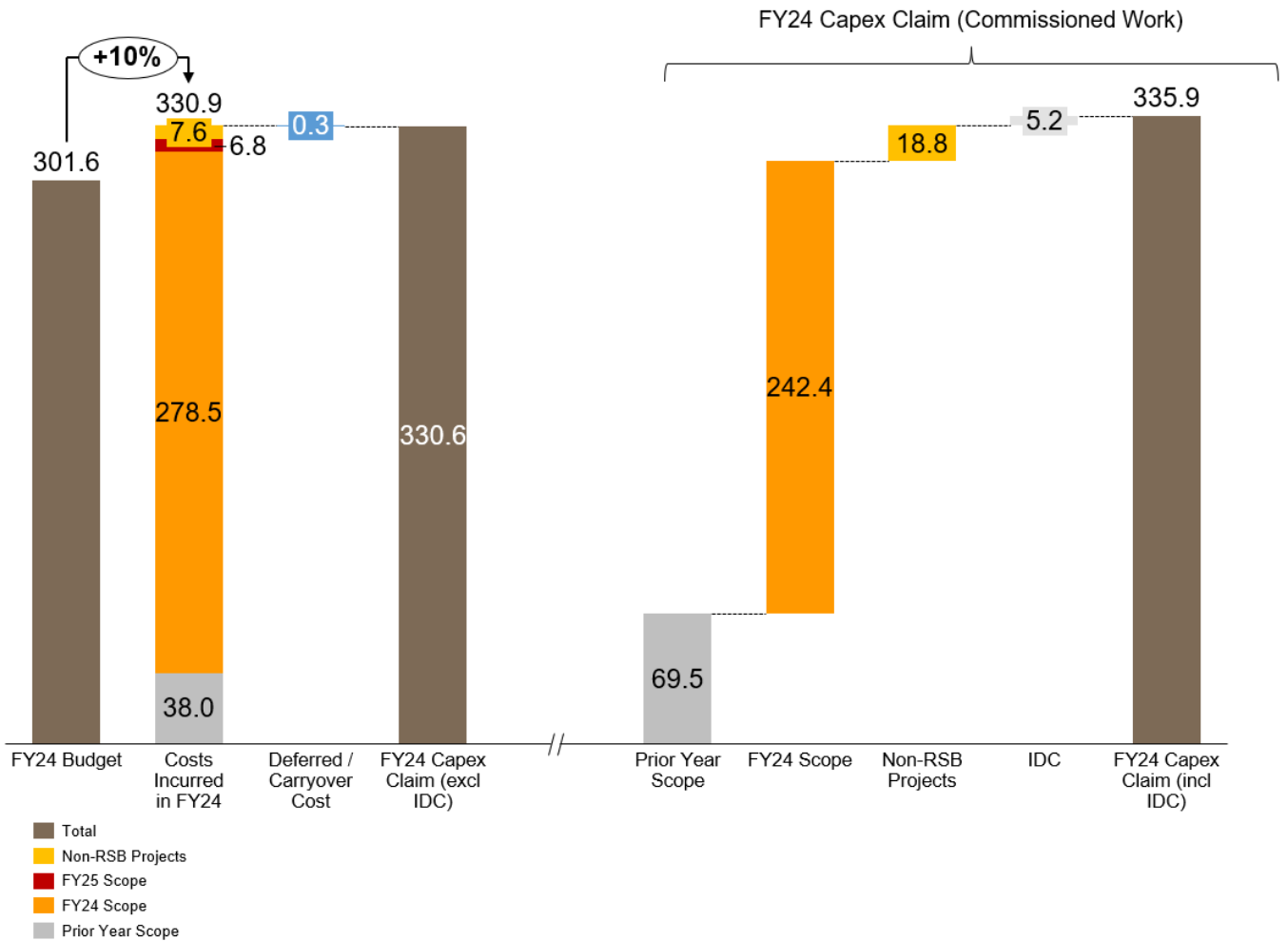
Table 1 Renewals Capex Claim by Coal System

| Coal System | Approved RSB (\$m) | Costs Incurred (\$m) | Variance (\$m) | Capex Claim excluding IDC (\$m) | Capex Claim including IDC (\$m) |
|-------------------|--------------------|----------------------|----------------|---------------------------------|---------------------------------|
| Blackwater | 145.4 | 154.0 | 8.6 | 144.4 | 146.3 |
| Goonyella | 113.7 | 133.2 | 19.5 | 139.6 | 142.0 |
| Moura | 18.8 | 22.8 | 4.0 | 24.7 | 25.1 |
| Newlands / GAPE | 23.7 | 20.9 | (2.8) | 21.9 | 22.5 |
| Total CQCN | 301.6 | 330.9 | 29.3 | 330.6 | 335.9 |

Figure 1 FY24 Renewals Program provides a comparison between the FY24 Approved and Interim RSBs and the FY24 Capex Claim including a breakdown of total claimed costs for each Coal System.

Figure 1 FY24 Renewals Program

Total CQCN



2. Introduction

Aurizon Network is the accredited Rail Infrastructure Manager (**RIM**) of the CQCN, the largest open-access coal rail network in Australia and one of the country's most complex rail freight networks. The CQCN is comprised of over 2,670 kilometres of heavy haul railway track, linking more than forty mines to five coal export terminals across four major Coal Systems and the Goonyella to Abbot Point Expansion (**GAPE**).

On 14 February 2023, the Chair of the RIG advised Aurizon Network that a Special Majority of End Users for each of the Blackwater, Goonyella and Moura Coal Systems approved the corresponding RSBs but that the RSB for the Newlands System and GAPE was not approved. Aurizon Network subsequently submitted its final draft RSB as the Interim RSB for the Newlands System and GAPE and sought QCA approval of the associated Capital Indicator through the Reset Schedule F Preliminary Values process. This was approved by the QCA on 26 May 2023. Aurizon Network also addressed the cost allocation concern that Newlands and GAPE users considered in their vote on the FY24 RSB, through a voluntarily submitted DAAU that was subsequently approved by the QCA on 22 February 2024.

Aurizon Network has sought to implement the FY24 Approved or Interim RSB for each Coal System and has delivered the renewals program in a manner that has had regard to the UT5 Maintenance Objectives in terms of:

- Seeking to ensure that Committed Capacity is delivered;
- Appropriately balancing cost, reliability and performance of the Rail Infrastructure; and
- Coordinating outages with other Supply Chain Participants wherever reasonably possible with a view to maximising throughput.

In doing so, Aurizon Network notes that cost and scope variances do exist for some items when compared to the relevant RSB. Aurizon Network considers that the information included within this submission and within the supporting documentation provided to the QCA demonstrates that these variations were prudent and efficient and should be approved for inclusion in the RAB.

2.1 Renewals Capex Claim

Aurizon Network submits its Renewals Capex Claim for FY24. This Renewals Capex Claim details the:

- expenditure incurred;
- scope of works undertaken; and
- procurement strategy and methodology used.¹

The FY24 Approved and Interim RSBs provided for a forecast spend of \$301.6m for the CQCN. Aurizon Network incurred total capital expenditure of \$330.9m during FY24; \$29.3m higher than the aggregated budget. It should be noted that variances from the Approved and Interim RSBs have been communicated to the RIG through quarterly meetings and reports.

The FY24 Renewals Capex Claim reflects the value of assets commissioned during the year. Aurizon Network successfully commissioned a multitude of asset replacement and renewal activities throughout the CQCN, representing a total value of **\$330.6m** excluding IDC (\$335.9m including IDC). The breakdown for each Coal System is shown in Table 1 above.

¹ Clause 7A.11.6 (a) of UT5

The scope of works delivered by Aurizon Network during FY24 is comprised of:

- FY24 scope planned in accordance with the Approved and Interim RSBs;
- scope originally planned for delivery in FY23, but subsequently deferred to FY24 due to operational reasons; and
- additional (or substitute) scope that has been identified as requiring prioritisation during FY24.

FY24 was a challenging 12 months for Aurizon Network with several issues facing the entire supply chain and asset renewal expenditure exceeding the Approved RSBs in the Blackwater, Goonyella and Moura Coal Systems. Contributing factors to the above budget spend included:

- Higher levels of cost escalation (particularly for materials and contractors) than what was assumed in the Approved and Interim RSBs;
- Completion of significant renewal scope that had been deferred from FY23; and
- Continued impacts of prolonged wet weather which led to an increase in reactive renewal activity and remobilisation costs as well as disruption to planned renewal activities across the year.

Additional commentary outlining Aurizon Network's performance against the Approved and Interim RSBs can be found within the relevant section for each Coal System.

3. Assessment of the Renewals Capex Claim

3.1 UT5 Requirements

This submission provides the QCA with the details of capital expenditure that Aurizon Network considers should be included in the RAB. In circumstances where:

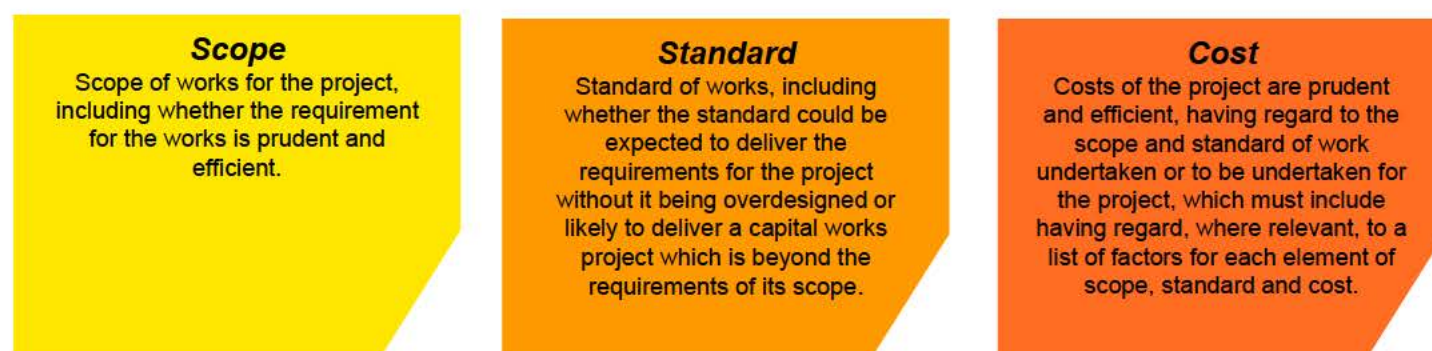
Capital Expenditure is consistent with the Approved RSB:

The QCA must determine the extent to which the FY24 Renewals Capex Claim is consistent with the FY24 Approved RSB for each Coal System in line with Clause 7A.11.6 (b)(iii). To the extent that the FY24 Renewals Capex Claim for a Coal System is consistent with the applicable Approved RSB, the relevant End Users are deemed to support the relevant elements of the Renewals Capex Claim. Accordingly, the QCA will approve the Renewals Capex Claim.

Capital Expenditure departs from the Approved RSB:

The QCA must determine the extent to which the FY24 Renewals Capex Claim departs from the FY24 Approved RSB for each Coal System in line with clause 7A.11.6 (b)(iv). To the extent that the FY24 Renewals Capex Claim for a Coal System departs from the applicable Approved RSB, the QCA will determine whether those additional costs specified are prudent and efficient. Where there is an Interim RSB, the QCA must, in accordance with clause 7A.11.6(c), approve a Renewals Capex Claim to the extent that the expenditure is prudent and efficient

In determining the prudence and efficiency of capital expenditure, the QCA must have regard to the following three matters outlined in Clause 2.2 of Schedule E:



The QCA must assess, in accordance with Clause 2.2(b) of Schedule E, whether the capital expenditure is prudent and efficient and in doing so, must consider only the circumstances relevant at the time of making the decision to incur the capital expenditure (or in relation to assessing prudence of costs, at the time when the costs were incurred, or the capital expenditure project was undertaken, as applicable).

3.2 Demonstrating consistency with the Approved RSB

Aurizon Network has provided a comparison of actual costs incurred and scope delivered against the Approved RSB for each Coal System. This information is presented for each individual Coal System within this submission and is aligned to the information voluntarily provided to the RIG in Quarterly Reports.

Clause 1.3(a)(ii) of Schedule E allows Aurizon Network to submit the costs of assets that were *commissioned* during the year to the QCA for approval within the annual Capex Claim. Aurizon Network has included additional information to clearly outline the capital expenditure that has been *incurred* during the year versus what it is seeking to claim (commissioned assets) and include in the RAB.

To support the QCA’s assessment of the Renewals Capex Claim, Aurizon Network has prepared End of Financial Year Status Reports (**EOFY Reports**) for the 6 categories of asset renewal activities identified in the Approved and Interim RSBs. These EOFY Reports:

- articulate the extent to which scope and cost is consistent with the Approved or Interim RSBs;
- identify departures from the Approved or Interim RSBs; and
- provide supporting commentary or evidence to justify the prudence and efficiency of any variations.

The 6 categories of asset renewal activities with EOFY Reports are:

| EOFY Report | Activities Included |
|--------------------------------------|--|
| 1. Permanent Way | Rail Renewal Sleeper Renewal Track Upgrade Turnout Renewal Turnout Components Turnout Design Permanent Way Other |
| 2. Ballast Cleaning | Mainline Undercutting Mainline Excavator Undercutting Turnout Undercutting Bridge Rollout |
| 3. Structures | Bridges Bridge Design Culvert Renewal Culvert Design |
| 4. Civil Renewals | Formation Renewal Formation Reactive Formation Other Slope Stability Level Crossing Renewal Level Crossing Design Level Crossing Other Access Points and Access Roads Corridor Fencing and Security |
| 5. Control Systems Assets | Safe working – Asset Protection Safe working – Interlocking Safe working – Train Detection Safe working – Minor Power Resilience Telecommunications Assets Transmission and Data Renewal UTC/DTC System Upgrades Other Control System Renewals |
| 6. Electrical Traction Assets | Overhead Line Equipment Power Systems Goonyella Ports OHLE Traction Substation |

3.3 Demonstrating prudence and efficiency

As per Clause 7A.11.6(b)(iv), to the extent that a Renewals Capex Claim for an individual Coal System departs from the applicable Approved RSB, the QCA must assess any *additional* costs specified within the Renewals Capex Claim. The QCA must approve Aurizon Network's additional costs to the extent they are prudent and efficient.

As per Clause 7A.11.6(c), where there is no Approved RSB for a Coal System for the Year, the QCA must approve a Renewal Capex Claim to the extent that the expenditure specified in the Renewals Capex Claim is prudent and efficient.

In both cases, the QCA will assess the relevant costs in accordance with Clause 2.2 of Schedule E.

Aurizon Network has sought to identify, for each individual Coal System, capital expenditure that has departed from the Approved or Interim RSB within this submission.

3.3.1 Aurizon's Enterprise Investment Framework supports prudent and efficient investments

As detailed in the FY21 Capital Claim², Aurizon Network adheres to the Aurizon Enterprise Investment Framework (**Framework**). In addition to that Framework, Aurizon Network has its own internal governance requirements which ensures the appropriate review and internal approvals, including the Network Group Executive. The overall Framework is a rigorous governance process undertaken prior to the commitment of any capital investments. The purpose of the Framework is to facilitate sound investment decisions and to ensure that:

- Investment proposals are rigorously assessed;
- Investment decisions are made on a consistent basis;
- Capital is optimised; and
- Learnings from past investments are recorded and taken into consideration as part of Aurizon Network's commitment to continuous improvement.

Investment Approval Requests (**IARs**) are provided to the relevant members of the Network Leadership Team and ultimately the Aurizon Investment Committee for review and endorsement as required.

The Framework and supporting documentation are informed by the requirements of UT5 and promote the prudence and efficiency of scope, standard and cost for capital expenditure. To inform and assist the internal governance process, Aurizon Network referred to the Approved RSB for each Coal System and the associated Capital Indicators which were ultimately approved by the QCA in its decision on the Reset Schedule F Preliminary Values.

3.3.2 Documentation available to demonstrate prudence and efficiency

Aurizon Network has prepared comprehensive documentation to support the QCA's assessment of prudence and efficiency of the scope, standard and cost for the capital expenditure which departs from the Approved RSB (or where this is an Interim RSB). This documentation is outlined in Table 2 and can be provided to the QCA on request.

Table 2 Supporting documents available with this submission

| Document | Scope | Standard | Cost |
|--|-------|----------|------|
| FY24 Renewals Strategy & Budget | ✓ | ✓ | ✓ |
| End of Financial Year (EOFY) Status Reports | ✓ | ✓ | ✓ |

² <http://www.qca.org.au/wp-content/uploads/2021/09/aurizon-network-2020-21-capital-expenditure-claim.pdf>

| Document | Scope | Standard | Cost |
|---|-------|----------|------|
| Capital Expenditure Workbook | | | ✓ |
| Quarterly Reports FY24 Q1-Q4 | ✓ | | ✓ |
| FY24 – Detailed Scope Report | ✓ | | |
| <i>Automated Track Inspection System (ATIS) Feasibility IARs</i> | ✓ | ✓ | ✓ |
| <i>Customer-Specific Rail Infrastructure Connection Deed (RICD)</i> | ✓ | ✓ | ✓ |

3.4 Identification of Capital and Operating Expenditure

Aurizon Network’s approach to identifying capital expenditure is generally aligned to the Australian Accounting Standard AASB 116 Property, Plant and Equipment. This approach ensures that costs categorised as operating expenditure are not included within the Renewals Capex Claim.

Those costs which have been categorised as capital expenditure for work commissioned in FY24 are contained within this submission for inclusion in the RAB. For the FY24 Capex Claim, Aurizon Network has identified commissioned assets as those that were installed and ready for use on or before 30 June 2024.

Clause 1.3(a)(ii) of Schedule E allows Aurizon Network to claim the costs of commissioned assets during the year within the annual Capex Claim. The Approved and Interim RSBs, however, reflects that renewal spend expected to be incurred during the year. Aurizon Network has included additional information within this submission to reconcile the total costs that have been incurred during the year with the costs that have been included in the Capex Claim (i.e. commissioned assets) for subsequent inclusion in the RAB.

3.5 Interest During Construction (IDC)

Aurizon Network’s approach to calculating IDC is consistent with the methodology that has been previously approved by the QCA. The regulatory model assumes that all capital expenditure is included in the RAB in the middle of the relevant financial year (being 31 December). IDC is therefore calculated up to and including the mid-point of the year in which the project was commissioned.

IDC is calculated using an S-curve methodology, whereby monthly cash flow values are multiplied by the applicable interest rate. The monthly cash flows for each project are extracted from Aurizon Network’s financial accounting system, SAP. The applicable interest rate is the QCA approved weighted average cost of capital (**WACC**) for the relevant year within the regulatory period.

3.6 Key Terminology

3.6.1 Costs Incurred

Costs incurred refer to costs that Aurizon Network has incurred when delivering capital expenditure works throughout the year.

3.6.2 Costs Claimed

Clause 1.3(a)(ii) of Schedule E requires that Aurizon Network claim costs associated with assets that have been commissioned during the year. Please note that the value of Aurizon Network's Capex Claim may also include costs incurred in a prior year that were unable to be claimed because the asset was not commissioned in the prior year.

3.6.3 Scope Achieved

Scope achieved refers to scope undertaken throughout the year and is reflective of the costs incurred and costs claimed.

In accordance with Clause 7A.11.6(a)(i)-(iii) of UT5, Aurizon Network has provided a summary of costs incurred and scope achieved within each Coal System, outlining where Aurizon Network has remained consistent with or has departed from the Approved or Interim RSBs. For further details on the scope of work Aurizon Network completed during FY24 (relating to both FY24 RSB and other scope items), please refer to the supporting documentation provided.

Aurizon Network has also included waterfall graphs in Appendix B to assist with the comparison of actual incurred asset renewals expenditure versus the value of commissioned assets.

Throughout the year, Aurizon Network has communicated changes and variations with the Approved and Interim RSBs to the RIG through the provision of Quarterly Reports. The following sections summarise Aurizon Network's asset replacement and renewals performance for the year by Coal System. Please note that the totals presented in the tables below may not add due to rounding.

4. Blackwater System

4.1 Cost Incurred and Scope Achieved for the year

Please refer to Table 3 for details of the costs incurred and scope achieved for each item within the Blackwater system. Aurizon Network considers that its performance should be assessed as consistent where costs are in line with or below the Approved RSB and/or the scope delivered is equal to or more than the Approved RSB.

Table 3 Blackwater System Costs Incurred & Scope achieved for the year

| Renewal Item | Note | Actual Cost (\$m) | Budget (\$m) | Var | Actual Scope | Budget Scope | Var |
|---------------------------------|----------|-------------------|--------------|--------------|--------------|--------------|---------|
| | | FY | FY | | FY | FY | |
| Permanent Way | 1 | 42.6 | 31.5 | 11.1 | | | |
| Rail Renewal | | 7.8 | 7.0 | 0.8 | 14.6 | 18.1 | (3.5) |
| Sleeper Renewal | | 4.9 | 1.6 | 3.3 | 4,875 | 1,445.0 | 3,430.0 |
| Track Upgrade | | 16.7 | 13.2 | 3.5 | 11.1 | 10.4 | 0.7 |
| Turnout Renewal | | 6.2 | 5.5 | 0.7 | 1.0 | 3.0 | (2.0) |
| Turnout Components | | 4.4 | 2.8 | 1.6 | | | |
| Turnout Design | | 0.6 | 0.4 | 0.2 | | | |
| Permanent Way Other | | 2.0 | 1.0 | 1.0 | | | |
| Ballast Cleaning | 2 | 49.3 | 49.8 | (0.5) | | | |
| Mainline Undercutting | | 30.0 | 31.7 | (1.7) | 56.7 | 64.6 | (7.9) |
| Mainline Excavator Undercutting | | 7.8 | 8.5 | (0.7) | 9.5 | 12.2 | (2.7) |
| Turnout Undercutting | | 3.5 | 2.8 | 0.7 | 22.0 | 20.0 | 2.0 |
| Bridge Rollout | | 7.1 | 6.2 | 0.9 | 970.0 | 1,408.0 | (438.0) |
| GPR | | 0.9 | 0.6 | 0.3 | | | |
| Structures | 3 | 20.4 | 24.5 | (4.1) | | | |
| Bridges | | 4.1 | 5.7 | (1.6) | 4.0 | 3.0 | 1.0 |
| Culvert Renewal | | 15.0 | 18.0 | (3.0) | 19.0 | 18.0 | 1.0 |
| Culvert Design | | 1.3 | 0.8 | 0.5 | | | |
| Civil Renewals | 4 | 17.5 | 13.4 | 4.1 | | | |
| Formation Renewal | | 7.7 | 5.2 | 2.5 | 1.3 | 1.8 | (0.5) |
| Formation Reactive | | 3.9 | 2.1 | 1.8 | | | |
| Formation Other | | 0.2 | 0.0 | 0.2 | | | |
| Slope Stability | | 0.1 | 0.2 | (0.1) | | | |
| Level Crossing Renewal | | 4.5 | 3.9 | 0.6 | 4.0 | 5.0 | (1.0) |
| Level Crossing Design | | 0.2 | 0.4 | (0.2) | | | |
| Level Crossing Other | | 0.1 | 0.6 | (0.5) | | | |
| Access Points and Access Roads | | 0.1 | 0.6 | (0.5) | | | |
| Corridor Fencing and Security | | 0.7 | 0.5 | 0.2 | | | |
| Control Systems Assets | 5 | 19.3 | 20.5 | (1.2) | | | |
| Safe working - Asset Protection | | 2.9 | 3.4 | (0.5) | 4.0 | 11.0 | (7.0) |
| Safe working - Interlocking | | 3.3 | 1.3 | 2.0 | - | 2.0 | (2.0) |
| Safe working - Train Detection | | 0.9 | 2.6 | (1.7) | 1 | 2.0 | (1.0) |
| Safe working - Minor | | 2.5 | 5.2 | (2.7) | | | |

| Renewal Item | Note | Actual Cost (\$m) | Budget (\$m) | Var | Actual Scope | Budget Scope | Var |
|-----------------------------------|----------|-------------------|--------------|--------------|--------------|--------------|---------|
| Power Resilience | | 0.0 | – | 0.0 | | | |
| Telecommunication Assets | | 4.7 | 2.0 | 2.7 | 31,640.0 | 23,599.0 | 8,041.0 |
| Transmission and Data Renewal | | 3.2 | 4.3 | (1.1) | 35.0 | 51.0 | (16.0) |
| UTC/DTC System Upgrades | | 1.8 | 1.6 | 0.2 | 4.0 | 10.0 | (6.0) |
| Other Control Systems Renewals | | 0.0 | – | 0.0 | | | |
| Electrical Traction Assets | 6 | 3.9 | 5.5 | (1.6) | | | |
| Overhead Line Equipment | | 1.4 | 0.8 | 0.6 | 6.0 | 4.0 | 2.0 |
| Power Systems | | 2.4 | 2.9 | (0.5) | 19.0 | 33.0 | (14.0) |
| Traction Substation | | 0.1 | 1.8 | (1.7) | | | |
| RSB Total | | 152.9 | 145.4 | 7.5 | | | |
| Non-RSB Projects | 7 | 1.0 | - | 1.0 | | | |
| ATIS | | 1.0 | - | 1.0 | | | |
| Total | | 154.0 | 145.4 | 8.6 | | | |

Variation Commentary:

1. Permanent Way

During FY24, Aurizon Network incurred \$42.6m delivering permanent way renewal activities in the Blackwater System, compared to the approved budget of \$31.5m. Several factors contributed to this, including:

- Completion of 337% of the planned sleeper renewals (the majority of which had been carried forward from FY23 due to wet weather impacts).
- Completion of additional (0.7km) track upgrade scope. The Stanwell track upgrade was carried forward from FY23 following plant failures and customer requests not to complete works due to potential impact to the Queensland electricity grid.
- As a result of the high inflationary environment which impacted the cost of externally procured materials, the actual efficiency achieved was less than the targeted reduction.
- Two track upgrade sites, Westwood and Edungalba, were impacted by wet weather in the July and November Integrated Closures. To maintain the track closure length, the scope was reduced and rescheduled for future closures. Costs were incurred to mobilise resources to site a second time as well as increases associated with lost efficiencies linked to scope quantity and methodology. This was driven by the need to remobilise a similar quantity of resources for the smaller remaining scope length. Additionally, the remaining scope at Westwood was completed by manual track upgrade rather than using the Track Laying Machine (TLM).
- Labour utilisation:
 - In February 2022, through consultation with the RIG, it was agreed to reduce the number of Integrated Closures in Blackwater and Goonyella from 8 per year to 6 per year in each Coal System. The principle was that longer, fewer closures would broadly provide the overall same amount of work time, however more compressed closures would be less disruptive to revenue services.
 - Track renewal work, however, relies on a pool of internal resources, supplemented during closures with external labour hire. Therefore, to achieve the same volume of work within fewer closures required additional external labour.

- During FY22 (the year in which the FY24 RSB was developed), a review of safe working practices relating to Track Renewals, identified that operating the TLM within a single-line possession (with traffic continuing to operate on the adjacent track), created an unacceptable level of risk. The resulting recommendation of the review was to only operate the TLM during an integrated closure.
 - Prior to the review, track renewal work would be completed over a longer period, and under single line running. This allowed internal resources to perform track renewal activities outside of integrated closures and reduced the demand for external resources during an integrated closure. This would result in lower costs across the program.
 - From FY24 onward, only a limited amount of track renewal work has been completed in single-line possessions, with no TLM work taking place outside of integrated closures. While this helps to improve safety and network availability outcomes, the impact on external resource requirements has resulted in cost outcomes that vary from the original budget assumptions.
- An upwards trend in turnout component renewals occurred in FY24. A large component of this was due to replacing an entire turnout at Aroona where the opportunity to renew the turnout was integrated with planned renewal of the formation.
 - Requirement to accelerate the replacement of 3G modems in Rail Lubricator units (Permanent Way Other), following an initial notification from Telstra that 3G services would be disconnected in June 2024.

The rail renewal at Calliope (2.7km) was rolled forward into FY25 as the scope is integrated with the ballast replacement over the Calliope River. Due to the ballast replacement being rolled forward to preserve capacity (required unplanned access), the rail renewal was also rolled forward. The site was successfully executed in the July 2024 Blackwater Integrated Closure and will be included in the FY25 capital claim. The rail renewal at Tunnel (1.94km) was cancelled due to a reduced rate of deterioration.

Two turnout renewals at Callemondah were rolled forward to FY25. This was a result of the final construction stage of another turnout at Callemondah being delayed to Q4 due to additional design work requirements.

2. Ballast Cleaning:

The FY24 RSB provided that Aurizon Network complete 64.6km of mainline undercutting scope within the Blackwater system. When establishing the RSB forecast, mainline undercutting is assumed to have a standard ballast depth in line with its asset management standards. As a result, the RSB reflects a linear measure of scope. During FY24, Aurizon Network delivered 88% of its mainline undercutting scope when expressed on a linear basis.

Aurizon Network notes, however, that actual ballast depth in locations throughout the CQCN can vary, and as a result, can impact the quantity of material that must be processed. The depth of ballast and spoil generated can have a significant impact on the linear production that can be achieved and hence, the level of productive effort that is required at each location.

In addition to ballast depth, RM902 ballast pre-digs identified that potential ballast screenability and return rate was poorer than forecast for multiple sites. This required possession extensions of 104hrs, resulting in increased ballast, earthworks support, internal resources, and spoil removal costs. Pre-digs also identified that additional access would be required to complete the Burngrove-Mackenzie scope. The decision was made to preserve access by completing the most critical scope and rolling forward 4.9kms to FY25 to preserve capacity at this location. Additionally, 1km of scope was lost at Bluff-Umolo due to the inability to temporarily close a level crossing and the proximity to a signal gantry within Bluff yard.

78% of the planned mainline excavator undercutting was completed. This variance was driven largely by less reactive scope (1.3km) being required than allocated and multiple sites where scope length was either smaller than planned or was completed as part of another activity after the RSB was developed.

Aurizon Network delivered 110% of the turnout undercutting scope with additional reactive undercutting required at four turnouts. FY24 RSB estimates were originally developed using historical spend and scope, however unexpectedly high tender proposals and specific site complexities saw actual costs exceed budget.

The equivalent of 69% of the planned bridge rollout scope was completed. The Anda-Horseshoe Creek site (120m) was already completed and claimed in FY23. The Calliope River site (357m) was rolled forward to minimise capacity impact as internal and external resources were unable to align (this was subsequently completed in July 2024 and will be claimed in FY25). The Bootes Creek site (101m) was cancelled due to wet weather impacting access roads. This was offset by the completion of 140m at Lilley Wholes Creek that had been carried forward from FY23 following delays in design and procurement activities. The above budget spend was driven by:

- cost increases for ballast product (17% increase from prior years); and
- scope changes due to deterioration of sleepers at various sites requiring replacement at time of execution.

3. Structures:

During FY24, Aurizon Network completed Structures renewals equivalent to 110% of the planned scope. Contributing to this was an additional bridge renewal had been carried forward from FY23 due to a delay in receiving the design.

Four additional culvert renewals were also delivered that had been carried forward from:

- FY23 – these three sites were delayed as a result of issues with access and the required cultural heritage clearances; and
- FY22 – due to unidentified cable that was required to be relocated, this site was replanned for FY23. The civil contractor then experienced resource constraints and was unable to deliver in the May 2023 closure as planned.

Three culvert renewals were replanned into FY25 due to:

- The latent condition of excessive deflection at two sites, which required deflection monitoring, reviewing the construction methodology with the designer, and taking additional track time to complete; and
- A breakdown of the contractor's Cured-In-Place-Pipe (CIPP) lining truck which resulted in an extended project timeline for the CIPP installations at another site.

4. Civil Renewals

The unfavourable formation renewal spend to budget is largely driven by an increase in civil contractor costs. To assist with cost control, Aurizon Network undertook a competitive tender process during FY23 to award fixed-price contracts to complete the planned FY24 works. All respondents submitted prices well above historical rates. In order to manage the price escalation, Aurizon Network has made changes to the contracting model for FY25 and are monitoring the effects of these changes.

During FY24, Aurizon Network completed 72% of the planned formation renewal scope in the Blackwater System. One site was descoped through a reassessment of the condition of the asset, resulting in an Aurizon Network Change Board decision to replace it with another site which had been experiencing reliability issues. This subsequent site was then deferred due to wet weather, alongside another site that was partially delivered prior to wet weather impacts. Both sites have been rolled into FY25.

Additional reactive formation renewal activities were also required to be completed within FY24 to address accelerated deterioration caused by compounding impacts of ongoing wet weather. Whilst this significantly contributed to the higher than planned costs, the majority of sites completed were under Temporary Speed Restriction (TSR), with the reactive rectification works allowing the TSRs to be lifted.

Four level crossings were completed in FY24, one of which was disrupted by wet weather in the November closure with additional costs incurred to remobilise in Q4. Another had been deferred from FY23 due to inclement weather and a civil contractor resource constraint.

Two planned level crossings were rolled forward to FY25. The first was removed from scope and the second was unable to be delivered due to track access and resource availability (it was subsequently completed in July 2024 and will be included in the FY25 capital claim).

5. Control Systems:

Aurizon Network incurred \$19.3m delivering Control Systems renewals in FY24 which was \$1.2m below budget. Major factors that impacted the overall program include:

- The availability of key labour resources, both in design and construction, particularly during planned closures, has been impacted by the completion of significant prior year deferred scope. This has resulted in a number of scope items being deferred to future years, or only partially completed within FY24; and
- Control Systems has been further impacted by above-budget cost escalation particularly on material costs which have been impacted by the global supply chain.

Specific variations to scope and cost against the RSB were due to the following:

- Asset Protection: Four renewals were completed (all of which had been carried forward from FY23 due to external constraints and wet weather). Remaining scope has been replanned for FY25.
- Interlocking: Delays have been experienced largely due to the complexity of the design and the requirement to implement the commissioning of the works in a staged approach over a number of closures. One of the sites was since completed in July 2024 and another has been replanned for FY25. Higher costs than budgeted were driven by the latent condition of the existing cable route being poorer than expected, creating additional works for cable installation, as well as the aforementioned additional staging which resulted in increased costs for internal signalling and external cabling resources.
- Train Detection: One site was deferred due to signalling design resource constraints.
- Telecommunications Assets: The planned scope was completed. An additional 8,041m carried forward from FY23 was also completed which resulted in the actual spend being higher than budget. Other impacts included ground condition containing more rock than assumed, 6km of existing conduit pipes needing to be relocated and the installation of 11km additional conduit pipes to reduce rework for future train detection renewals.
- Transmission & Data: 31 sites were delivered against a planned 55 which was due to both internal and external resource constraints. Majority of the incomplete sites have been replanned for FY25.
- UTC/DTC System Upgrades: Four sites that had been carried forward from FY23 were completed. Of the 10 planned for FY24, nine were completed but will be claimed in FY25 due to timing and one has been replanned for FY25.

6. Electrical:

During FY24, Aurizon Network incurred \$3.9m delivering electrical renewal activities in the Blackwater System, compared to the approved budget of \$5.6m. 150% of the planned Overhead Line Equipment (**OHLE**) scope was delivered (with two additional feeder wire clearances being completed that had been delayed in FY23). 42% of the Power Systems scope was either rolled forward to FY25 or cancelled to be replanned in future years, as a result of:

- Requirement for redesigns (three Power Supply Cubicles (**PSC**) and one Fault Locator);

- A change to Aurizon's isolation practices in response to electricity safety requirements, which meant that four PCS installations could no longer be performed outside system closures as originally planned; and
- Availability of skilled electric resources.

7. Non-RSB Projects: Costs incurred as a result of ATIS which were not included in the Blackwater RSB are discussed in section 8.

4.2 Cost Incurred versus Claimed Amount

In line with Clause 1.3(a)(ii) of Schedule E of UT5, please refer to Table 4 for details of the costs incurred for the year versus the claimed amount for the Blackwater System.

Table 4 Blackwater System Costs Incurred versus Claimed Amount

| Item | Total Costs Incurred in FY24 (\$m) | FY24 Scope Claimed in FY24 (\$m) | Prior Year Scope Claimed in FY24 (\$m) | Future Year Scope Claimed in FY24 (\$m) | Total Claimed Expenditure (\$m) | IDC (\$m) | Total Claimed Amount including IDC (\$m) |
|------------------------|------------------------------------|----------------------------------|--|---|---------------------------------|------------|--|
| Permanent Way | 42.6 | 33.1 | 13.1 | - | 46.2 | 0.9 | 47.1 |
| Ballast Cleaning | 49.3 | 45.1 | 2.6 | - | 47.7 | 0.0 | 47.8 |
| Structures | 20.4 | 9.1 | 4.3 | - | 13.5 | 0.2 | 13.7 |
| Civil Renewals | 17.5 | 13.3 | 3.2 | - | 16.4 | 0.3 | 16.7 |
| Control Systems Assets | 19.3 | 6.3 | 8.0 | - | 14.3 | 0.4 | 14.7 |
| Electrical Assets | 3.9 | 2.8 | 2.3 | - | 5.1 | 0.2 | 5.3 |
| Non-RSB Projects | 1.0 | - | 1.1 | - | 1.1 | 0.0 | 1.2 |
| Total | 154.0 | 109.8 | 34.6 | - | 144.4 | 1.9 | 146.3 |

5. Goonyella System

5.1 Cost Incurred and Scope Achieved for the Year

Please refer to Table 5 for details of the costs incurred and scope achieved within the Goonyella system. Aurizon Network considers that its performance should be assessed as consistent where costs are in line with or below the Approved RSB and/or the scope delivered is equal to or more than the Approved RSB.

Table 5 Goonyella System Costs Incurred & Scope achieved for the Year

| Renewal Item | Note | Actual Cost (\$m) FY | Budget (\$m) FY | Var | Actual Scope FY | Budget Scope FY | Var |
|---------------------------------|----------|-------------------------|--------------------|--------------|--------------------|--------------------|-------|
| Permanent Way | 1 | 34.5 | 24.5 | 10.0 | | | |
| Rail Renewal | | 11.5 | 8.1 | 3.4 | 24.5 | 22.8 | 1.7 |
| Sleeper Renewal | | 0.2 | – | 0.2 | – | – | – |
| Track Upgrade | | 11.4 | 8.8 | 2.6 | 10.6 | 8.4 | 2.2 |
| Turnout Renewal | | 4.7 | 3.0 | 1.7 | 2.0 | 2.0 | – |
| Turnout Components | | 3.9 | 3.3 | 0.6 | | | |
| Turnout Design | | 0.7 | 0.4 | 0.3 | | | |
| Permanent Way Other | | 2.1 | 1.0 | 1.1 | | | |
| Ballast Cleaning | 2 | 45.7 | 38.1 | 7.6 | | | |
| Mainline Undercutting | | 31.8 | 27.6 | 4.2 | 51.6 | 52.2 | (0.6) |
| Mainline Excavator Undercutting | | 8.2 | 6.1 | 2.1 | 8.9 | 9.3 | (0.4) |
| Turnout Undercutting | | 3.8 | 3.2 | 0.6 | 21.0 | 23.0 | (2.0) |
| Bridge Rollout | | 1.0 | 0.6 | 0.4 | 207.0 | 107.0 | 100.0 |
| GPR | | 0.9 | 0.6 | 0.3 | | | |
| Structures | 3 | 10.5 | 11.3 | (0.8) | | | |
| Bridges | | 0.3 | 0.9 | (0.6) | 1.0 | 1.0 | – |
| Culvert Renewal | | 9.7 | 9.9 | (0.2) | 6.0 | 9.0 | (3.0) |
| Culvert Design | | 0.5 | 0.4 | 0.1 | | | |
| Civil Renewals | 4 | 14.8 | 11.2 | 3.6 | | | |
| Formation Renewal | | 6.4 | 5.9 | 0.5 | 1.4 | 1.9 | (0.5) |
| Formation Reactive | | 3.2 | 1.7 | 1.5 | | | |
| Formation Other | | 0.2 | 0.0 | 0.2 | | | |
| Slope Stability | | – | – | – | | | |
| Level Crossing Renewal | | 3.5 | 2.3 | 1.2 | 3.0 | 3.0 | – |
| Level Crossing Design | | 0.2 | 0.2 | 0.0 | | | |
| Level Crossing Other | | 0.5 | 0.3 | 0.2 | | | |
| Access Points and Access Roads | | 0.2 | 0.4 | (0.2) | | | |
| Corridor Fencing and Security | | 0.8 | 0.4 | 0.4 | | | |
| Control Systems Assets | 5 | 17.0 | 17.8 | (0.8) | | | |
| Safe working - Asset Protection | | 1.0 | 1.1 | (0.1) | 2.0 | 2.0 | – |
| Safe working - Interlocking | | – | 2.3 | (2.3) | – | 1.0 | (1.0) |
| Safe working - Train Detection | | 2.3 | 3.1 | (0.8) | 1.0 | 5.0 | (4.0) |
| Safe working - Minor | | 1.6 | 2.7 | (1.1) | | | |
| Power Resilience | | 0.1 | – | 0.1 | | | |

| Renewal Item | Note | Actual Cost (\$m) | Budget (\$m) | Var | Actual Scope | Budget Scope | Var |
|-----------------------------------|----------|-------------------|--------------|--------------|--------------|--------------|---------|
| Telecommunication Assets | | 7.1 | 5.2 | 1.9 | 61,959.0 | 53,769.0 | 8,190.0 |
| Transmission and Data Renewal | | 3.8 | 2.5 | 1.3 | 39.0 | 51.0 | (12.0) |
| UTC/DTC System Upgrades | | 0.4 | 0.8 | (0.4) | 2.0 | 1.0 | 1.0 |
| Other Control Systems Renewals | | 0.6 | 0.1 | 0.5 | | | |
| Electrical Traction Assets | 6 | 6.7 | 10.8 | (4.1) | | | |
| Overhead Line Equipment | | 1.9 | 1.2 | 0.7 | 36.0 | 29.0 | 7.0 |
| Power Systems | | 2.3 | 2.5 | (0.2) | 17.0 | 23.0 | (6.0) |
| Goonyella Ports OHLE | | 2.3 | 4.0 | (1.7) | | | |
| Traction Substation | | 0.1 | 3.1 | (3) | | | |
| RSB Total | | 129.2 | 113.7 | 15.5 | | | |
| Non-RSB Projects | 7 | 4.0 | - | 4.0 | | | |
| ATIS | | 1.0 | - | 1.0 | | | |
| Customer-Specific Connection | | 3.0 | | 3.0 | | | |
| Total | | 133.2 | 113.7 | 19.5 | | | |

Variation Commentary:

1. Permanent Way

During FY24, Aurizon Network incurred \$34.5m delivering permanent way renewal activities in the Goonyella System, compared to the approved budget of \$24.5m. Several factors contributed to this, including:

- Completion of additional (1.7km) rail renewal scope. Rail defects were identified in a section near Dalrymple Bay that were beyond maintenance or repair methods.
- Completion of 3.349km track upgrade scope carried forward from FY23.
- As a result of the high inflationary environment which impacted the cost of externally procured materials, the actual efficiency achieved was less than the targeted reduction.
- Limited availability of external support resources to complete the track upgrade at Broadlea in July 2023 resulted in 0.7km of the planned 4.5km being incomplete. Resources were remobilised in November to complete the outstanding scope. Costs were incurred mobilising resources to site a second time as well as increases associated with lost efficiencies linked to scope quantity and methodology. This was driven by the need to remobilise a similar quantity of resources for the smaller remaining scope length.
- Labour utilisation:
 - In February 2022, through consultation with the RIG, it was agreed to reduce the number of Integrated Closures in Blackwater and Goonyella from 8 per year to 6 per year in each Coal System. The principle was that longer, fewer closures would broadly provide the overall same amount of work time, however more compressed closures would be less disruptive to revenue services.
 - Track renewal work, however, relies on a pool of internal resources, supplemented during closures with external labour hire. Therefore, to achieve the same volume of work within fewer closures required additional external labour.
 - During FY22 (the year in which the FY24 RSB was developed), a review of safe working practices relating to Track Renewals, identified that operating the TLM within a single-line possession (with traffic continuing to operate on the adjacent track), created an unacceptable level of risk. The resulting recommendation of the review was to only operate the TLM during an integrated closure.

- Prior to the review, track renewal work would be completed over a longer period, and under single line running. This allowed internal resources to perform track renewal activities outside of integrated closures, and reduced the demand for external resources during an integrated closure. This would result in lower costs across the program.
- From FY24 onward, only a limited amount of track renewal work has been completed in single-line possessions, with no TLM work taking place outside of integrated closures. While this helps to improve safety and network availability outcomes, the impact on external resource requirements has resulted in cost outcomes that vary from the original budget assumptions.
- Turnout scope variation driven by a change to design to resolve ongoing drainage issues, and the requirement to procure external rather than internal construction resources to complete.
- Requirement to accelerate the replacement of 3G modems in Rail Lubricator units (Permanent Way Other), following a notification from Telstra that 3G services would be disconnected in June 2024.

2. Ballast Cleaning:

The FY24 RSB provided that Aurizon Network complete 52.2km of mainline undercutting scope within the Goonyella system. When establishing the RSB forecast, mainline undercutting is assumed to have a standard ballast depth in line with its asset management standards. As a result, the RSB reflects a linear measure of scope. During FY24, Aurizon Network delivered 99% of its mainline undercutting scope when expressed on a linear basis.

Aurizon Network notes, however, that actual ballast depth in locations throughout the CQCN can vary, and as a result, can impact the quantity of material that must be processed. The depth of ballast and spoil generated can have a significant impact on the linear production that can be achieved and hence, the level of productive effort that is required at each location.

Mainline undercutting costs exceeded budget by 15% predominantly due to increased ballast delivery and spoil removal costs, higher than anticipated plant maintenance costs and additional restressing and resurfacing requirements across a number of sites.

96% of the planned mainline excavator undercutting was completed. This variance was largely driven by multiple sites where scope length was either smaller than planned or was completed as part of another activity after the RSB was developed. Actual costs exceeded budget as a result of increases in internal support and rail management costs.

Aurizon Network delivered the equivalent of 91% of the turnout undercutting scope. Two unallocated (reactive) turnouts were not required, and one turnout was rolled forward to FY25 as a result of wet weather. Offsetting this was the completion of a turnout that had been carried forward from FY23. FY24 RSB estimates were originally developed using historical spend and scope, however unexpectedly high tender proposals and specific site complexities saw actual costs exceed budget.

Nearly double the planned bridge rollout scope was completed due to the Ingsdon North Creek site (100m) being carried forward from FY23 and completed in FY24 (following external resource constraints in FY23).

3. Structures:

During FY24, Aurizon Network completed Structures renewals equivalent to 70% of the planned scope.

A relieving slab replacement was required on the bridge at Grasstree Beach Road. Bridge Rollout works were planned here in FY24; therefore the relieving slab was completed at the same time. Comparatively, the Isaac River site was originally a design and renewal planned for FY24 however the renewal scope was deferred to FY27 to

allow sufficient time to design and plan for the renewal (including construction procurement activities). The design was successfully completed in FY24.

Six culvert renewals were completed against a planned nine, including one that had been carried forward from FY23 due to contractor resource constraints and was completed in Q1. Four have been replanned to FY25 due to:

- The contractor having to redo the concrete trial mix and subsequent testing at one site because the first and second test cylinders were compromised during curing which led to a delay of scope completion; and
- A breakdown of the contractor's CIPP lining truck which resulted in an extended project timeline for the CIPP installations at three sites.

4. Civil Renewals

The unfavourable formation renewal spend to budget is largely driven by an increase in civil contractor costs. Aurizon Network undertook a competitive tender process to award fixed-price contracts to complete the planned FY24 works. All respondents submitted prices well above historical rates. In order to manage the price escalation, Aurizon Network has made changes to the contracting model for FY25 and are monitoring the effects of these changes.

During FY24, Aurizon Network completed 74% of the planned formation renewal scope in the Goonyella System. Two formation renewals at Broadlea were deferred due to non-conforming capping material supplied to the worksite by the contractor. The significant quantity of capping material required to complete these renewals meant that the shortfall could not be made up in time for the track closure, resulting in the scope being rolled into FY25.

Additional reactive formation renewal activities were also required to be completed within FY24 to address accelerated deterioration caused by compounding impacts of ongoing wet weather. Whilst this significantly contributed to the higher than planned costs, the majority of sites completed were under TSRs, with the reactive rectification works allowing the TSRs to be lifted.

External civil contractor price increases have also contributed to the above budget spend.

All planned level crossings were completed in FY24, although there was an increase in costs incurred versus budget due to;

- the requirement to construct a major diversion suitable for road trains to accommodate the temporary road closure at Russel Park Road; and
- the design being amended during execution as a result of asset condition at Burton Mine Access Road (resulting in increased trackwork scope).

Asset condition also drove additional work and spend in corridor fencing.

5. Control Systems:

Aurizon Network incurred \$17.0m delivering Control Systems renewals in FY24 which was \$0.8m below budget. Major factors that impacted the overall program include:

- The availability of key labour resources, both in design and construction, particularly during planned closures, has been impacted by the completion of significant prior year deferred scope. This has resulted in a number of scope items being deferred to future years, or only partially completed within FY24;
- Control Systems has been further impacted by above-budget cost escalation particularly on material costs which have been impacted by the global supply chain; and

Specific variations to scope and cost against the RSB were due to the following:

- **Asset Protection:** Two renewals were completed (one of which had been carried forward from FY23). Another was replanned for FY25 due to internal design resource constraints.
- **Interlocking:** The negotiation of a new strategic partnership contract with the electronic interlocking supplier for the Goonyella project was not successful in achieving the sought benefits to diversify technology and control investment. Following an invitation to tender, Aurizon determined that an internal self-deployment option to deliver the renewal of the new electronic interlocking system would result in the benefits of controlling commissioning, diversifying technology and reducing the investment required. The preliminary design for 9 of 10 proposed stations was completed.
- **Train Detection:** One site was completed. The remaining sites have been replanned for FY25 (largely due to resource constraints).
- **Telecommunications Assets:** 115% of planned scope was delivered. A significant portion of this was carried forward from FY23 due to wet weather. This drove increased costs against budget, as well as the installation of 18km additional conduit piping to reduce rework for future train detection renewals. Undelivered FY24 scope (resulting from external resource constraints and landholder issues) has been replanned for FY25.
- **Transmission & Data:** 39 sites were delivered against a planned 51 largely due to internal and external resource constraints. Majority have been replanned for FY25.
- **UTC/DTC System Upgrades:** Two sites that had been carried forward from FY23 were completed. One other site planned for FY24 was delayed due to internal and external resource constraints and will be completed in FY25.

6. Electrical:

During FY24, Aurizon Network incurred \$6.7m delivering electrical renewal activities in the Goonyella System, compared to the approved budget of \$10.8m. Additional OHLE scope was delivered and 74% of the planned Power Systems scope. The predominant cause for scope not being completed in FY24 was resource constraints, with incomplete scope replanned for FY25 and FY26.

7. Non-RSB Projects: Costs incurred as a result of ATIS and a customer-specific connection which were not included in the Goonyella RSB are discussed in section 8.

5.2 Cost Incurred versus Claimed Amount

In line with Clause 1.3(a)(ii) of Schedule E of UT5, please refer to Table 6 for details of the costs incurred for the Year versus the claimed amount for the Goonyella System.

Table 6 Goonyella System Costs Incurred versus Claimed Amount

| Item | Total Costs Incurred in FY24 (\$m) | FY24 Scope Claimed in FY24 (\$m) | Prior Year Scope Claimed in FY24 (\$m) | Future Year Scope Claimed in FY24 (\$m) | Total Claimed Expenditure (\$m) | IDC (\$m) | Total Claimed Amount including IDC (\$m) |
|------------------------|------------------------------------|----------------------------------|--|---|---------------------------------|------------|--|
| Permanent Way | 34.5 | 27.7 | 6.6 | - | 34.4 | 0.5 | 34.9 |
| Ballast Cleaning | 45.7 | 43.3 | 2.6 | - | 45.9 | 0.4 | 46.3 |
| Structures | 10.5 | 8.6 | 2.4 | - | 11.1 | 0.4 | 11.5 |
| Civil Renewals | 14.8 | 11.7 | 1.3 | - | 12.9 | 0.2 | 13.1 |
| Control Systems Assets | 17.0 | 4.7 | 9.9 | - | 14.6 | 0.5 | 15.1 |
| Electrical Assets | 6.7 | 1.9 | 4.0 | - | 5.9 | 0.3 | 6.3 |
| Non-RSB Projects | 4.0 | - | 14.7 | - | 14.7 | 0.1 | 14.8 |
| Total | 133.2 | 97.9 | 41.7 | - | 139.6 | 2.4 | 142.0 |

6. Moura System

6.1 Cost Incurred and Scope Achieved for the Year

Please refer to Table 7 for details of the costs incurred and scope achieved within the Moura system. Aurizon Network considers that its performance should be assessed as consistent where costs are in line with or below the Approved RSB and/or the scope delivered is equal to or more than the Approved RSB.

Table 7 Moura System Costs Incurred & Scope achieved for the Year

| Renewal Item | Note | Actual Cost | Budget | Var | Actual Scope | Budget Scope | Var |
|---------------------------------|----------|-------------|-------------|--------------|--------------|--------------|-------|
| | | (\$m) FY | (\$m) FY | | FY | FY | |
| Permanent Way | 1 | 6.4 | 4.7 | 1.7 | | | |
| Rail Renewal | | 3.8 | 2.7 | 1.1 | 7.9 | 7.9 | – |
| Sleeper Renewal | | – | – | 0.0 | – | – | – |
| Track Upgrade | | 0.0 | – | 1.7 | – | – | – |
| Turnout Renewal | | 1.7 | 1.4 | (1.1) | 1.0 | 1.0 | – |
| Turnout Components | | 0.3 | 0.6 | (0.5) | | | |
| Turnout Design | | 0.1 | – | 0.5 | | | |
| Permanent Way Other | | 0.5 | 0.1 | 3.7 | | | |
| Ballast Cleaning | 2 | 4.0 | 3.5 | 0.5 | | | |
| Mainline Undercutting | | 0.2 | – | 0.2 | – | – | – |
| Mainline Excavator Undercutting | | 2.2 | 2.2 | 0.0 | 2.5 | 2.7 | (0.2) |
| Turnout Undercutting | | 0.6 | 0.4 | 0.2 | 4.0 | 3.0 | 1.0 |
| Bridge Rollout | | 0.8 | 0.6 | 0.2 | 116.0 | 116.0 | – |
| GPR | | 0.1 | 0.2 | (0.1) | | | |
| Structures | 3 | 2.3 | 1.7 | 0.6 | | | |
| Bridges | | – | – | 0.0 | – | – | – |
| Culvert Renewal | | 2.0 | 1.4 | 0.6 | 3.0 | 3.0 | – |
| Culvert Design | | 0.3 | 0.3 | 0.0 | | | |
| Civil Renewals | 4 | 5.4 | 4.0 | 1.4 | | | |
| Formation Renewal | | 1.4 | 0.7 | 0.7 | 0.3 | 0.3 | – |
| Formation Reactive | | 1.7 | 1.8 | (0.1) | | | |
| Formation Other | | 0.1 | 0.0 | 0.1 | | | |
| Slope Stability | | – | – | 0.0 | | | |
| Level Crossing Renewal | | 0.8 | 0.7 | 0.1 | 1.0 | 1.0 | – |
| Level Crossing Design | | 0.1 | 0.2 | (0.1) | | | |
| Level Crossing Other | | 0.1 | 0.1 | 0.0 | | | |
| Access Points and Access Roads | | 0.0 | 0.3 | (0.3) | | | |
| Corridor Fencing and Security | | 1.1 | 0.3 | 0.8 | | | |
| Control Systems Assets | 5 | 3.9 | 5.0 | (1.1) | | | |
| Safe working - Asset Protection | | 3.2 | 2.7 | 0.5 | 2.0 | 5.0 | (3.0) |
| Safe working - Interlocking | | 0.0 | – | 0.0 | – | – | – |
| Safe working - Train Detection | | – | 0.1 | (0.1) | – | 2.0 | (2.0) |
| Safe working - Minor | | 0.1 | 1.4 | (1.3) | | | |
| Power Resilience | | 0.0 | – | 0.0 | | | |

| Renewal Item | Note | Actual Cost (\$m) | Budget (\$m) | Var | Actual Scope | Budget Scope | Var |
|--------------------------------|----------|-------------------|--------------|------------|--------------|--------------|-------|
| Telecommunication Assets | | – | – | 0.0 | – | – | – |
| Transmission and Data Renewal | | 0.6 | 0.6 | 0.0 | 11.0 | 13.0 | (2.0) |
| UTC/DTC System Upgrades | | 0.0 | 0.1 | (0.1) | – | 1.0 | (1.0) |
| Other Control Systems Renewals | | – | – | 0.0 | | | |
| RSB Total | | 21.9 | 18.8 | 3.1 | | | |
| Non-RSB Projects | 6 | 0.9 | - | 0.9 | | | |
| ATIS | | 0.9 | - | 0.9 | | | |
| Total | | 22.8 | 18.8 | 4.0 | | | |

Variation Commentary:

1. Permanent Way:

During FY24, Aurizon Network incurred \$6.4m delivering 100% of the planned permanent way renewal activities in the Moura System, compared to the approved budget of \$4.7m. Several factors contributed to this, including:

- As a result of the high inflationary environment which impacted the cost of externally procured materials, the actual efficiency achieved was less than the targeted reduction.
- Labour utilisation:
 - In February 2022, through consultation with the RIG, it was agreed to reduce the number of Integrated Closures in Blackwater and Goonyella from 8 per year to 6 per year in each Coal System. The principle was that longer, fewer closures would broadly provide the overall same amount of work time, however more compressed closures would be less disruptive to revenue services.
 - Track renewal work, however, relies on a pool of internal resources, supplemented during closures with external labour hire. Therefore, to achieve the same volume of work within fewer closures required additional external labour.
 - During FY22 (the year in which the FY24 RSB was developed), a review of safe working practices relating to Track Renewals, identified that operating the TLM within a single-line possession (with traffic continuing to operate on the adjacent track), created an unacceptable level of risk. The resulting recommendation of the review was to only operate the TLM during an integrated closure.
 - Prior to the review, track renewal work would be completed over a longer period, and under single line running. This allowed internal resources to perform track renewal activities outside of integrated closures, and reduced the demand for external resources during an integrated closure. This would result in lower costs across the program.
 - From FY24 onward, only a limited amount of track renewal work has been completed in single-line possessions, with no TLM work taking place outside of integrated closures. While this helps to improve safety and network availability outcomes, the impact on external resource requirements has resulted in cost outcomes that vary from the original budget assumptions.
- Requirement to accelerate the replacement of 3G modems in Rail Lubricator units (Permanent Way Other), following a notification from Telstra that 3G services would be disconnected in June 2024.

2. Ballast Cleaning:

93% of the planned mainline excavator undercutting was completed and one additional turnout to the three planned. This was a result of 0.231km of scope (plus two turnouts) being cancelled to allow for execution of three higher priority turnouts alongside 0.374km of mainline excavator undercutting.

Actual costs exceeded budget as a result of increases in internal support and rail management costs.

3. Structures:

During FY24, Aurizon Network completed Structures renewals equivalent to 100% of the planned scope.

One culvert was unable to be delivered due to overhead and mast foundations (relating to signalling infrastructure) being within the excavation footprint that accordingly need to be relocated prior to culvert replacement work. This culvert replacement has therefore been rolled into FY26 whilst overhead and mast foundation will be completed in FY25. In its place a culvert was completed that had been carried into FY24 for delivery following procurement and design delays.

Outcomes of the competitive RFPs for pricing under the culvert renewals standing offer arrangements resulted in all respondents submitting prices higher than budget.

4. Civil Renewal

The unfavourable formation renewal spend to budget is largely driven by an increase in civil contractor costs. Aurizon Network undertook a competitive tender process to award fixed-price contracts to complete the planned FY24 works. All respondents submitted prices well above historical rates. In order to manage the price escalation, Aurizon Network has made changes to the contracting model for FY25 and are monitoring the effects of these changes.

During FY24, Aurizon Network completed 100% of the planned formation renewal scope in the Moura System.

A bridge over Auckland Creek had repeated trespass incidents by members of the public cutting through existing fencing. Given the safety concern, Aurizon Network trialled a new design for 358 type high security fencing at this location. This additional scope, trial of the new design, and multiple latent conditions encountered on site resulted in higher spend than originally budgeted. Positively, there hasn't been any trespass incidents recorded since the installation.

5. Control Systems:

Aurizon Network incurred \$3.9m delivering Control Systems renewals in FY24 which was \$1.1m below budget. Major factors that impacted the overall program include:

- The availability of key labour resources, both in design and construction, particularly during planned closures, has been impacted by the completion of significant prior year deferred scope. This has resulted in a number of scope items being deferred to future years, or only partially completed within FY24;
- Control Systems has been further impacted by above-budget cost escalation particularly on material costs which have been impacted by the global supply chain; and

Specific variations to scope and cost against the RSB were due to the following:

- Asset Protection: Two renewals were completed. Remaining three renewals were replanned for FY25 as a result of internal design resource constraints and a disagreement with a vendor requiring a change to the execution strategy.
- Train Detection: Both sites have been deferred to future years to integrate with planned interlocking renewals.
- Transmission & Data: 11 sites were delivered (including three that had been carried forward from FY23) against a planned 13 largely due to internal and external resource constraints. Majority have been replanned for FY25.

- UTC/DTC System Upgrades: Scope rolled forward to FY25 due to internal and external resource constraints.

6. Non-RSB Projects: Costs incurred as a result of ATIS which was not included in the Moura RSB are discussed in section 8.

6.2 Cost Incurred versus Claimed Amount

In line with Clause 1.3(a)(ii) of Schedule E of UT5, please refer to Table 8 for details of the costs incurred for the Year versus the claimed amount for the Moura System.

Table 8 Moura System Costs Incurred versus Claimed Amount

| Item | Total Costs Incurred in FY24 (\$m) | FY24 Scope Claimed in FY24 (\$m) | Prior Year Scope Claimed in FY24 (\$m) | Future Year Scope Claimed in FY24 (\$m) | Total Claimed Expenditure (\$m) | IDC (\$m) | Total Claimed Amount including IDC (\$m) |
|------------------------|------------------------------------|----------------------------------|--|---|---------------------------------|------------|--|
| Permanent Way | 6.4 | 5.8 | 1.7 | - | 7.6 | 0.2 | 7.8 |
| Ballast Cleaning | 4.0 | 3.2 | 0.2 | - | 3.5 | 0.0 | 3.4 |
| Structures | 2.3 | 0.8 | 1.3 | - | 2.1 | 0.0 | 2.1 |
| Civil Renewals | 5.4 | 5.0 | 0.8 | - | 5.8 | 0.1 | 5.9 |
| Control Systems Assets | 3.9 | 3.4 | 1.4 | - | 4.8 | 0.1 | 4.9 |
| Non-RSB Projects | 0.9 | - | 1.0 | - | 1.0 | 0.0 | 1.0 |
| Total | 22.8 | 18.3 | 6.4 | - | 24.7 | 0.4 | 25.1 |

7. Newlands System and Goonyella Abbot Point Expansion Project (GAPE)

7.1 Cost Incurred and Scope Achieved for the Year

The RSB for the Newlands System and GAPE was not approved by the RIG due to concerns regarding the cost allocation methodology. End Users indicated a willingness to support the FY24 RSB, however, if this issue was resolved.

In accordance with clause 7A.11.3(m)(iii) and 7A.11.3(o), Aurizon Network implemented the Interim RSB and throughout FY24, communicated scope and cost outcomes to the RIG through quarterly reports and customer forums. Aurizon Network is unaware of any objections pertaining to the implementation of the Interim RSB and considers that the expenditure specified in the Renewals Capex Claim for the Newlands System and GAPE is prudent and efficient. Aurizon Network also addressed the cost allocation concern that Newlands and GAPE users considered in their vote on the FY24 RSB, through a voluntarily submitted DAAU that was subsequently approved by the QCA on 22 February 2024. Aurizon Network seeks QCA approval of its Renewals Capex Claim as per clause 7A.11.6(c).

Please refer to Table 9 for details of the costs incurred and scope achieved within the Newlands System and GAPE.

Table 9 Combined Newlands System and GAPE Costs Incurred & Scope achieved for the Year

| Renewal Item | Note | Actual Cost (\$m) FY | Budget (\$m) FY | Var | Actual Scope FY | Budget Scope FY | Var |
|---------------------------------|----------|-------------------------|--------------------|--------------|--------------------|--------------------|---------|
| Permanent Way | 1 | 7.1 | 8.6 | (1.5) | | | |
| Rail Renewal | | 2.1 | 2.4 | (0.3) | 3.1 | 7.0 | (3.9) |
| Sleeper Renewal | | – | – | 0.0 | – | – | – |
| Track Upgrade | | 4.6 | 5.4 | (0.8) | 2.9 | 3.1 | (0.2) |
| Turnout Renewal | | 0.0 | – | 0.0 | – | – | – |
| Turnout Components | | 0.2 | 0.6 | (0.4) | | | |
| Turnout Design | | 0.0 | 0.1 | (0.1) | | | |
| Permanent Way Other | | 0.2 | 0.1 | 0.1 | | | |
| Ballast Cleaning | 2 | 0.8 | 3.4 | (2.6) | | | |
| Mainline Undercutting | | 0.0 | – | 0.0 | – | – | – |
| Mainline Excavator Undercutting | | 0.3 | 2.2 | (1.9) | 0.4 | 2.9 | (2.5) |
| Turnout Undercutting | | 0.4 | 0.5 | (0.1) | 2.0 | 3.0 | (1.0) |
| Bridge Rollout | | 0.0 | 0.5 | (0.5) | – | 129.0 | (129.0) |
| GPR | | 0.1 | 0.2 | (0.1) | | | |
| Structures | 3 | 6.8 | 6.5 | 0.3 | | | |
| Bridges | | 5.1 | 4.6 | 0.5 | 2.0 | 3.0 | (1.0) |
| Culvert Renewal | | 1.5 | 1.7 | (0.2) | 2.0 | 5.0 | (3.0) |
| Culvert Design | | 0.2 | 0.2 | 0.0 | | | |
| Civil Renewals | 4 | 3.1 | 3.3 | (0.2) | | | |
| Formation Renewal | | 1.5 | 2.0 | (0.5) | 0.4 | 0.8 | (0.4) |
| Formation Reactive | | 0.3 | 0.5 | (0.2) | | | |
| Formation Other | | 0.1 | 0.0 | 0.1 | | | |
| Slope Stability | | – | – | 0.0 | | | |
| Level Crossing Renewal | | 0.7 | – | 0.7 | 1.0 | – | 1.0 |
| Level Crossing Design | | 0.0 | 0.1 | (0.1) | | | |

| Renewal Item | Note | Actual Cost (\$m) | Budget (\$m) | Var | Actual Scope | Budget Scope | Var |
|---------------------------------|----------|-------------------|--------------|--------------|--------------|--------------|--------|
| Level Crossing Other | | 0.0 | 0.2 | (0.2) | | | |
| Access Points and Access Roads | | 0.0 | 0.3 | (0.3) | | | |
| Corridor Fencing and Security | | 0.4 | 0.2 | 0.2 | | | |
| Control Systems Assets | 5 | 1.3 | 1.8 | (0.5) | | | |
| Safe working – Asset Protection | | 0.4 | 0.5 | (0.1) | – | 5.0 | (5.0) |
| Safe working – Interlocking | | 0.1 | – | 0.1 | – | – | – |
| Safe working – Train Detection | | – | – | 0.0 | – | – | – |
| Safe working – Minor | | 0.0 | 0.1 | (0.1) | | | |
| Power Resilience | | 0.3 | 0.3 | 0.0 | 3.0 | 3.0 | – |
| Telecommunication Assets | | – | – | 0.0 | – | – | – |
| Transmission and Data Renewal | | 0.4 | 0.6 | (0.2) | 8.0 | 26.0 | (18.0) |
| UTC/DTC System Upgrades | | 0.0 | 0.3 | (0.3) | – | 1.0 | (1.0) |
| Other Control Systems Renewals | | – | – | 0.0 | | | |
| RSB Total | | 19.1 | 23.7 | (4.6) | | | |
| Non-RSB Projects | 6 | 1.7 | – | 1.7 | | | |
| ATIS | | 1.7 | – | 1.7 | | | |
| Total | | 20.9 | 23.7 | (2.8) | | | |

Variation Commentary:

1. Permanent way

During FY24, Aurizon Network incurred \$7.1m delivering permanent way renewal activities in Newlands and GAPE, compared to the approved budget of \$8.6m. Several factors contributed to this, including:

- As a result of the high inflationary environment which impacted the cost of externally procured materials, the actual efficiency achieved was less than the targeted reduction.
- Labour utilisation:
 - In February 2022, through consultation with the RIG, it was agreed to reduce the number of Integrated Closures in Blackwater and Goonyella from 8 per year to 6 per year in each Coal System. The principle was that longer, fewer closures would broadly provide the overall same amount of work time, however more compressed closures would be less disruptive to revenue services.
 - Track renewal work, however, relies on a pool of internal resources, supplemented during closures with external labour hire. Therefore, to achieve the same volume of work within fewer closures required additional external labour.
 - During FY22 (the year in which the FY24 RSB was developed), a review of safe working practices relating to Track Renewals, identified that operating the TLM within a single-line possession (with traffic continuing to operate on the adjacent track), created an unacceptable level of risk. The resulting recommendation of the review was to only operate the TLM during an integrated closure.
 - Prior to the review, track renewal work would be completed over a longer period, and under single line running. This allowed internal resources to perform track renewal activities outside of integrated closures, and reduced the demand for external resources during an integrated closure. This would result in lower costs across the program.
 - From FY24 onward, only a limited amount of track renewal work has been completed in single-line possessions, with no TLM work taking place outside of integrated closures. While this helps

to improve safety and network availability outcomes, the impact on external resource requirements has resulted in cost outcomes that vary from the original budget assumptions.

- Requirement to accelerate the replacement of 3G modems in Rail Lubricator units (Permanent Way Other), following a notification from Telstra that 3G services would be disconnected in June 2024.

Rail renewal scope at Briaba and Aberdeen was rolled forward to FY25 due to the reduction in the planned March integrated closure and the introduction of a new integrated closure in July. The reason for the change was due to the delay encountered with signalling upgrades.

The track upgrade at McNaughton was cancelled and will be replanned to integrate with a future weighbridge upgrade at the same location.

2. Ballast Cleaning:

Nearly 2.5km of unallocated reactive mainline excavator undercutting scope and one unallocated reactive turnout were not required in FY24. Additionally, the decision to complete Ground Penetrating Radar (**GPR**) every two years is expected to be sufficient for the Newlands system, therefore a GPR run was not carried out in FY24.

The reduced length of the March 2024 closure resulted in the Eaglefield Creek bridge rollout being rescheduled to September 2024 (FY25).

3. Structures:

Aurizon Network completed two of the three planned bridge renewals in FY24. Higher costs than budgeted were incurred on one of the bridge replacements at Dinner Creek due to additional requirements resulting from a high water table. This was identified during site preparation and the installation of rock layered foundation was required to be included to the scope of works. The third site, Deadman Creek, was originally a design and renewal planned for FY24 however the renewal scope was deferred to FY27 to allow sufficient time to design and plan for the renewal (including construction procurement activities). The design was successfully completed in FY24.

Two of the five planned culvert renewals were completed. A breakdown of the contractor's CIPP lining truck resulted in an extended project timeline for the CIPP installations at three sites, which have accordingly been rolled into FY25.

4. Civil Renewals:

The unfavourable formation renewal spend to budget is largely driven by an increase in civil contractor costs. Aurizon Network undertook a competitive tender process to award fixed-price contracts to complete the planned FY24 works. All respondents submitted prices well above historical rates. In order to manage the price escalation, Aurizon Network has made changes to the contracting model for FY25 and are monitoring the effects of these changes.

During FY24, Aurizon Network completed 50% of the planned formation renewal scope within Newlands and GAPE. For the remaining 50%:

- The formation at Aberdeen had scope changes due to an overlap with previously completed works. The scope was then increased to cover a nearby level crossing which had multiple issues reported from the Track Conditioning Vehicle. The scope was ultimately not delivered in FY24 and was rolled forward to FY25 due to a reduction in the length of the March 2024 Integrated Possession (**IP**) (following the deferral of the Remote Control Signalling implementation which was the critical driver for the duration of the March IP); and
- The Buckley scope (0.215km) was already completed and claimed in FY23.

A lower level of reactive formation scope than planned was required. Delays in obtaining required TMR Road Authority Approvals also impacted the delivery of access point design scope.

One level crossing was completed that had been deferred from FY23 due to a suitable road traffic detour unable to be agreed upon with the relevant stakeholders.

5. Control Systems:

Aurizon Network incurred \$1.3m delivering Control Systems renewals in FY24 which was \$0.5m below budget. Major factors that impacted the overall program include:

- The availability of key labour resources, both in design and construction, particularly during planned closures, has been impacted by the completion of significant prior year deferred scope. This has resulted in a number of scope items being deferred to future years, or only partially completed within FY24;
- Control Systems has been further impacted by above-budget cost escalation particularly on material costs which have been impacted by the global supply chain; and

Specific variations to scope and cost against the RSB were due to the following:

- Asset Protection: All sites were rolled forward to FY25. One was planned for renewal at Kaili Station, however during the design period it was proposed to relocate the system to the Abbot Point supersite. Additional civil work was required at this site to accommodate the new system, however the benefit in the site relocation is the consolidation of building assets at Kaili. Other four were due to internal design resource constraints.
- Power Resilience: Three sites delivered as planned and in line with budget.
- Transmission & Data: Eight sites were delivered (including three that had been carried forward from FY23) against a planned 26 largely due to internal and external resource constraints.
- UTC/DTC System Upgrades: Scope rolled forward to FY25 due to internal and external resource constraints.

6. Non-RSB Projects: Costs incurred as a result of ATIS which was not included in the Newlands and GAPE RSB are discussed in section 8.

7.1.1 Allocation of costs and revenue from Asset Replacement and Renewal Expenditure

The QCA approved Aurizon Network’s GAPE and Newlands pricing DAAU in February 2024, which applies a causation-based approach to allocating costs and revenue from asset replacement and renewals expenditure in the shared rail corridor between GAPE and Newlands System users.

The methodology identifies the fixed and variable portions of capital expenditure, with the:

- fixed component being allocated to the relevant Coal System where the replaced asset financially resides; and
- variable component being added to the Newlands RAB, and the associated Allowable Revenues being allocated between Newlands and GAPE Train Services.

Applying the above methodology to the FY24 Capex Claim would see the:

- GAPE RAB include:
 - \$0.1m expenditure between North Goonyella Junction and Newlands Mine Junction (the GAPE Link); plus
 - \$0.04m, being the fixed portion of the Replacement Capex on GAPE RAB Assets in the Newlands Shared Rail Corridor.
- Newlands RAB include:
 - \$11.4m, being the fixed portion of the Replacement Capex on Newlands RAB Assets in the Newlands Shared Rail Corridor; plus
 - \$10.4m, being the variable proportion of Replacement Capex.

As noted above, Allowable Revenues associated with the \$10.4m variable proportion of Replacement Capex would then be allocated between Newlands and GAPE Train services.

7.2 Cost Incurred versus Claimed Amount

In line with Clause 1.3(a)(ii) of Schedule E of UT5, please refer to Table 10 for detail on the costs incurred for the Year versus the claimed amount for the Newlands System and GAPE.

Table 10 Combined Newlands/GAPE System Costs Incurred versus Claimed Amount

| Item | Total Costs Incurred in FY24 (\$m) | FY24 Scope Claimed in FY24 (\$m) | Prior Year Scope Claimed in FY24 (\$m) | Future Year Scope Claimed in FY24 (\$m) | Total Claimed Expenditure (\$m) | IDC (\$m) | Total Claimed Amount including IDC (\$m) |
|------------------------|------------------------------------|----------------------------------|--|---|---------------------------------|------------|--|
| Permanent Way | 7.1 | 6.6 | 0.2 | - | 6.8 | 0.1 | 6.9 |
| Ballast Cleaning | 0.8 | 0.7 | 0.1 | - | 0.8 | 0.0 | 0.9 |
| Structures | 6.8 | 6.5 | 0.2 | - | 6.8 | 0.2 | 7.0 |
| Civil Renewals | 3.1 | 2.2 | 1.2 | - | 3.4 | 0.1 | 3.6 |
| Control Systems Assets | 1.3 | 0.4 | 1.7 | - | 2.1 | 0.1 | 2.2 |
| Non-RSB Projects | 1.7 | - | 1.9 | - | 1.9 | 0.0 | 2.0 |
| Total | 20.9 | 16.4 | 5.5 | - | 21.9 | 0.6 | 22.5 |

8. System Wide

8.1 Projects not included in the FY24 RSB

As part of this FY24 capital expenditure claim, Aurizon Network is seeking QCA approval to include capital expenditure of \$18.8m (excluding IDC) into the RAB which relates to the following key improvement initiatives:

8.1.1 Automated Track Inspection System

The Automated Track Inspection System (**ATIS**) comprises a suite of measurement systems that replace and extend Aurizon Network's rail corridor condition monitoring capability by using proven technology fitted to revenue rollingstock to monitor infrastructure assets, including:

- Track Geometry Measurement System (**TGMS**) – measuring track geometry condition.
- Wire Geometry Measurement System (**WGMS**) – measuring overhead wire alignment relative to track position
- Pantograph Collision Detection System (**PCDS**) – measuring the interface between the pantograph and the overhead wire.

ATIS leverages Aurizon Network's previous investments in vehicle telemetry, IT, telecommunications infrastructure, and process improvement to provide an autonomous data collection system that is designed to generate insights and plan track geometry corrective maintenance work automatically via the OneSAP system.

The primary benefit to the supply chain is the reduction in unplanned maintenance and renewal events and associated system disruption and constraints (i.e., temporary speed restrictions and cancellations). ATIS also enables cost and capacity benefits via a reduction in paths consumed by the previously utilised Track Recording Vehicle along with its associated costs.

In FY22, support was received from the RIG for a \$10.5m investment in the full deployment of ATIS, with the total capital investment to be assessed as part of a capital claim(s) for RAB inclusion with a 10-year useful life.

TGMS is now in production in all four Coal Systems. WGMS is now in production in both the Goonyella and Blackwater Systems. All planned PCDS units have been installed to electric locomotives in the Goonyella and Blackwater Systems. The production data captured through these measurement systems is being fed into the graphical user interface application which is being actively reviewed by the Network Asset Management team to:

- monitor asset performance;
- investigate anomalous readings; and
- inform planned track and overhead wiring maintenance activities.

The benefits delivered by ATIS remain unchanged, although some benefits have been deferred to FY25 due to delays in program completion associated with design, supply chain and installation challenges, as presented during the March 2024 RIG producer meeting. Following the identified issues and engineering constraints to monitor non-Aurizon Operations and slow-speed track sections, three preferred options were evaluated with a recommendation provided to the RIG producer group in July 2024 for review and endorsement. Completion is expected in Q1 FY25.

Aurizon Network is now seeking QCA approval of partial ATIS project costs as part of the FY24 Capex Claim. These costs are presented in Table 11.

8.1.2 Customer-Specific Rail Infrastructure Connection Deed

Pembroke Resources (Pembroke) acquired the Olive Downs project in May 2016. [REDACTED]

[REDACTED]

- [REDACTED]
- [REDACTED]
- [REDACTED]
- [REDACTED]
- [REDACTED]
- [REDACTED]

[REDACTED]

Aurizon Network is now seeking QCA approval of the Olive Downs RICD project costs as part of the FY24 Capex Claim. These costs are presented in Table 11.

8.2 Cost Incurred versus Claimed Amount

In line with Clause 1.3(a)(ii) of Schedule E of UT5, please refer to Table 11 for details of the costs incurred for the Year versus the claimed amount for the projects not included in the FY24 RSB. These values have been accounted for in the individual system tables for consistency, however the total amount attributable to these projects has been presented here separately for clarity. Please note the amounts presented in Table 11 are not in addition to what has already been presented.

Table 11 Other Improvement Initiative (Non-RSB) Costs Incurred versus Claimed Amount

| Item | Claimed Expenditure (\$m) | IDC (\$m) | Total Claimed Amount including IDC (\$m) |
|------------------------------|---------------------------|------------|--|
| ATIS | 5.2 | 0.1 | 5.3 |
| Customer-Specific Connection | 13.6 | 0.1 | 13.7 |
| Total | 18.8 | 0.2 | 19.0 |

9. Procurement Strategy and Inventory

In completing asset replacement and renewals work for FY24, Aurizon Network has endeavoured to procure resources in an effective and efficient manner, an outcome that was supported through the execution of the procurement strategy and methodology outlined within the Approved and Interim RSBs. This approach saw Aurizon Network seek to maximise utilisation of its internal delivery teams and augment these internal resources with suitably qualified contractor staff and plant where additional resources were required to complete identified scope.

When engaging external resources, Aurizon Network utilised, wherever reasonably possible, a series of engineering and technical service contractor panels, established through its Enterprise Procurement group. These include asset-specific service panels, skilled labour hire, plant hire and plant transportation services. Where scope required a specific skill set or if the required plant was not held within the Aurizon Network group, Aurizon Network sought to engage pre-qualified contractors to perform work either under direct supervision or if approved, as principal contractor for short periods. Aurizon Network applies an assurance program and a performance-based governance framework for external contractors to ensure they meet the required business and safety processes and policies.

Aurizon Network will continue to work with our Customers and internal teams across the Aurizon business to assess our existing procurement practices with a view to identifying improvement opportunities that will deliver value to our business and to our Customers.

10. Capital Expenditure for inclusion into the RAB by System

This submission provides the QCA with the details of capital expenditure that Aurizon Network considers should be included in the RAB in accordance with Clause 2.2 of Schedule E of UT5. Details for each Coal System are contained within the following tables:

10.1 Blackwater System

Table 12 Blackwater System - Claimed Expenditure excluding IDC (\$m)

| Project Number | Project Name | RIG Category | Claimed Expenditure (\$m) |
|----------------|---------------------------------------|------------------|---------------------------|
| IV.00455 | Control Systems Renewal Package 1 | Control Systems | 0.0 |
| IV.00457 | Control Systems Renewal Package 3 | Control Systems | 0.1 |
| IV.00463 | Turnout Renewal Package 3 | Permanent Way | 1.4 |
| IV.00505 | Power Systems Renewal Package 3 | Electrical | 0.0 |
| IV.00508 | Electrical Overhead Renewal Package 3 | Electrical | 0.0 |
| IV.00678 | Optical Fibre Renewal | Control Systems | 5.2 |
| IV.00692 | Train Detection Renewal Central Line | Control Systems | 0.4 |
| IV.00693 | Interlocking Renewal - NCL | Control Systems | 0.0 |
| IV.00694 | Control Sys Renewal Callemondah | Control Systems | 0.2 |
| IV.00801 | FY22 Track Renewal | Permanent Way | 0.1 |
| IV.00802 | FY23 Track Renewal | Permanent Way | 7.4 |
| IV.00803 | FY24 Track Renewal | Permanent Way | 23.3 |
| IV.00804 | FY22 Bridge Ballast Renewal | Ballast Cleaning | 0.1 |
| IV.00805 | FY23 Bridge Ballast Renewal | Ballast Cleaning | 0.8 |
| IV.00806 | FY24 Bridge Ballast Renewal | Ballast Cleaning | 4.9 |
| IV.00807 | FY22 Formation Renewal | Civil Assets | 0.1 |
| IV.00808 | FY23 Formation Renewal | Civil Assets | 1.0 |
| IV.00809 | FY24 Formation Renewal | Civil Assets | 9.9 |
| IV.00810 | FY22 Level Crossing Renewal | Civil Assets | 0.3 |
| IV.00811 | FY23 Level Crossing Renewal | Civil Assets | 1.2 |
| IV.00812 | FY24 Level Crossing Renewal | Civil Assets | 3.0 |
| IV.00813 | FY22 Turnout Renewal | Permanent Way | 0.7 |
| IV.00814 | FY23 Turnout Renewal | Permanent Way | 3.5 |
| IV.00815 | FY24 Turnout Renewal | Permanent Way | 9.8 |
| IV.00816 | FY22 Culvert Renewal | Structures | 1.7 |
| IV.00817 | FY23 Structures Renewal | Structures | 2.6 |
| IV.00818 | FY24 Structures Renewal | Structures | 9.1 |
| IV.00820 | FY22 Control Systems Renewal | Control Systems | 0.5 |
| IV.00821 | FY23 Control Systems Renewal | Control Systems | 5.4 |
| IV.00822 | FY24 Control Systems Renewal | Control Systems | 2.5 |

| Project Number | Project Name | RIG Category | Claimed Expenditure (\$m) |
|---------------------------|----------------------------------|------------------|---------------------------|
| IV.00823 | FY22 Power Systems Renewal | Electrical | 0.2 |
| IV.00824 | FY23 Power Systems Renewal | Electrical | 0.9 |
| IV.00825 | FY24 Power Systems Renewal | Electrical | 1.9 |
| IV.00827 | FY23 Electrical Overhead Renewal | Electrical | 1.2 |
| IV.00828 | FY24 Electrical Overhead Renewal | Electrical | 0.9 |
| IV.00831 | FY22 Ballast Renewal | Ballast Cleaning | 0.0 |
| IV.00832 | FY23 Ballast Renewal | Ballast Cleaning | 1.7 |
| IV.00833 | FY24 Ballast Renewal | Ballast Cleaning | 40.2 |
| IV.00835 | FY23 Civil Renewals | Civil Assets | 0.4 |
| IV.00836 | FY24 Civil Renewals | Civil Assets | 0.4 |
| IV.00869 | Network Edge Protection | Civil Assets | 0.2 |
| RSB Projects Total | | | 143.3 |
| IV.00841 | ATIS | Non-RSB Project | 1.1 |
| System Total | | | 144.4 |

10.2 Goonyella System

Table 13 Goonyella System - Claimed Expenditure excluding IDC (\$m)

| Project Number | Project Name | RIG Category | Claimed Expenditure (\$m) |
|----------------|--|------------------|---------------------------|
| IV.00456 | Control Systems Renewal Package 2 | Control Systems | 0.0 |
| IV.00457 | Control Systems Renewal Package 3 | Control Systems | 0.1 |
| IV.00460 | Level Crossing Renewal Package 3 | Civil Assets | 0.0 |
| IV.00463 | Turnout Renewal Package 3 | Permanent Way | 0.1 |
| IV.00505 | Power Systems Renewal Package 3 | Electrical | 0.0 |
| IV.00508 | Electrical Overhead Renewal Package 3 | Electrical | 0.3 |
| IV.00678 | Optical Fibre Renewal | Control Systems | 8.2 |
| IV.00691 | Signalling Sys Renewal Goonyella Trunk | Control Systems | 0.1 |
| IV.00801 | FY22 Track Renewal | Permanent Way | 0.0 |
| IV.00802 | FY23 Track Renewal | Permanent Way | 5.7 |
| IV.00803 | FY24 Track Renewal | Permanent Way | 19.6 |
| IV.00805 | FY23 Bridge Ballast Renewal | Ballast Cleaning | 0.5 |
| IV.00806 | FY24 Bridge Ballast Renewal | Ballast Cleaning | 0.7 |
| IV.00807 | FY22 Formation Renewal | Civil Assets | 0.2 |
| IV.00808 | FY23 Formation Renewal | Civil Assets | 0.9 |
| IV.00809 | FY24 Formation Renewal | Civil Assets | 7.0 |
| IV.00810 | FY22 Level Crossing Renewal | Civil Assets | 0.1 |
| IV.00811 | FY23 Level Crossing Renewal | Civil Assets | 0.1 |
| IV.00812 | FY24 Level Crossing Renewal | Civil Assets | 3.9 |
| IV.00813 | FY22 Turnout Renewal | Permanent Way | 0.5 |
| IV.00814 | FY23 Turnout Renewal | Permanent Way | 0.2 |
| IV.00815 | FY24 Turnout Renewal | Permanent Way | 8.1 |
| IV.00816 | FY22 Culvert Renewal | Structures | 0.8 |
| IV.00817 | FY23 Structures Renewal | Structures | 1.6 |
| IV.00818 | FY24 Structures Renewal | Structures | 8.6 |
| IV.00820 | FY22 Control Systems Renewal | Control Systems | 0.4 |
| IV.00821 | FY23 Control Systems Renewal | Control Systems | 1.9 |
| IV.00822 | FY24 Control Systems Renewal | Control Systems | 3.9 |
| IV.00823 | FY22 Power Systems Renewal | Electrical | 0.3 |
| IV.00824 | FY23 Power Systems Renewal | Electrical | 0.8 |
| IV.00825 | FY24 Power Systems Renewal | Electrical | 1.8 |
| IV.00826 | FY22 Electrical Overhead Renewal | Electrical | 0.1 |
| IV.00827 | FY23 Electrical Overhead Renewal | Electrical | 1.8 |
| IV.00828 | FY24 Electrical Overhead Renewal | Electrical | 0.1 |
| IV.00829 | Goonyella Ports Overhead Renewals | Electrical | 0.9 |

| Project Number | Project Name | RIG Category | Claimed Expenditure (\$m) |
|---------------------------|------------------------------|------------------|---------------------------|
| IV.00831 | FY22 Ballast Renewal | Ballast Cleaning | 0.0 |
| IV.00832 | FY23 Ballast Renewal | Ballast Cleaning | 2.1 |
| IV.00833 | FY24 Ballast Renewal | Ballast Cleaning | 42.6 |
| IV.00835 | FY23 Civil Renewals | Civil Assets | 0.0 |
| IV.00836 | FY24 Civil Renewals | Civil Assets | 0.8 |
| IV.00869 | Network Edge Protection | Civil Assets | 0.0 |
| RSB Projects Total | | | 124.9 |
| IV.00841 | ATIS | Non-RSB Project | 1.1 |
| IV.00970 | Customer-Specific Connection | Non-RSB Project | 13.6 |
| System Total | | | 139.6 |

10.3 Moura System

Table 14 Moura System - Claimed Expenditure excluding IDC (\$m)

| Project Number | Project Name | RIG Category | Claimed Expenditure (\$m) |
|---------------------------|-----------------------------------|------------------|---------------------------|
| IV.00448 | Structures Renewal Package 3 | Structures | 0.1 |
| IV.00457 | Control Systems Renewal Package 3 | Control Systems | 0.0 |
| IV.00460 | Level Crossing Renewal Package 3 | Civil Assets | 0.0 |
| IV.00463 | Turnout Renewal Package 3 | Permanent Way | 0.1 |
| IV.00801 | FY22 Track Renewal | Permanent Way | 0.0 |
| IV.00802 | FY23 Track Renewal | Permanent Way | 0.3 |
| IV.00803 | FY24 Track Renewal | Permanent Way | 4.1 |
| IV.00805 | FY23 Bridge Ballast Renewal | Ballast Cleaning | 0.0 |
| IV.00806 | FY24 Bridge Ballast Renewal | Ballast Cleaning | 0.7 |
| IV.00807 | FY22 Formation Renewal | Civil Assets | 0.0 |
| IV.00808 | FY23 Formation Renewal | Civil Assets | 0.1 |
| IV.00809 | FY24 Formation Renewal | Civil Assets | 3.2 |
| IV.00810 | FY22 Level Crossing Renewal | Civil Assets | 0.1 |
| IV.00811 | FY23 Level Crossing Renewal | Civil Assets | 0.4 |
| IV.00812 | FY24 Level Crossing Renewal | Civil Assets | 0.8 |
| IV.00813 | FY22 Turnout Renewal | Permanent Way | 0.8 |
| IV.00814 | FY23 Turnout Renewal | Permanent Way | 0.6 |
| IV.00815 | FY24 Turnout Renewal | Permanent Way | 1.8 |
| IV.00816 | FY22 Culvert Renewal | Structures | 0.1 |
| IV.00817 | FY23 Structures Renewal | Structures | 1.2 |
| IV.00818 | FY24 Structures Renewal | Structures | 0.8 |
| IV.00820 | FY22 Control Systems Renewal | Control Systems | 0.1 |
| IV.00821 | FY23 Control Systems Renewal | Control Systems | 1.3 |
| IV.00822 | FY24 Control Systems Renewal | Control Systems | 3.4 |
| IV.00832 | FY23 Ballast Renewal | Ballast Cleaning | 0.2 |
| IV.00833 | FY24 Ballast Renewal | Ballast Cleaning | 2.5 |
| IV.00834 | FY22 Civil Renewals | Civil Assets | 0.1 |
| IV.00836 | FY24 Civil Renewals | Civil Assets | 1.0 |
| IV.00869 | Network Edge Protection | Civil Assets | 0.0 |
| RSB Projects Total | | | 23.7 |
| IV.00841 | ATIS | Non-RSB Project | 1.0 |
| System Total | | | 24.7 |

10.4 Newlands System and GAPE

Table 15 Newlands System and GAPE - Claimed Expenditure excluding IDC (\$m)

| Project Number | Project Name | RIG Category | Claimed Expenditure (\$m) |
|--------------------------|-----------------------------------|------------------|---------------------------|
| IV.00451 | Bridge Ballast Renewal Package 3 | Ballast Cleaning | 0.1 |
| IV.00456 | Control Systems Renewal Package 2 | Control Systems | 0.0 |
| IV.00457 | Control Systems Renewal Package 3 | Control Systems | 0.0 |
| IV.00802 | FY23 Track Renewal | Permanent Way | 0.2 |
| IV.00803 | FY24 Track Renewal | Permanent Way | 6.4 |
| IV.00807 | FY22 Formation Renewal | Civil Assets | 0.0 |
| IV.00808 | FY23 Formation Renewal | Civil Assets | 0.1 |
| IV.00809 | FY24 Formation Renewal | Civil Assets | 1.8 |
| IV.00810 | FY22 Level Crossing Renewal | Civil Assets | 0.1 |
| IV.00811 | FY23 Level Crossing Renewal | Civil Assets | 0.8 |
| IV.00812 | FY24 Level Crossing Renewal | Civil Assets | 0.1 |
| IV.00813 | FY22 Turnout Renewal | Permanent Way | 0.0 |
| IV.00814 | FY23 Turnout Renewal | Permanent Way | 0.0 |
| IV.00815 | FY24 Turnout Renewal | Permanent Way | 0.1 |
| IV.00816 | FY22 Culvert Renewal | Structures | 0.1 |
| IV.00817 | FY23 Structures Renewal | Structures | 0.1 |
| IV.00818 | FY24 Structures Renewal | Structures | 6.5 |
| IV.00820 | FY22 Control Systems Renewal | Control Systems | 0.1 |
| IV.00821 | FY23 Control Systems Renewal | Control Systems | 1.6 |
| IV.00822 | FY24 Control Systems Renewal | Control Systems | 0.4 |
| IV.00832 | FY23 Ballast Renewal | Ballast Cleaning | 0.0 |
| IV.00833 | FY24 Ballast Renewal | Ballast Cleaning | 0.7 |
| IV.00835 | FY23 Civil Renewals | Civil Assets | 0.1 |
| IV.00836 | FY24 Civil Renewals | Civil Assets | 0.3 |
| IV.00869 | Network Edge Protection | Civil Assets | 0.1 |
| RSB Project Total | | | 20.0 |
| IV.00841 | ATIS | Non-RSB Project | 1.9 |
| System Total | | | 21.9 |

Appendix A: Incurred Renewal Expenditure vs Commissioned Asset System Graphs

Aurizon Network has included the following waterfall graphs to assist with the comparison of actual incurred Asset Renewals Expenditure to the value of commissioned assets for each program that is included within this submission.

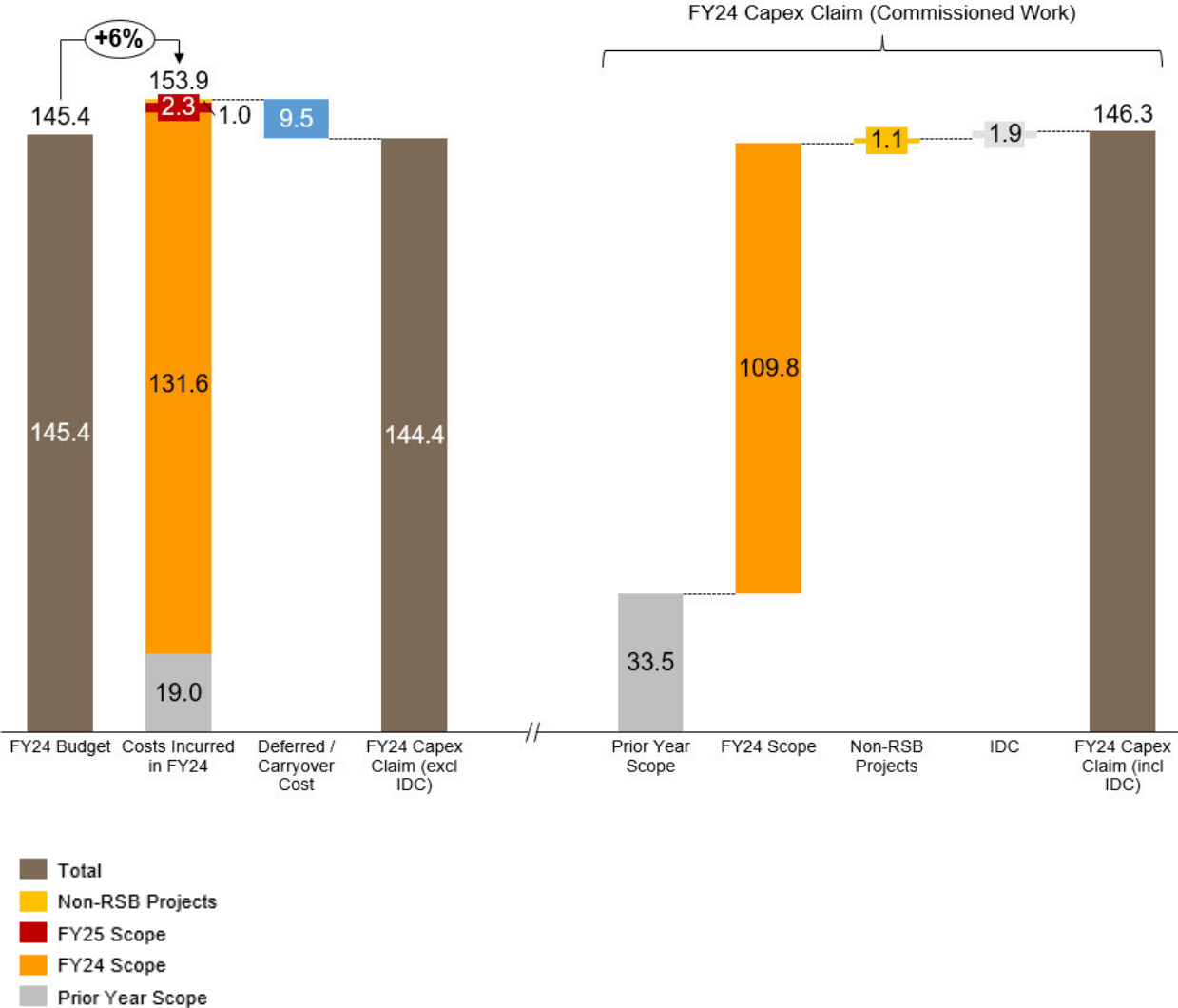
Please note that the following graphs reflect the expenditure that Aurizon Network has incurred while delivering the FY24 Asset Replacement and Renewals program. While incurred expenditure provides an appropriate comparison against the Approved and Interim RSBs, in some circumstances this may differ from the amounts Aurizon Network is seeking QCA approval of through this Capex Claim (which reflects commissioned assets). Aurizon Network has sought to separately identify incurred versus claimed costs for comparison. Please note that variances between incurred and claimed expenditure can exist where incurred expenditure is awaiting an administrative process (e.g. receipt of a final invoice) before the asset in question can be commissioned and subsequently transferred to Aurizon Network's Fixed Asset Register (**FAR**).

Further waterfall graphs illustrating the above for each renewal category within each Coal System are available upon request.

Blackwater

Figure 2 FY24 – Blackwater System

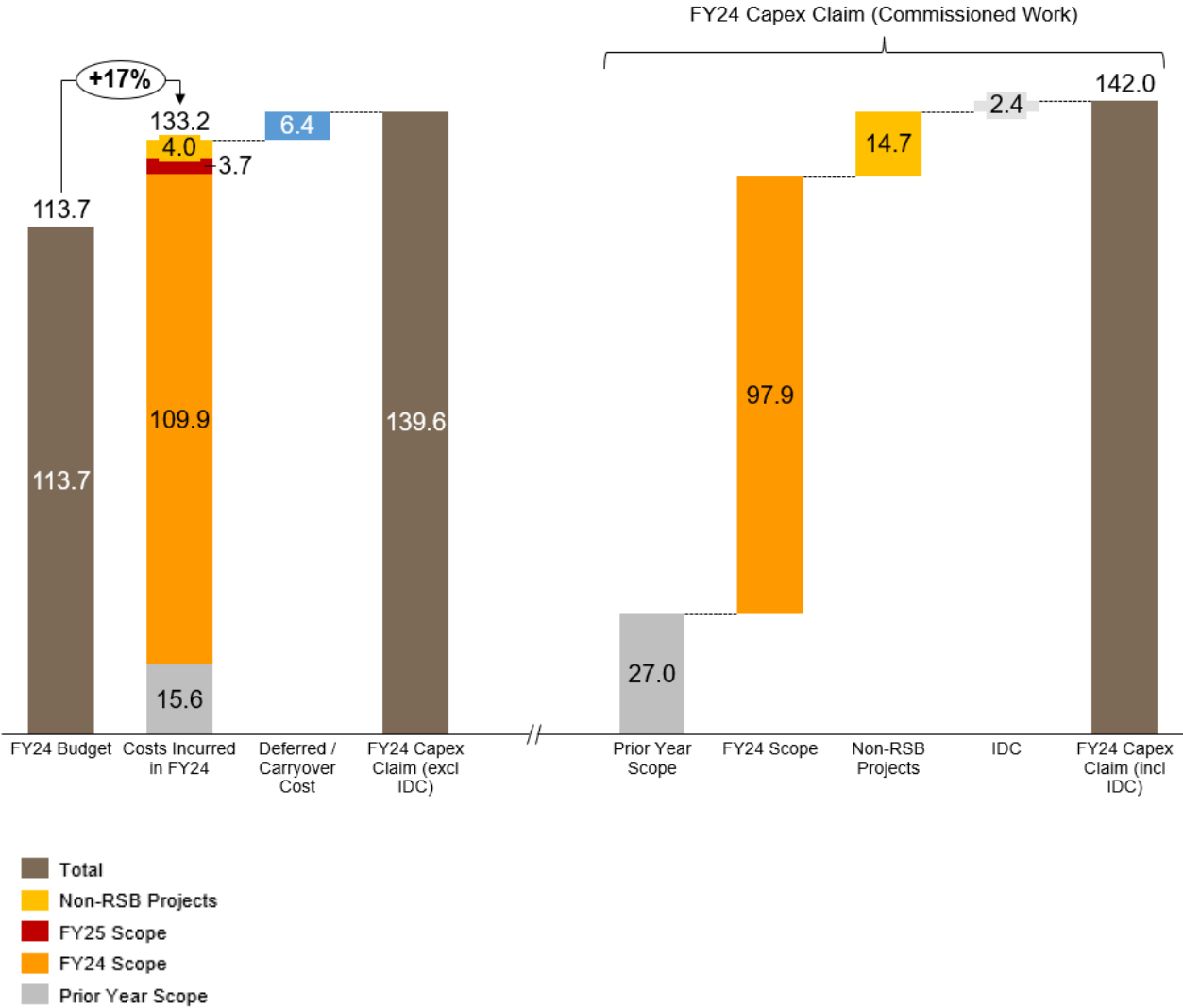
Blackwater - System Total



Goonyella

Figure 3 FY24 System - Goonyella

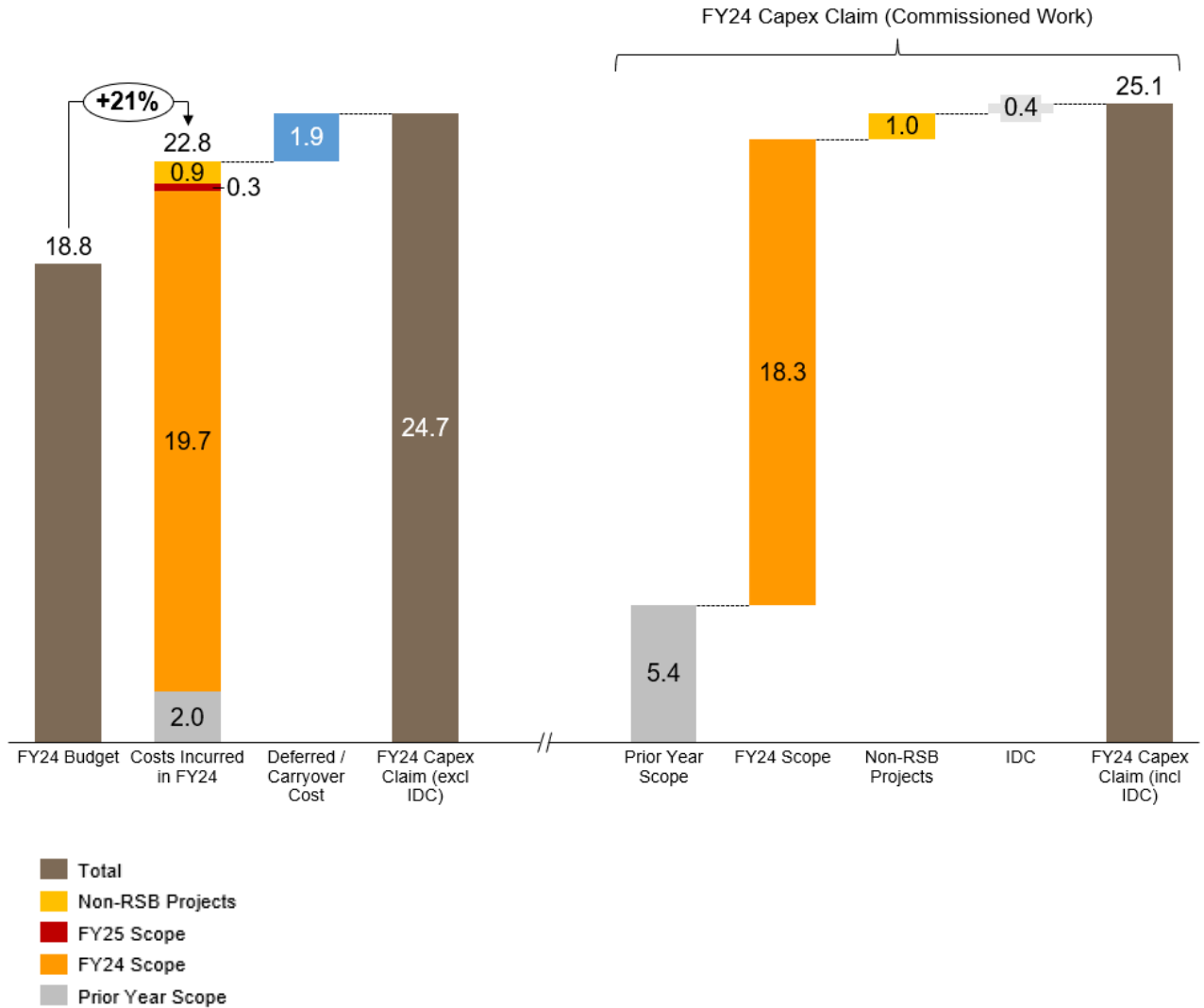
Goonyella - System Total



Moura

Figure 4 FY24 System - Moura

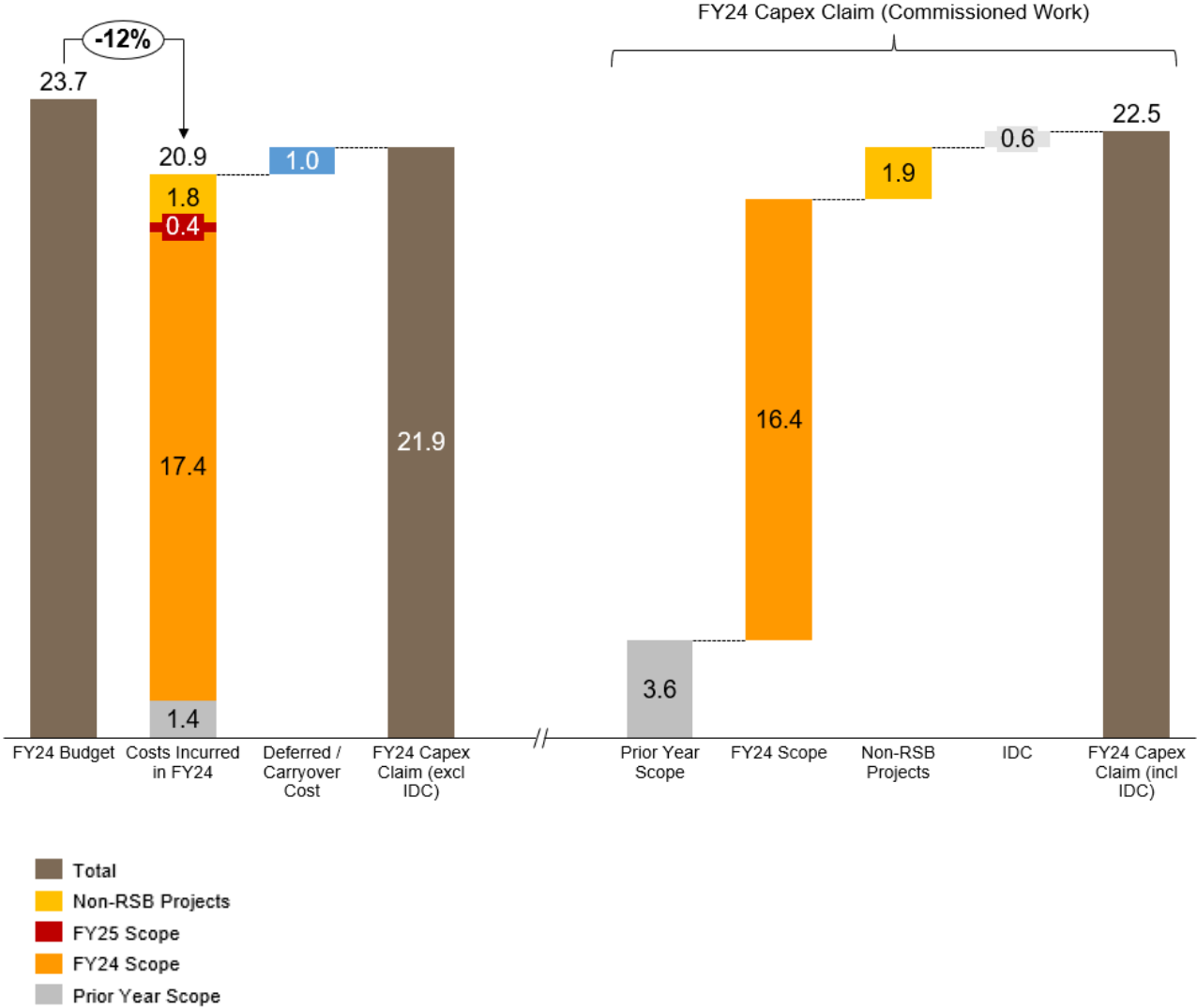
Moura System Total



Newlands and GAPE

Figure 5 FY24 System – Newlands and GAPE

Newlands System and GAPE Total



Appendix B: Supporting Documentation