CENTRAL QUEENSLAND COAL NETWORK

2023

ANNUAL CAPACITY ASSESMENT REPORT

REDACTED VERSION

COAL NETWORK CAPACITY CO.

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Contents

1. Preamble

UT5, as approved by the Queensland Competition Authority ("QCA"), requires Capacity Assessments to be performed by the Independent Expert ("IE") for of each of the Central Queensland Coal Network's coal systems, as detailed in *Part 7A: Capacity*.

This is the second Annual Capacity Assessment Report ("ACAR") since the completion of the Initial Capacity Assessment Report ("ICAR") in 2021. The ACAR determines the Deliverable Network Capacity ("DNC") for each coal system of the CQCN. The timing for the release of the ACAR has been set to align with the beginning of the next financial year.

This document should be read in conjunction with the 2023 System Operating Parameters ("SOP") which set out the assumptions on the operation of each element of the coal Supply Chain.

1.2 Deliverable Network Capacity

The following extract defining Deliverable Network Capacity is taken from Part 7A.2 of UT5.

7A.2 Definition of Deliverable Network Capacity

(a) For the purpose of this Part 7A, Deliverable Network Capacity means the capacity of the Rail Infrastructure, expressed as the maximum number of Train Paths (calculated on a Monthly and annual basis) that can be utilised in each coal system (such Train Paths needing to be useable including in respect of return journeys), and the mainline and each branch line of that coal system, taking into account the operation of that coal system, having regard to:

(i) the way in which the relevant coal system operates in practice, including those matters taken into consideration in formulating the System Operating Parameters;
(ii) reasonable requirements in respect of planned maintenance and a reasonable estimate of unplanned maintenance, repair, renewal and Expansion activities on the Rail Infrastructure;
(iii) reasonably foreseeable delays or failures of Rollingstock occurring in the relevant Supply Chain, both planned delays and failures and a reasonable estimate of unplanned delays and failures;
(iv) reasonably foreseeable delays associated with any restrictions (including speed restrictions, dwell times within Train Services and between Train Services and other operating restrictions) affecting the Rail Infrastructure;
(v) the context in which the Rail Infrastructure interfaces with other facilities forming part of, or affecting, the relevant Supply Chain (including loading facilities, load out facilities and coal export terminal facilities);
(vi) the need for Aurizon Network to comply with its obligations to provide access to non-coal traffic under Access Agreements, Passenger Priority Obligation or Preserved Train Path Obligations;
(vii) the Supply Chain operating mode (including at the loading facilities, load out facilities and coal export terminal facilities);
(viii) interfaces between the different coal systems; and
(ix) the terms of Access Agreements (including the number of Train Service Entitlements for each origin and destination combination in that coal system) relating to Train Services operating in coal system.

1.3 Annual Capacity Assessment

1.3.1 Capacity Assessment requirements

UT5 outlines the requirements that the IE must consider in undertaking the Annual Capacity Assessment, which include:

- Consider whether any variation of the SOP is required, provided that any amendments to the SOP:
    - include a consideration of the factors set out in the definition of Deliverable Network Capacity;
    - would be consistent with the applicable approved Maintenance Renewals and Strategy Budget; and
    - would not place Aurizon Network in breach of its obligations under UT5 or any Access Agreement.
- Seek to consult with and receive submissions from Aurizon Network and industry stakeholders on the proposed SOP.
- Set out the SOP for each coal system having regard to the way in which each coal system operates in practice.

The ACAR, and associated SOP, prepared by the IE, must report on the DNC of each coal system over the Capacity Assessment Period. The ACAR must include information regarding:

- Assumptions that the IE has made in interpreting the definitional factors that DNC is characterised by;
- Assumptions that the IE has made in developing the SOP and other modelling related assumptions for each coal system;
- The DNC of each coal system's mainline and branch lines; and
- Constraints that reduce, or are likely to reduce, DNC of each coal system.

The outcomes of the IE's assessment must be reported to the QCA and Aurizon Network ("AN") in a redacted and unredacted form and to the Chair of the Rail Industry Group ("RIG") in a redacted form. QCA and AN will publish the redacted versions on their respective websites.

1.3.2 Capacity Assessment Period

The Capacity Assessment Period for the 2023 ACAR has been determined as the five financial years FY24 to FY28 inclusive i.e. 1 July 2023 to the 30 June 2028.

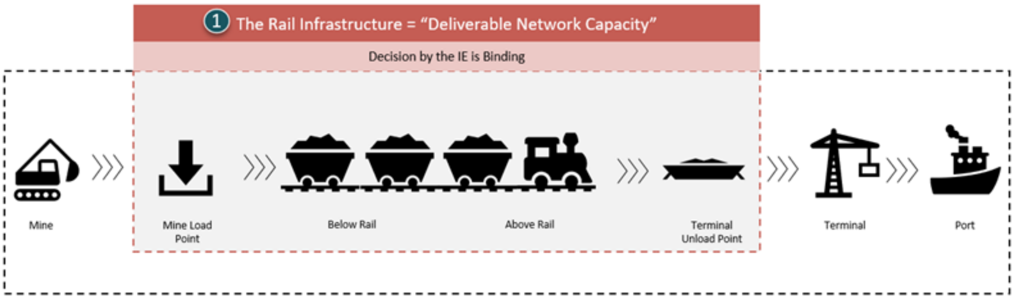
1.4 Dynamic Simulation Model (the "Model")

1.4.1 Model Scope

CNCC and the IE determines the DNC of the CQCN for each coal system primarily through the use of a dynamic simulation model. The Model used by CNCC is based on AnyLogic modelling software which used to model a specific scope within the central Queensland coal industry. The scope of the Model reflects the DNC definition (**Section 1.2**) and considers activities at and between the boundaries of:

- Coal flow into wagons at Train Loadouts ("TLOs"); and
- Coal flow out of wagons at Inloaders/Rail Receival Stations; and includes the components as outlined in **Figure 1.**

Figure 1- Deliverable Network Capacity Boundaries



1.4.2 Model Assumptions

There are several general assumptions used in the determination of the DNC:

- The IE has had to exercise judgement on a large range of issues in developing the SOP assumptions and application of these within the Model. These are called out as appropriate in each section of the SOP;
- Unless stated otherwise in the relevant SOP section, historical data from January 2020 to December 2022 has been used and analysed to develop key data statistical distributions which feed into SOP assumptions and the Model;
- At the time of preparing the 2023 ACAR, the QCA has made a determination on 12 Transitional Arrangements ("TAs") to resolve the Existing Capacity Deficits ("ECD"). Five of these have been explicitly modelled within the 2023 ACAR as per below:

TAs included in 2023 ACAR	Reference Number/(s)	Affected coal system/(s)	Status
Change to the ballast cleaning machine ("BCM") program	NG2, G1, BM1	All coal systems	Included in AN MRSB program
Remote control signalling	NG1	Newlands-GAPE and	In implementation
Relinquishments	-	Blackwater	Completed

1.5 Interpretation

1.5.1 Model Variability

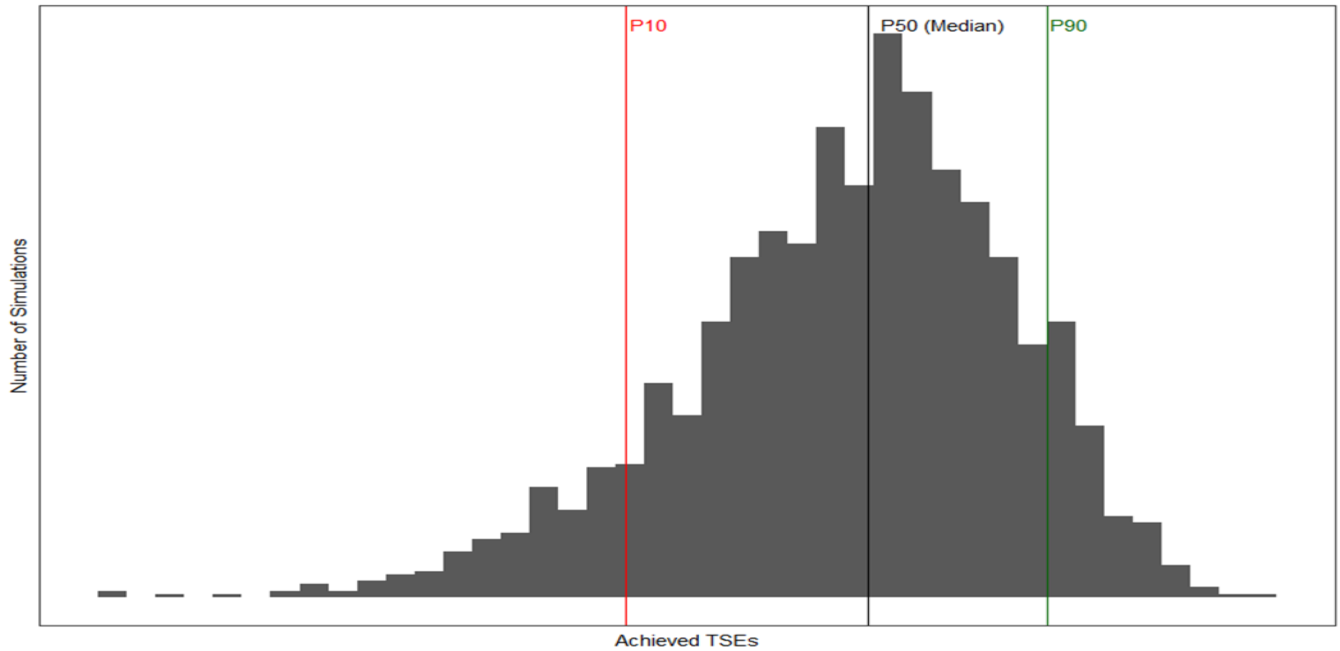
The Model used to model the central Queensland network is a stochastic model and includes a mixture of fixed inputs (e.g. planned maintenance events) and random probability distributions (e.g. unplanned maintenance events) such that there is no single definitive "answer" to the resulting capacity outcome.

This means that each run of the simulation will result in different outcomes as the values for key inputs are randomly chosen throughout the course of the simulation run. Therefore, the model is run many times to obtain a range of likely outcomes. The aim is for 50 successful seed runs.

The DNC is determined as the median result of all the simulation runs, with the 10th percentile (P10) and the 90th percentile (P90) providing an estimate of the variability within the runs. The ACAR 2023 Model variability is -0.9% at P10 and +1.1% at P90.

The chart below (**Figure 2**) is an illustrative example of a histogram of achieved Train Paths across all the simulation runs. The P10, P50 or median, and P90 results are marked.

Figure 2 - Example of the Model Output results (illustrative only)



1.5.1 Payload

UT5 requires that the capacity of the CQCN be measured in terms of train paths (a return train journey). CNCC has in addition, calculated the capacity of each system in tonnage terms, by combining the median train path capacity of each system by the median payload of trains in that system.

1.5.2 Considerations when Evaluating DNC

When considering the determination of DNC, the focus has been to maximise DNC of each coal system and achieve equitability between origin/destinations and cross-system impacts as much as possible.

This analysis assesses the maximum capacity of the Rail Infrastructure using unconstrained demand inputs and optimised consist numbers. This is achieved by increasing demand beyond 100% of committed capacity while adjusting consist numbers to achieve maximum capacity until a practical limit is reached. As a result, DNC may not directly reflect how the network is currently performing. Modelled outcomes apply a higher number of consists to deliver unconstrained demand and as a result, modelled cycle times will be longer.

Although the Model aims to simulate how each coal system operates in practice, it uses simplistic assumptions in certain areas and will not fully replicate the scheduling and execution practices of the network.

Several SOP assumptions used in determining the DNC are constant across the capacity assessment period and/ or represent planned information for only the first year of the five-year period. Although the SOP represent the current/planned operations of the network as at this time, actual results and future events could differ materially from those anticipated.

1.6 Information and Redaction

To the extent possible, this document has been prepared on an aggregated and unredacted basis. Where capacity outcomes contain information that is confidential to an Access Holder, Customer or Train Operator and is unable to be disclosed, it has been redacted in this document.

Minor rounding variances between values presented per month and per annum, per mainline and branch line, and per origin/destination may occur in this report.

2. Executive Summary

The IE has prepared the ACAR regarding the DNC of Aurizon Network's CQCN for the Capacity Assessment Period (1 July 2023 to 30 June 2028). This summary provides an overview of the:

- Capacity Assessment outcomes by coal system; and
- major differences between the ACAR 2023 and ACAR 2022 results.

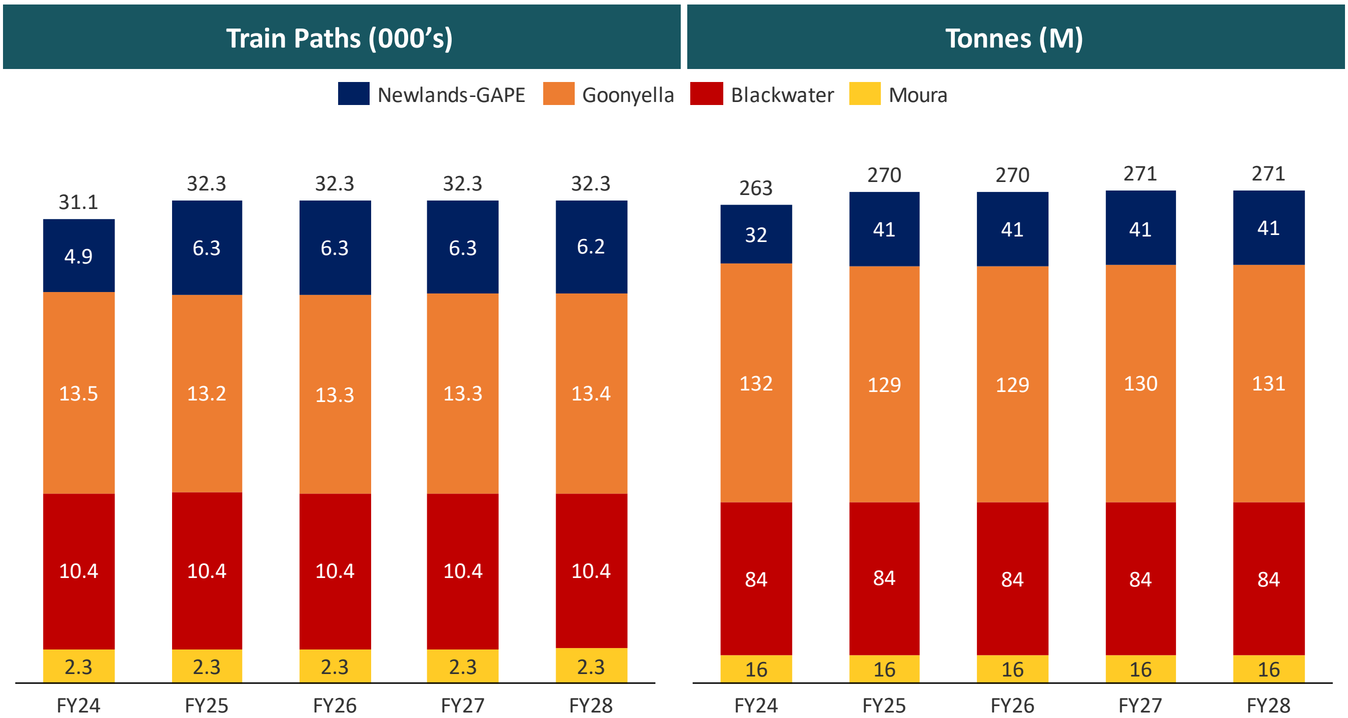
More detailed information on each coal system can be found in the **sections 3-6** of this report.

2.1 Capacity Assessment Outcomes

2.1.1 Deliverable Network Capacity

The IE has determined that the Deliverable Network Capacity per year for the network over the Capacity Assessment Period is as shown in **Figure 3** - *Deliverable Network Capacity by coal system – Train Paths* **.**

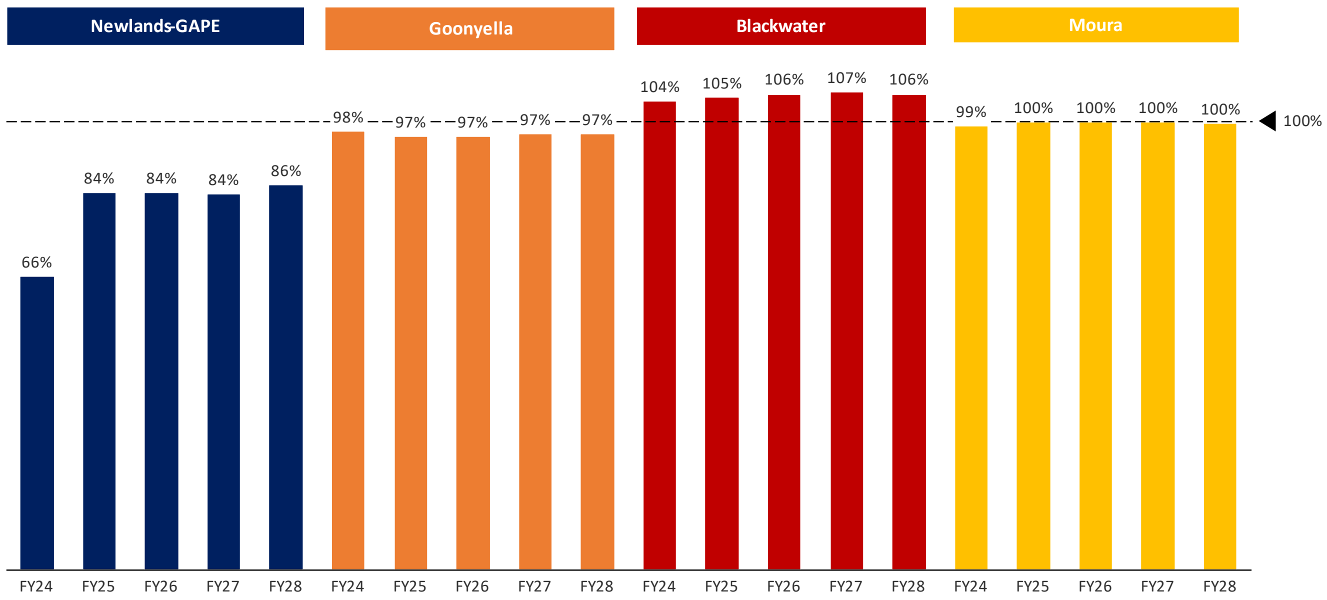
Figure 3 - Deliverable Network Capacity by coal system – Train Paths & Tonnes



2.1.2 Capacity Deficits

The DNC, as a measure against Committed Capacity (i.e. the ability of the rail infrastructure to meet its contracted capacity), for the ACAR 2023 at CQCN and coal system level is shown in **Figure 4**.

Figure 4 - % DNC of Committed Capacity (Contract Achievement)



2.2 Key changes and future opportunities

The IE has continued to refine the Model and the data inputs to ensure the modelling assumptions and outcomes align to how the network operates in practice. For ACAR 2023, several enhancements have been implemented in the Model and to the operational data received from Aurizon Network and the supply chain stakeholders.

Improvements implemented this year and those identified for future are detailed below:

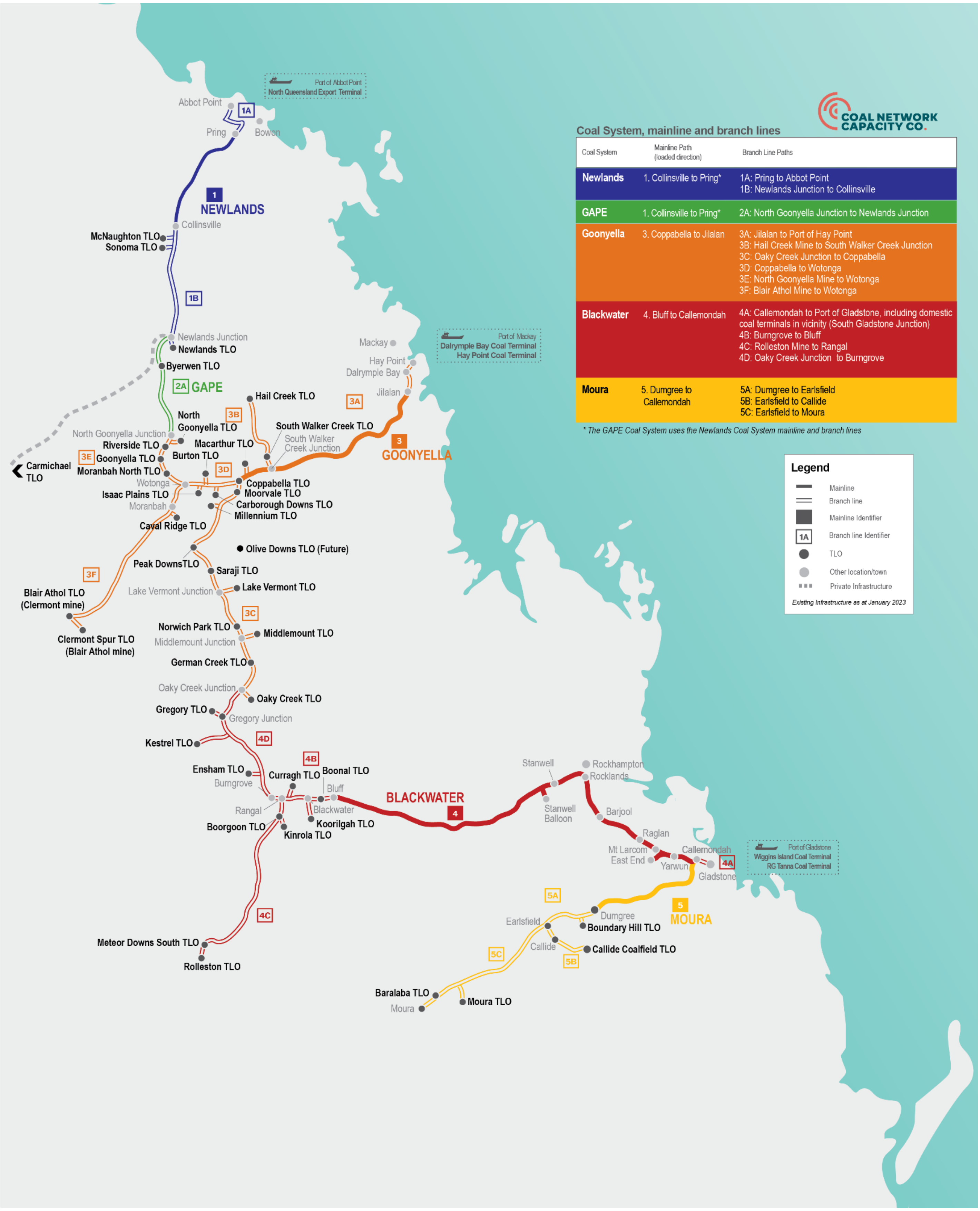
2.2.1 Implemented in 2023 ACAR

- Review of 'safe to stop' locations, yard infrastructure and track preferred scheduling practices
- Inclusion of variable cargo assembly at DBT
- Review of major planned maintenance data for terminals to assess inloader shuts outside of FSS
- Improved operational data for some terminals allowing for better segregation of delay and unload times

2.2.2 Future Opportunities

- Detailed planned maintenance data for the five-year capacity assessment period (i.e., more than 12 months)
- Capture of data to assess the capacity impact of "moving maintenance" e.g. hi rail, moving equipment to site and rail grinding operations
- Analysis of hybrid terminal operations (separate to Supply Chain model development)
- Analysis of yard operations and stowage
- Capture of data that identifies the primary cause and responsibility allocation of delays
- DBT parcel size - in the past 12 months CNCC have been unsuccessful in obtaining information regarding parcel size distribution for DBT shipments. Obtaining this information will improve the model's ability to simulate rail movements in the Goonyella system.

Figure 5 - CQCN Mainline and Branch lines



Coal System, mainline and branch lines

Coal System	Mainline Path (loaded direction)	Branch Line Paths
Newlands	1. Collinsville to Pring*	1A: Pring to Abbot Point 1B: Newlands Junction to Collinsville
GAPE	1. Collinsville to Pring*	2A: North Goonyella Junction to Newlands Junction
Goonyella	3. Coppabella to Jilalan	3A: Jilalan to Port of Hay Point 3B: Hail Creek Mine to South Walker Creek Junction 3C: Oaky Creek Junction to Coppabella 3D: Coppabella Mine to Wotonga 3E: North Goonyella Mine to Wotonga 3F: Blair Athol Mine to Wotonga
Blackwater	4. Bluff to Callemondah	4A: Callemondah to Port of Gladstone, including domestic coal terminals in vicinity (South Gladstone Junction) 4B: Burngrove to Bluff 4C: Rolleston Mine to Rangal 4D: Oaky Creek Junction to Burngrove
Moura	5. Dumgree to Callemondah	5A: Dumgree to Earlsfield 5B: Earlsfield to Callide 5C: Earlsfield to Moura

** The GAPE Coal System uses the Newlands Coal System mainline and branch lines*

3. Newlands and GAPE Systems

3.1 Overview of Newlands and GAPE System

A map of the Newlands and GAPE systems is provided in **Figure 6**. It shows the coal system and each mainline and branch line that makes up the Newlands and GAPE systems with the DNC and ECD for each for the five-year assessment period. It also shows the branch lines that feed any Committed Capacity to the GAPE System from the Goonyella System and to the Newlands System.

The Newlands System refers to the Rail Infrastructure comprising the rail corridor from the terminal at NQXT to Newlands Mine. The Newlands System Rail Infrastructure is also used by GAPE System traffic.

The GAPE System refers to the Rail Infrastructure comprising the rail corridor from North Goonyella Junction to Newlands Junction. There are a number of contracts that originate from the Goonyella System that traverse through the GAPE System. These are via branch lines 3F Blair Athol Mine to Wotonga, 3E North Goonyella Mine to Wotonga, 3C Oaky Creek Junction to Coppabella and 3D Coppabella to Wotonga.

The close integration of the GAPE and Newlands systems mean that these systems are effectively modelled as one system for the purposes of capacity assessment. As a result, ACAR 2023 reporting for these systems is provided primarily on a combined basis. For the purposes of strict compliance with UT5, which requires reporting on each system, separate Newlands and GAPE capacity information is included in ***APPENDIX A: Newlands System Information*** and ***APPENDIX B: GAPE System Information***.

Figure 6 - Newlands and GAPE systems

Coal System, mainline and branch lines

Coal System	Mainline Path (loaded direction)	Branch Line Paths
Newlands	1. Collinsville to Pring*	1A: Pring to Abbot Point 1B: Newlands Junction to Collinsville
GAPE	1. Collinsville to Pring*	2A: North Goonyella Junction to Newlands Junction

** The GAPE Coal System uses the Newlands Coal System mainline and branch lines*

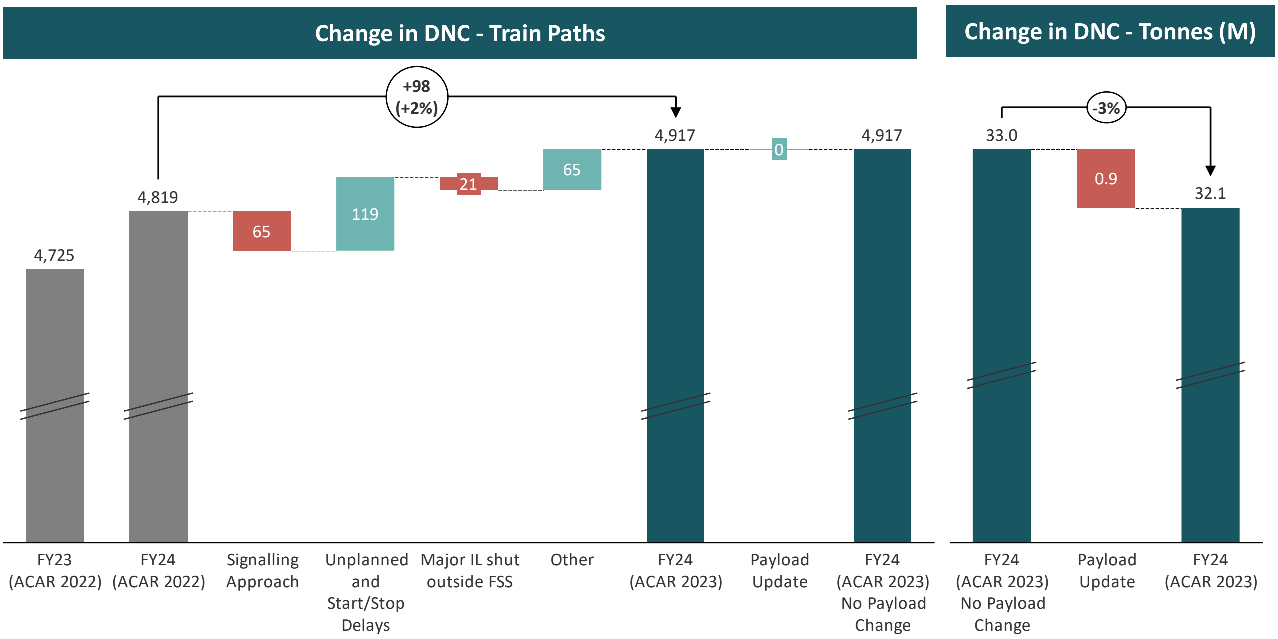
3.2 Deliverable Network Capacity

3.2.1 Summary

The combined Newlands- GAPE system DNC has seen an increase in FY24 of approximately 2% in train path terms. This has been offset by a reduction in median payload (-2.5%) resulting in capacity in tonnage terms reducing very marginally by 0.5% to 32.1 mtpa.

Figure 7 provides an overview of changes from ACAR 2022 to ACAR 2023 for FY24. Capacity had been affected by three material areas of change, which are outlined in the remainder of this section.

Figure 7 - Newlands and GAPE changes from ACAR 2022 to ACAR 2023 – FY24



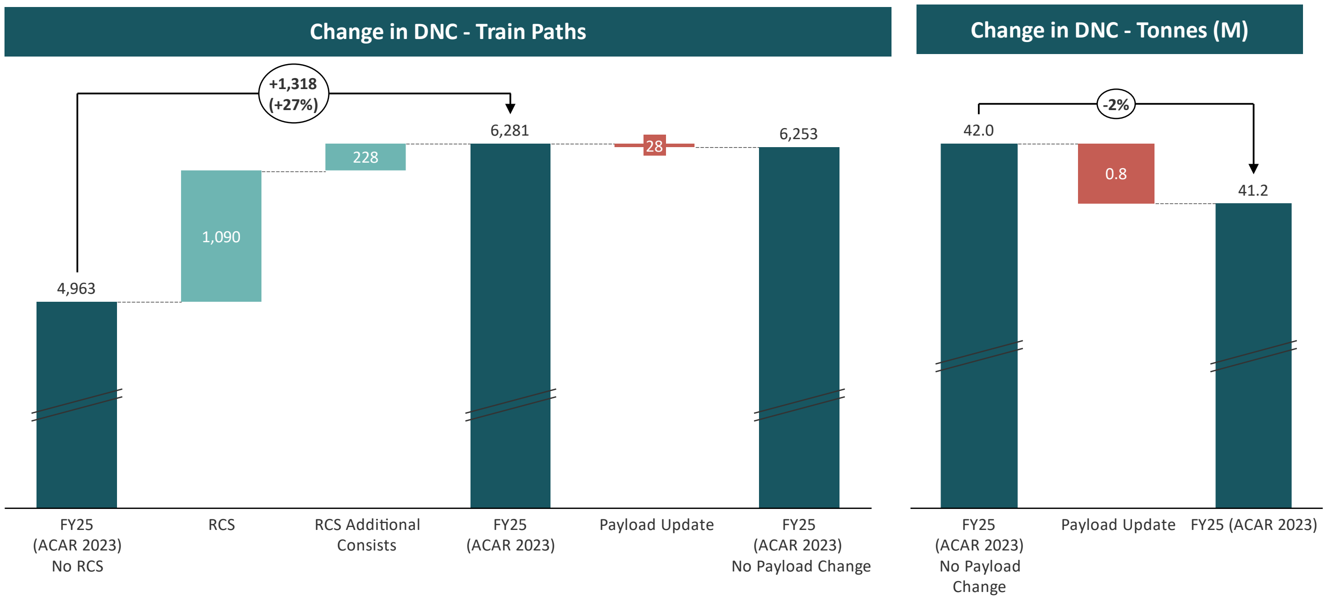
3.2.2 Network Infrastructure and Operations

In consultation with Aurizon Network, CNCC has modified elements of the model to better reflect certain elements of the system's infrastructure. In the Newlands-GAPE system this has focused on refinements to signalling equipment and practices. For FY24 a correction was made to the model to reflect the use of inloader signalling for trains utilising the [redacted] (this does not affect trains transiting [redacted]), which reduced capacity for FY24.

The most significant change to the model for ACAR 2023 has been the inclusion of RCS signalling between Collinsville and Newlands which completes the full implementation of RCS signalling in the Newlands and GAPE systems. This Transitional Arrangement investment was approved by the IE and QCA in February 2023, with a planned installation date of March 2024. CNCC has allowed 3 months for commissioning and included RCS operations from July 2024.

As shown in **Figure 8** below, this has, as anticipated, a material impact on capacity. The implementation of RCS is estimated to increase capacity by 1,090 train paths or 7.2 mtpa (although it should be noted that part of this benefit is the removal [redacted] impact outlined above). RCS will also provide the opportunity to run more trains in the Newlands-GAPE system and when capacity is re-optimised by the addition of 3 additional consists (from 19 to 22), capacity is estimated to increase by a further 228 train paths (1.5 mtpa).

Figure 8 - Newlands and GAPE changes from ACAR 2022 to ACAR 2023 – FY25



3.2.3 Unplanned Delays and Consist Start/Stop Parameters

As outlined in the SOP 2023 document, CNCC has amended the start/stop assumptions for consists in the Newlands-GAPE system to align with Aurizon Network's 2019 parameters. Stop times have decreased from three minutes to two minutes. Start times have remained at four minutes.

For unplanned delays in the Newlands-GAPE system some variation was observed between 2022 and 2021 delay data. Unplanned delay parameters have been reduced to align with delays observed during 2022. The net impact of these changes sees increased FY24 network capacity of 119 train paths or 0.8 mtpa.

3.2.4 Terminal Inloader Maintenance

CNCC has obtained specific plans for inloader maintenance from NQXT for the Abbott Point terminal. This data now indicates where maintenances shutdowns cannot be accommodated with Aurizon Network full system or branch line shutdowns such that the inloader maintenance will affect network capacity.

Although some significant one-off maintenance is indicated in this information, it will occur prior to the implementation of RCS and does not materially affect capacity (suggesting that the network is track-constrained at that time). As a result, the net impact of moving to more explicitly aligned modelling assumptions with terminal maintenance plans has a minor capacity impact estimated at -21 train paths or -0.1 mtpa.

3.2.5 Other Changes

In consultation with stakeholders, CNCC has made a number of amendments to the infrastructure of the Newlands-GAPE system. This has included a more explicit representation of the Carmichael private infrastructure and amendments to "safe to stop" locations particularly around the Abbot Point terminal. These have not had any material impact on network capacity.

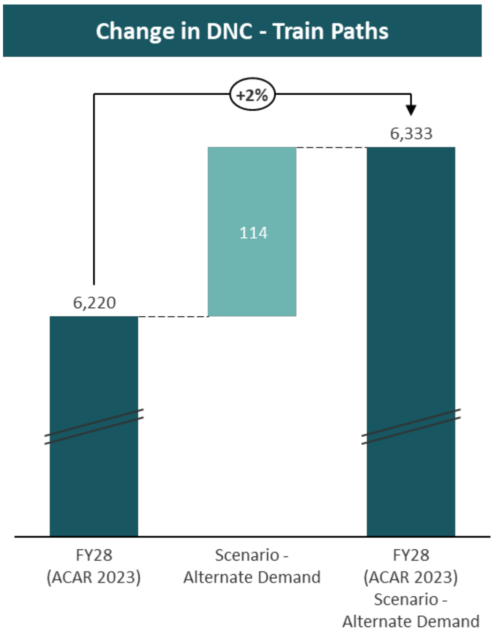
3.3 2028 Capacity – Alternative Newlands-GAPE Demand Scenario

UT5 requires CNCC to adopt certain assumptions regarding contractual demand including particularly that all expiring contracts eligible for renewal will be renewed. From Aurizon Network's April 2023 Newlands-GAPE Pricing DAAU, CNCC understands that the GAPE Deeds will expire on 30 June 2027, which is likely to be an expiry/renewal point for existing GAPE capacity.

While it is not possible to determine the renewal intentions of GAPE customers, for information purposes CNCC has modelled a possible scenario where approximately 40% of GAPE contracted capacity shifts to the Newlands system, in order to assess the potential network capacity impact.

Under such a scenario, ACAR 2023 modelling suggests that FY28 DNC would increase by 114 train paths (+2%), providing a corresponding reduction in the ECD at that point. A reconciliation of that capacity impact is shown in **Figure 9** below.

Figure 9 - Newlands and GAPE demand scenario – FY28



3.4 Committed Capacity

Committed capacity for FY24 remains essentially unchanged since the publication of ACAR 2022.

3.5 DNC and Available Capacity/Expected Capacity Deficit

3.5.1 System

The change to the DNC (increase of 98 train paths to 4,917) and with no changes to Committed Capacity (7,489 train paths) leaves the Newlands-GAPE system with an **Existing Capacity Deficit** of 2,572 train paths in FY24 – equivalent to 16.8 mtpa at median expected payload. From FY25, the Existing Capacity Deficit reduces to 1,179 train paths (7.7 mtpa) primarily due to the introduction of RCS.

Available capacity for all years of the ACAR period is outlined below in **Figure 10** in Train Paths and **Figure 11** in Tonnes.

Figure 10 - Newlands and GAPE summary for FY24 to FY28 (Train Paths)

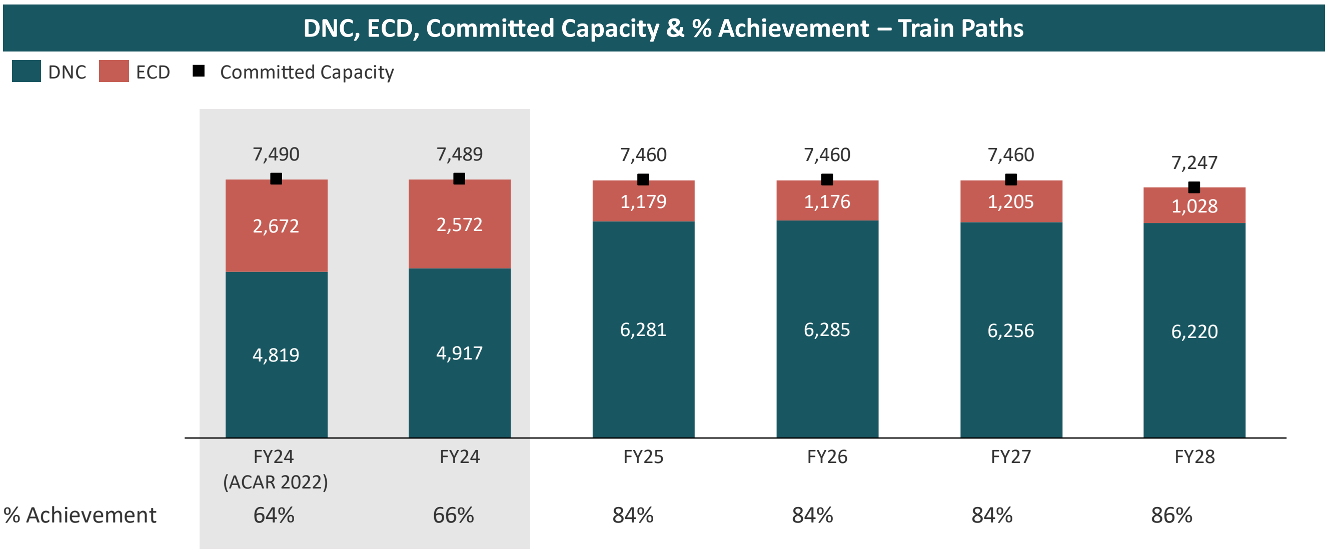
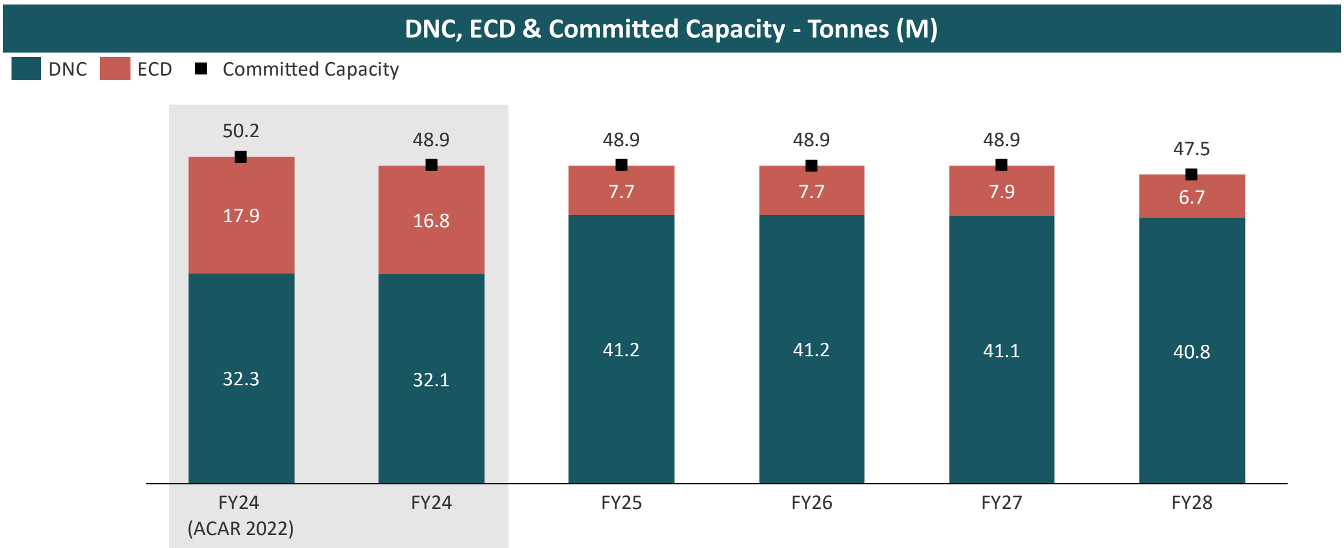


Figure 11 - Newlands and GAPE summary for FY24 to FY28 (Tonnes)



The DNC calculated for the Newlands and GAPE systems by month for the five-year assessment period is shown in ***APPENDIX A: Newlands System Information*** and ***APPENDIX B: GAPE System Information.***

3.5.2 Mainline and Branch Line

The DNC, Committed Capacity and ECD values per mainline and branch line for Goonyella are outlined below in **Table 1** in Train Paths and Tonnes.

Table 1 - Newlands and GAPE values per Mainline and Branch line for FY24 to FY28

System	Mainline / Branch Line		DNC					Committed Capacity					ECD				
			FY24	FY25	FY26	FY27	FY28	FY24	FY25	FY26	FY27	FY28	FY24	FY25	FY26	FY27	FY28
Train Paths																	
Newlands-GAPE	1	M.L. - Collinsville to Pring	4,917	6,281	6,285	6,256	6,220	7,489	7,460	7,460	7,460	7,247	2,572	1,179	1,176	1,205	1,028
	1A	B.L. - Pring to Abbot Point	4,917	6,281	6,285	6,256	6,220	7,489	7,460	7,460	7,460	7,247	2,572	1,179	1,176	1,205	1,028
	1B	B.L. - Newlands Mine to Collinsville	4,917	6,281	6,285	6,256	6,220	7,489	7,460	7,460	7,460	7,247	2,572	1,179	1,176	1,205	1,028
GAPE	2A	B.L. - North Goonyella Junction to Newlands Junction	2,731	3,456	3,457	3,439	3,412	4,355	4,345	4,345	4,345	4,121	1,624	890	889	907	709
Tonnes (M)																	
Newlands-GAPE	1	M.L. - Collinsville to Pring	32.1	41.2	41.2	41.1	40.8	48.9	48.9	48.9	48.9	47.5	16.8	7.7	7.7	7.9	6.7
	1A	B.L. - Pring to Abbot Point	32.1	41.2	41.2	41.1	40.8	48.9	48.9	48.9	48.9	47.5	16.8	7.7	7.7	7.9	6.7
	1B	B.L. - Newlands Mine to Collinsville	32.1	41.2	41.2	41.1	40.8	48.9	48.9	48.9	48.9	47.5	16.8	7.7	7.7	7.9	6.7
GAPE	2A	B.L. - North Goonyella Junction to Newlands Junction	17.7	22.3	22.3	22.3	22.1	28.2	28.1	28.1	28.1	26.6	10.5	5.7	5.7	5.9	4.6

The values shown in
Table 1 above represent only that coal traffic that has a destination of that system's Port Precinct.

3.6 Cycle Times

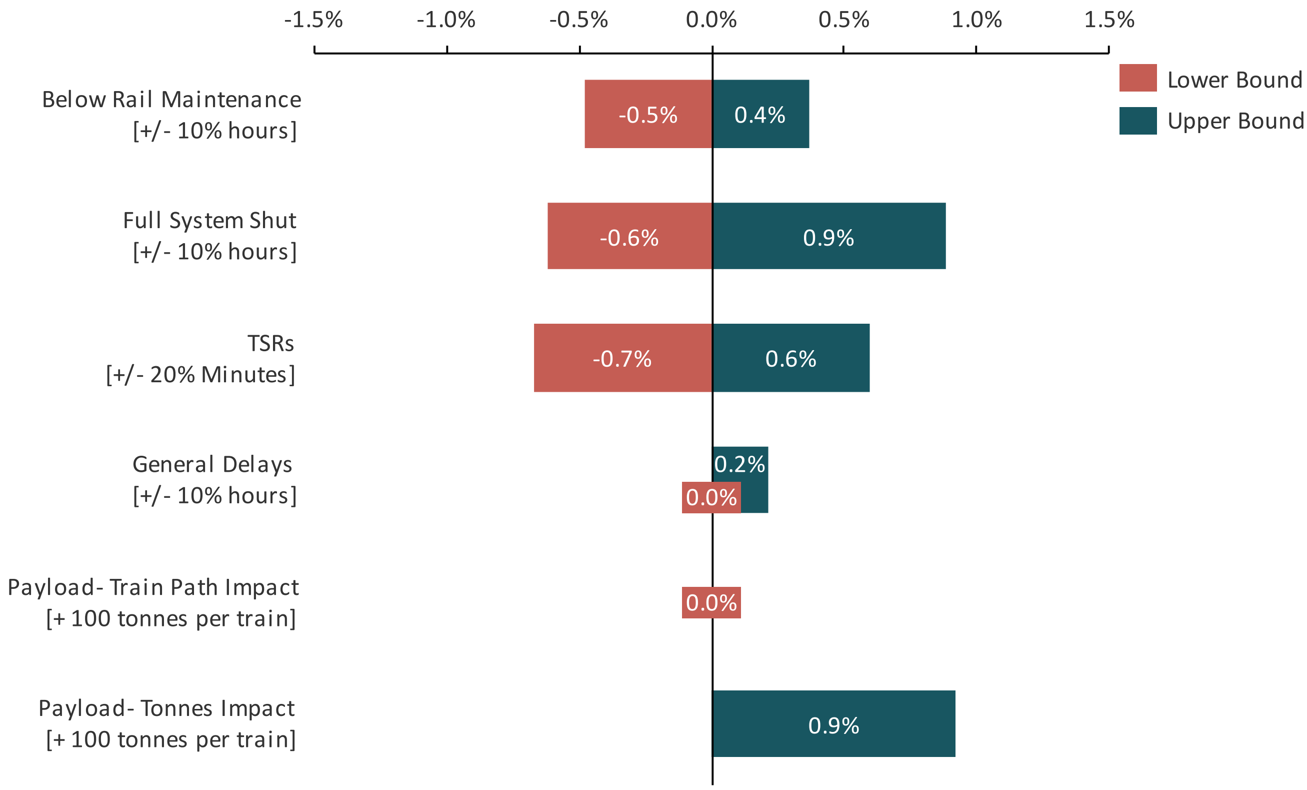
As DNC is evaluated on a higher number of consists to support unconstrained demand, modelled cycle times may be higher than those required to deliver contractual demand.

The median modelled train cycle time for Newlands-GAPE of 31.7 hours has reduced by 4% (1.5 hours) compared to ACAR 2022.

3.7 DNC Sensitivity Analysis

For some key operating parameters, the sensitivity analysis in **Figure 12** shows the impact to FY24 DNC of changes to these variables for Newlands and GAPE systems.

Figure 12 - Newlands and GAPE sensitivity impact to DNC for key operating parameters – FY24



The sensitivity analysis provides insight on how changes to operational parameters may influence capacity outcomes in a system. Where the change in operating parameters result in a difference of 10 or less train paths the sensitivity has been reflected as 0%.

In Newlands and GAPE systems, the most sensitive parameter is full system shuts. If FSS hours were reduced by 10% the modelled outcomes indicate this would provide a 0.9% (44 train paths or 0.4 mtpa) capacity uplift.

Furthermore, if light loading events reduced so that the average payload per train increased by 100 tonnes, this would achieve additional throughput of 0.9% (0.3 mtpa) for the system.

4. Goonyella System

4.1 Overview of System

A map of the Goonyella System is provided in **Figure 13.** It shows the system and each mainline and branch line that makes up the Goonyella System with the DNC and ECD for each for the five-year assessment period.

The Goonyella System refers to the Rail Infrastructure comprising the rail corridor from the terminals at the Port of Hay Point (i.e., Hay Point Services Coal Terminal and Dalrymple Bay Coal Terminal) to Hail Creek mine, Blair Athol mine, North Goonyella mine and the junction with the Oaky Creek branch line and all branch lines directly connecting coal mine loading facilities to those corridors.

Figure 13 - Goonyella System

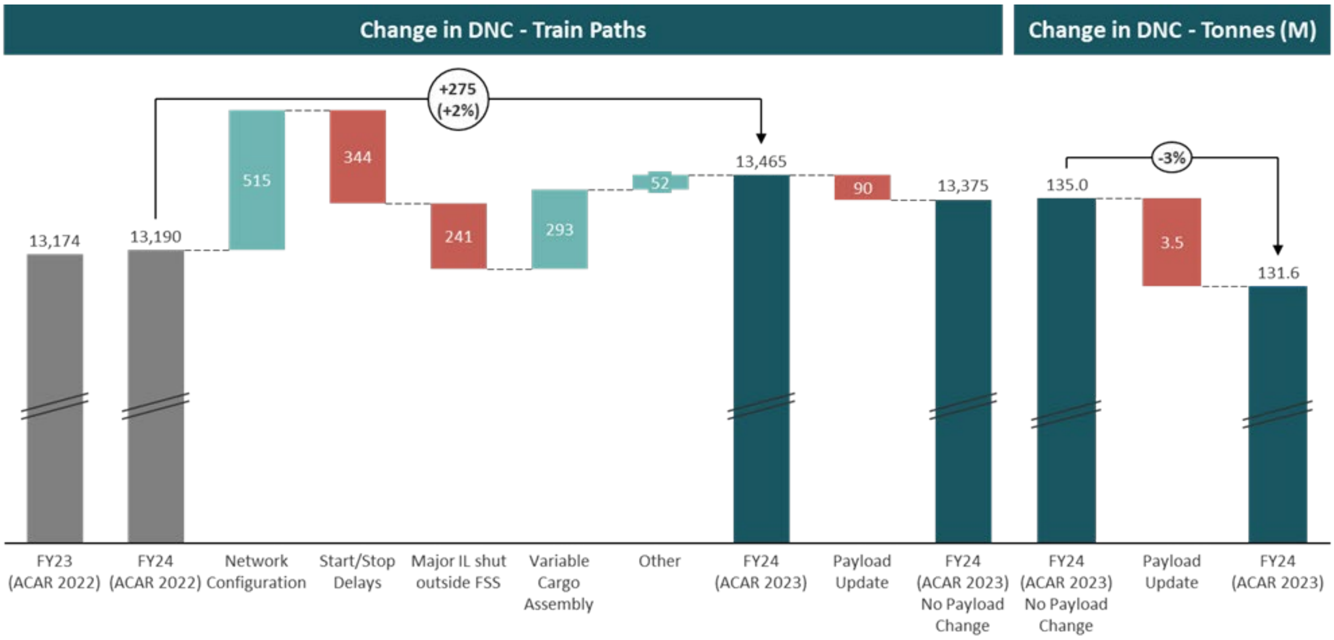
4.2 Deliverable Network Capacity

4.2.1 Summary

The Goonyella system DNC has seen a minor increase in network capacity in FY24 of 2% in train path terms. This has been offset by a reduction in median payload resulting in capacity in tonnage terms falling by -1% to 131.6 mtpa.

Figure 14 provides an overview of changes from ACAR 2022 to ACAR 2023 for FY24. Capacity has been affected by four material areas of change, which are outlined in the remainder of this section.

Figure 14 - Goonyella changes from ACAR 2022 to ACAR 2023 – FY24



4.2.2 Network Infrastructure and Operations

In consultation with Aurizon Network, CNCC has modified components of the Model to better reflect certain elements of the Goonyella system's infrastructure. This has focused on refinements to signalling equipment which has allowed the inclusion of additional "safe to stop" locations on the system. This in turn allows trains in the model to advance further towards their destination and occupy shorter sections of track than was previously the case, thereby increasing train movement and modelled network capacity.

This has been particularly impactful in the section of track between the Jilallan Depot and the two port terminals (the so-called "mini cycle"), where small improvements in train movement flexibility have a magnified effect on network capacity.

In addition, some modifications have been made to reflect Aurizon Network's operational practices including default track usage in duplicated sections and operational capacity adjustments to a small number of loading loops.

The collective impact of these changes has been an improvement in capacity of 515 train paths or 5.0 mtpa.

4.2.3 Consist Start/Stop Parameters

As outlined in the SOP 2023 document, CNCC has amended the start/stop assumptions for consists in the Goonyella system to align with Aurizon Network's 2019 parameters. Start times have increased from four to five minutes while stop times have also increased from three to four minutes. When combined these changes have reduced network capacity by -344 train paths or -3.4 mtpa.

4.2.4 Terminal Inloader Maintenance

CNCC has obtained specific plans for inloader maintenance from the Dalrymple Bay Terminal and Hay Point Coal Terminal. This data now indicates where maintenance shutdowns cannot be accommodated within Aurizon Network's full system or branch line shutdowns such that the inloader maintenance will affect network capacity. This data has been adjusted in consultation with the terminals to reflect the potential to refine maintenance plans as demand increases to mitigate any impacts on network capacity (reflecting ACAR modelling simulating a full-demand environment). Despite such mitigation efforts, CNCC anticipates some remaining impacts on network capacity, particularly in the first two years of the period. The FY24 impact is expected to be a reduction of -241 train paths or -2.4 mtpa.

4.2.5 Dalrymple Bay Cargo Assembly

As outlined in SOP 2023, CNCC has aligned presentation of train demand in the Model with the recent change to variable cargo assembly windows at DBT. The model now distributes railings for each DBT cargo over a cargo assembly window – [redacted] as expected in a full demand environment - rather than attempting to satisfy all railings for each cargo in order (albeit subject to TLO availability).

As intended by the change in terminal operations, this change has the effect of spreading rail demand more evenly across the Goonyella system, reducing localised constraints and increasing capacity. The benefit of this change has been modelled as 293 train paths per year or 2.9 mtpa.

4.3 Committed Capacity

Committed capacity for FY24 has reduced since the publication of ACAR 2022 by 301 train paths (2%), due to a combination of expiring (non-renewable) access rights and correction of an error in the 2022 access rights calculation.

4.4 DNC and Available Capacity/Expected Capacity Deficit

4.4.1 System

The combination of changes to both the DNC (increase of 275 train paths to 13,465 (+2.7mtpa)) and Committed Capacity (reduced by 301 train paths to 13,768 (-2.9mtpa)) leaves the Goonyella system with an Existing Capacity Deficit of 303 train paths in FY24 – equivalent to 3.0 mtpa at median expected payload.

Available capacity for all years of the ACAR period is outlined below in **Figure 15** in Train Paths and **Figure 16** in Tonnes.

Figure 15 - Goonyella summary for FY24 to FY28 (Train Paths)

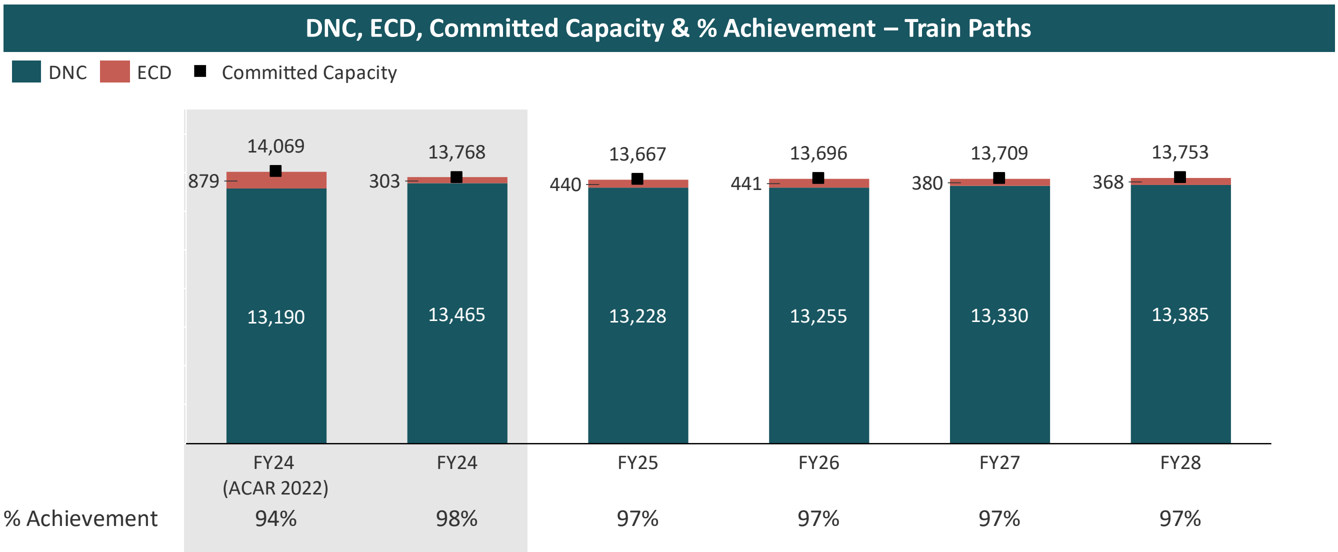
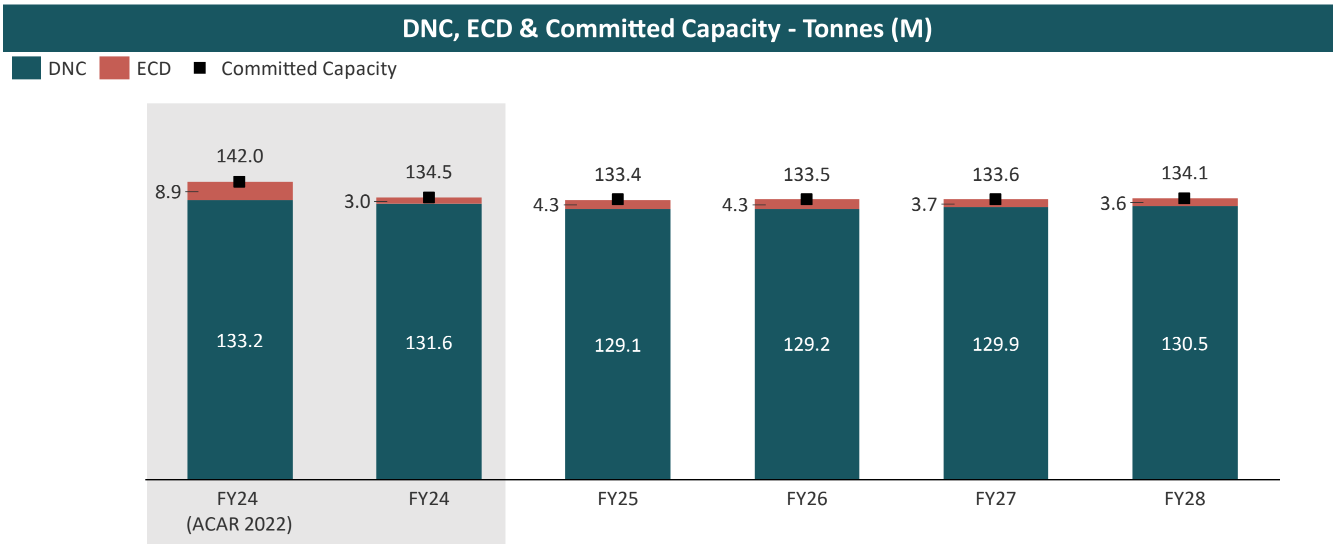


Figure 16 - Goonyella summary for FY24 to FY28 (Tonnes)



The DNC calculated for the Goonyella System by month for the five-year assessment period is shown in ***APPENDIX C: Goonyella System Information***.

4.4.2 Mainline and Branch Line

The DNC, Committed Capacity and ECD values per mainline and branch line for Goonyella are outlined below in **Table 2** in Train Paths and Tonnes.

Table 2 - Goonyella values per Mainline and Branch line for FY24 to FY28

System	Mainline / Branch Line		DNC					Committed Capacity					ECD				
			FY24	FY25	FY26	FY27	FY28	FY24	FY25	FY26	FY27	FY28	FY24	FY25	FY26	FY27	FY28
Train Paths																	
Goonyella	3	M.L. - Coppabella to Jilalan	13,465	13,228	13,255	13,330	13,385	13,768	13,667	13,696	13,709	13,753	303	440	441	380	368
	3A	B.L. - Jilalan to Port of Hay Point	13,465	13,228	13,255	13,330	13,385	13,768	13,667	13,696	13,709	13,753	303	440	441	380	368
	[redacted]																
	3C	B.L. - Oaky Creek Junction to Coppabella	5,333	5,470	5,567	5,475	5,654	5,464	5,666	5,822	5,685	5,911	131	196	256	210	257
	3D	B.L. - Coppabella to Wotonga	6,254	5,883	5,789	5,932	5,786	6,546	6,272	6,121	6,259	6,076	293	389	333	328	291
	3E	B.L. - North Goonyella Mine to Wotonga	2,974	2,766	2,724	3,036	2,931	3,040	2,813	2,691	3,034	2,911	66	48	-	-	-
	3F	B.L. - Blair Athol Mine to Wotonga	2,406	2,279	2,331	2,207	2,131	2,666	2,638	2,698	2,531	2,448	261	359	368	324	318
Tonnes (M)																	
Goonyella	3	M.L. - Coppabella to Jilalan	131.6	129.1	129.2	129.9	130.5	134.5	133.4	133.5	133.6	134.1	3.0	4.3	4.3	3.7	3.6
	3A	B.L. - Jilalan to Port of Hay Point	131.6	129.1	129.2	129.9	130.5	134.5	133.4	133.5	133.6	134.1	3.0	4.3	4.3	3.7	3.6
	[redacted]																
	3C	B.L. - Oaky Creek Junction to Coppabella	52.1	53.4	54.3	53.3	55.1	53.4	55.3	56.8	55.4	57.6	1.3	1.9	2.5	2.0	2.5
	3D	B.L. - Coppabella to Wotonga	61.1	57.4	56.4	57.8	56.4	64.0	61.2	59.7	61.0	59.2	2.9	3.8	3.2	3.2	2.8
	3E	B.L. - North Goonyella Mine to Wotonga	29.1	27.0	26.5	29.6	28.6	29.7	27.5	26.2	29.6	28.4	0.6	0.5	-	-	-
	3F	B.L. - Blair Athol Mine to Wotonga	23.5	22.2	22.7	21.5	20.8	26.0	25.7	26.3	24.7	23.9	2.5	3.5	3.6	3.2	3.1

The values shown in **Table 2** above represent only that coal traffic that has a destination of that system's Port Precinct. Some branch lines are used to transport coal to multiple systems as is the case, for example, where origins on some Goonyella branch lines have a Port Precinct destination in the GAPE or Blackwater systems. The capacity associated with those situations is not included in the table above.

4.5 Cycle Times

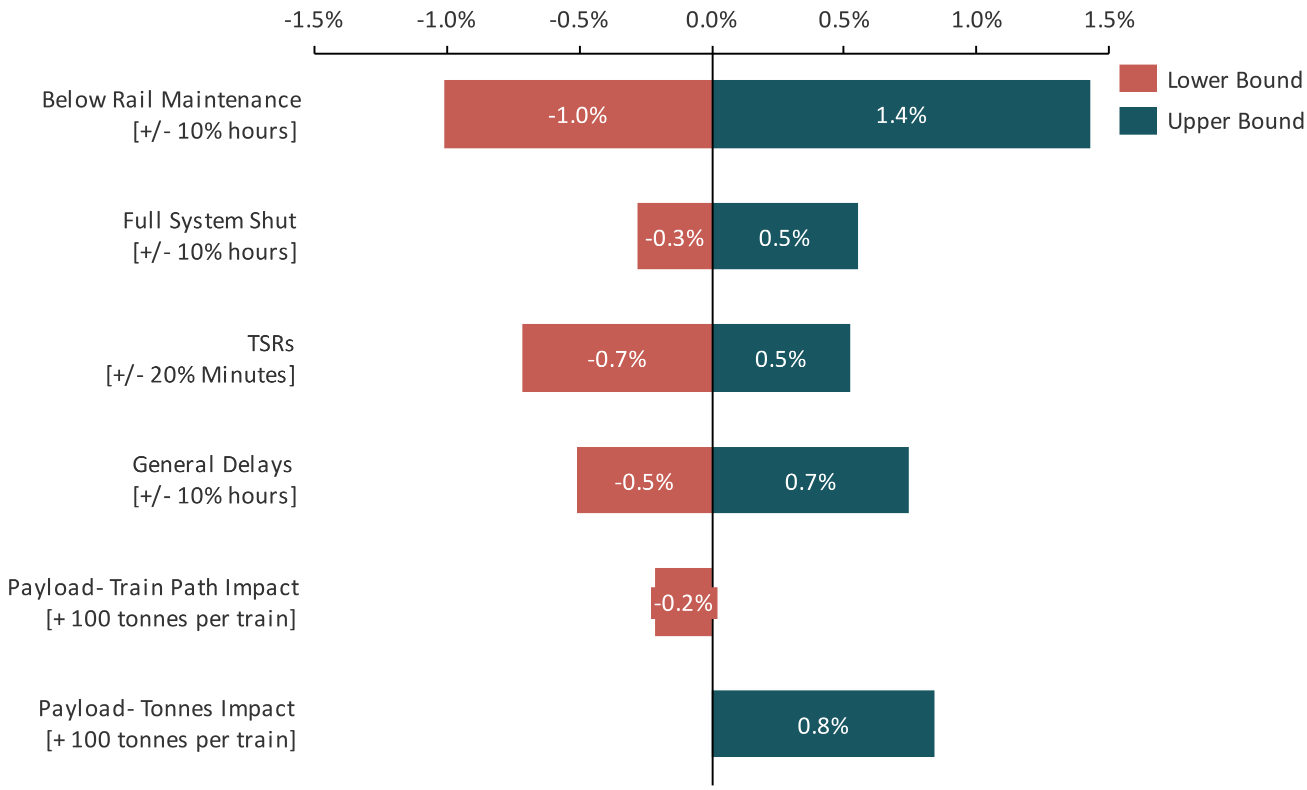
As DNC is evaluated on a higher number of consists to support unconstrained demand, modelled cycle times may be higher than those required to deliver contractual demand.

The median modelled train cycle times for Goonyella of 25.1 hours has reduced by 2% (0.4 hours) compared to ACAR 2022 (25.5 hours).

4.6 DNC Materiality Analysis

For the key operating parameters, the sensitivity analysis in **Figure 17** shows the impact to FY24 DNC of changes to these variables.

Figure 17 - Goonyella sensitivity impact to DNC of key operating parameters – FY24



The sensitivity analysis provides insight on how changes to operational parameters may influence capacity outcomes in a system. Where the change in operating parameters result in a difference of 10 or less train paths the sensitivity has been reflected as 0%.

In Goonyella, the most sensitive parameter is Below Rail maintenance. If maintenance hours were reduced by 10% the modelled outcomes indicate this would provide a 1.4% (193 train paths or 1.9 mtpa) capacity uplift.

Furthermore, if light loading events reduced so that the average payload per train increased by 100 tonnes, this would achieve additional throughput of 0.8% (1.1 mtpa) for the system.

5. Blackwater System

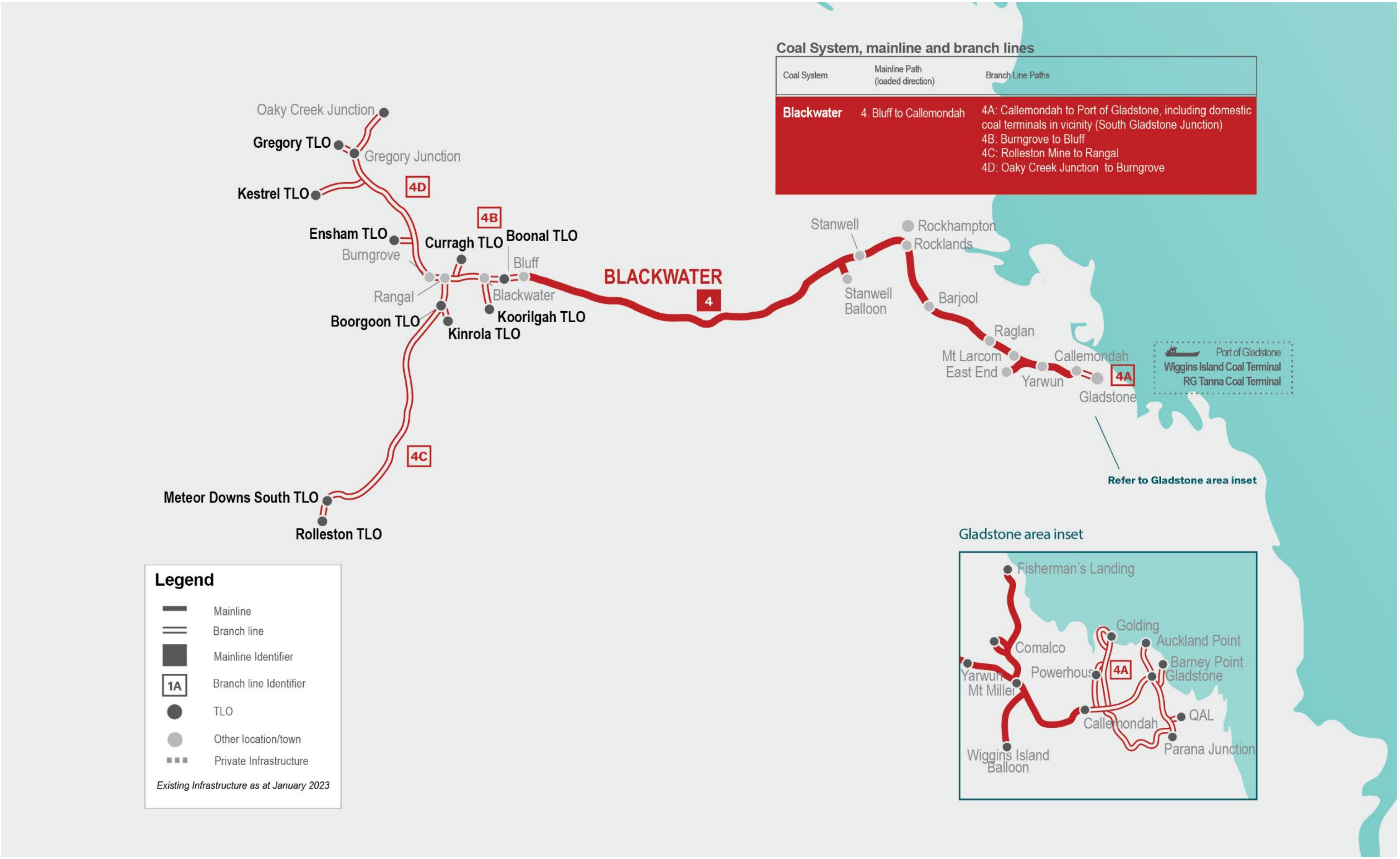
5.1 Overview of System

A map of the Blackwater System is provided in **Figure 18.** It shows the coal system and each mainline and branch line that makes up the Blackwater System with the DNC and ECD for each for the five-year assessment period. Where there is no value shown then no ECD exists.

The Blackwater System refers to the Rail Infrastructure comprising the rail corridor from terminals at Wiggins Island Coal Export Terminal and RG Tanna Coal Terminal to Rolleston mine, Burngrove and Oaky Creek Junction and all branch lines directly connecting coal mine loading facilities to those corridors. Blackwater System also has a number of domestic coal users that are considered.

Some of the Moura System traffic utilises Blackwater System from Callemondah to Port of Gladstone and to the two export coal terminals.

Figure 18 - Blackwater System

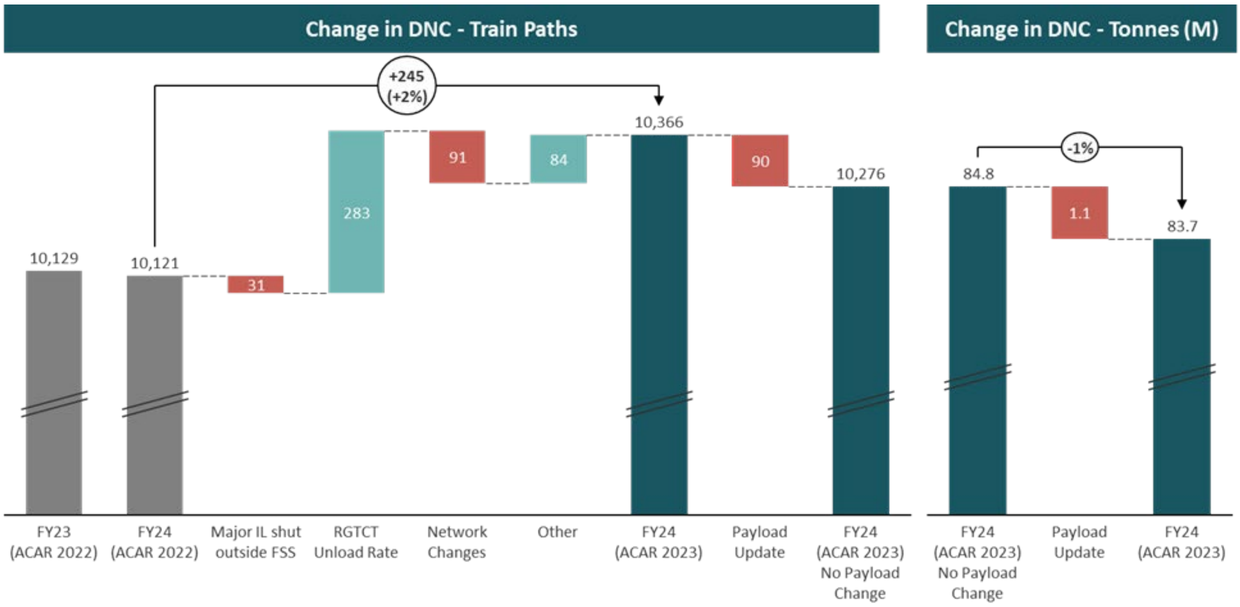


5.2 Deliverable Network Capacity

5.2.1 Summary

The Blackwater system DNC has seen a modest increase of 2.4% in train path terms for FY24. This has been offset by a reduction in median payload resulting in capacity in tonnage terms remaining essentially flat at 83.7 mtpa. There were relatively few changes to the Model that resulted in material changes in capacity for the Blackwater system. The changes to FY24 capacity are shown in **Figure 19** below:

Figure 19 - Blackwater changes from ACAR 2022 to ACAR 2023 – FY24



5.2.2 Terminal Inloader Maintenance

As with other systems, CNCC has obtained explicit maintenance plans for inloader shutdowns from the Gladstone port terminal operators, with a very minor amount of maintenance planned to occur outside Aurizon Network system shuts.

5.2.3 Terminal Unload Performance

CNCC was able to obtain more detailed operational performance data from RGTCT than in previous years. This has enabled CNCC to distinguish unloading performance more clearly. Statistical modelling of this data results in an improvement in unloading rates at the terminal and a resulting reduction in train time in the port environs, including the Callemondah yard area, delivering a capacity improvement of just under 3% (283 train paths).

5.2.4 Network Infrastructure and Operations

In consultation with Aurizon Network and other stakeholders, CNCC has made a series of amendments to model parameters including changes to loading loop capacities at various operations and to unloading loop capacity at WICET, more accurately reflecting network operational practices. In aggregate these changes have reduced capacity by less than 1%.

5.2.5 Other Changes

As outlined in the SOP 2023 document, a range of other inputs to the model were updated for ACAR 2023. The aggregate impact of these changes was an increase in capacity of approximately 1%, with no single factor being material.

5.3 Committed Capacity

Since ACAR 2022, Aurizon Network and users have executed a number of voluntary relinquishments of Blackwater system capacity under the Transitional Arrangements approved by the QCA in November 2022. This has resulted in an aggregate reduction of -436 train paths (-4%) to 9,921] for FY24 and beyond.

5.4 Available Capacity/Expected Capacity Deficit

5.4.1 System

The combination of changes to both the DNC and Committed Capacity for the Blackwater system leaves the Blackwater system with **Available Capacity** of 445 train paths in FY24 – equivalent to 3.6 mtpa at median expected payload.

Available capacity for all years of the ACAR period is outlined below in **Figure 20** in Train paths and **Figure 21** in Tonnes.

Figure 20 - Blackwater summary for FY24 to FY28 (Train Paths)

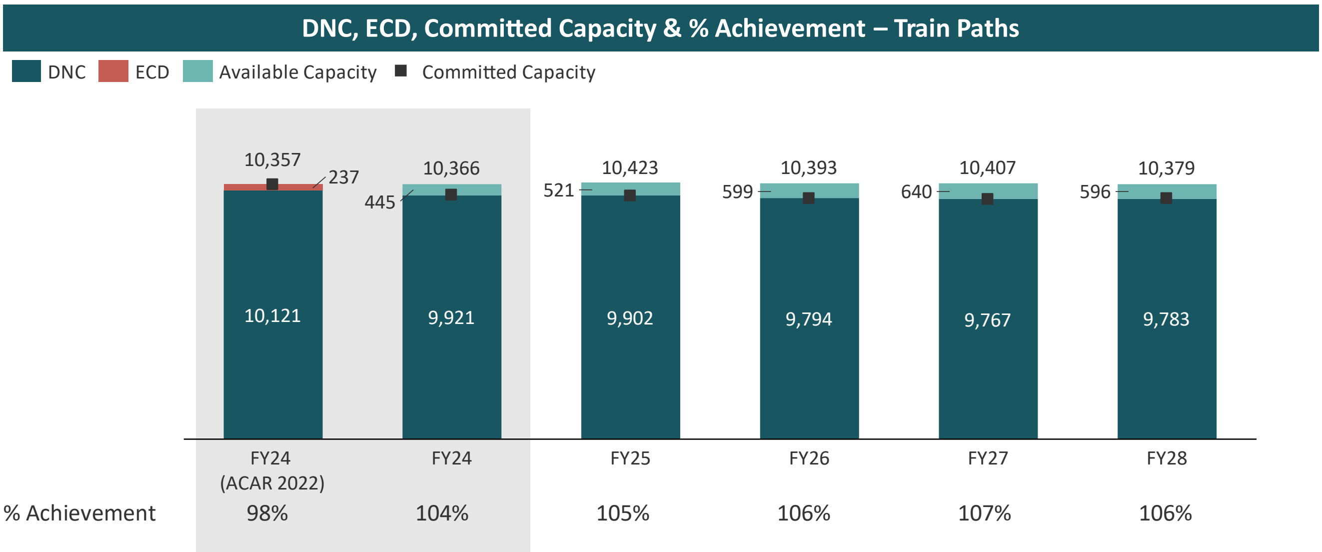
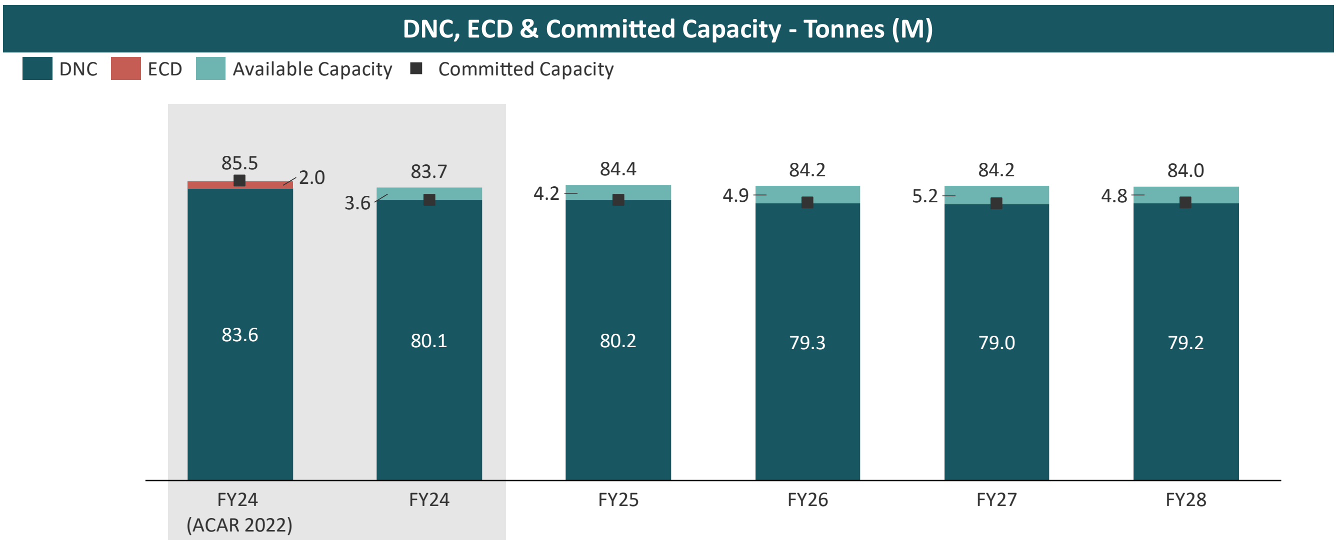


Figure 21 - Blackwater summary for FY24 to FY28 (Tonnes)



The DNC calculated for the Blackwater System by month for the five-year assessment period is shown in ***APPENDIX D: Blackwater System Information***.

5.4.2 Mainline and Branch Line

The DNC, Committed Capacity and ECD values per mainline and branch line for Blackwater are outlined below in **Table 3** in Train Paths and Tonnes.

Table 3 - Blackwater values per Mainline and Branch line for FY24 to FY28

System	Mainline / Branch Line		DNC					Committed Capacity					ECD				
			FY24	FY25	FY26	FY27	FY28	FY24	FY25	FY26	FY27	FY28	FY24	FY25	FY26	FY27	FY28
Train Paths																	
Blackwater	4	M.L. - Bluff to Callemondah	10,366	10,423	10,393	10,407	10,379	9,921	9,902	9,794	9,767	9,783	-	-	-	-	-
	4A	B.L. - Callemondah to Port of Gladstone	9,928	9,986	9,956	9,970	9,953	9,555	9,537	9,429	9,402	9,429	-	-	-	-	-
	4B	B.L. - Burngrove to Bluff	10,366	10,423	10,393	10,407	10,379	9,921	9,902	9,794	9,767	9,783	-	-	-	-	-
	4C	B.L. - Rolleston Mine to Rangal	4,297	4,147	4,182	4,200	4,198	4,123	3,943	3,943	3,943	3,955	-	-	-	-	-
	4D	B.L. - Oaky Creek Junction to Burngrove	3,264	3,453	3,364	3,349	3,338	3,126	3,294	3,186	3,159	3,168	-	-	-	-	-
Tonnes (M)																	
Blackwater	4	M.L. - Bluff to Callemondah	83.7	84.4	84.2	84.2	84.0	80.1	80.2	79.3	79.0	79.2	-	-	-	-	-
	4A	B.L. - Callemondah to Port of Gladstone	80.2	80.8	80.6	80.6	80.6	77.2	77.2	76.4	76.0	76.3	-	-	-	-	-
	4B	B.L. - Burngrove to Bluff	83.7	84.4	84.2	84.2	84.0	80.1	80.2	79.3	79.0	79.2	-	-	-	-	-
	4C	B.L. - Rolleston Mine to Rangal	34.7	33.6	33.9	34.0	34.0	33.3	31.9	31.9	31.9	32.0	-	-	-	-	-
	4D	B.L. - Oaky Creek Junction to Burngrove	26.4	28.0	27.2	27.1	27.0	25.2	26.7	25.8	25.5	25.7	-	-	-	-	-

Table 3 above represent only that coal traffic that has a destination of that system's Port Precinct. Some branch lines are used to transport coal to multiple systems as is the case, for example, where origins on some Goonyella branch lines have a Port Precinct destination in the GAPE or Blackwater systems. The capacity associated with those situations is not included in the table above.

5.5 Cycle Times

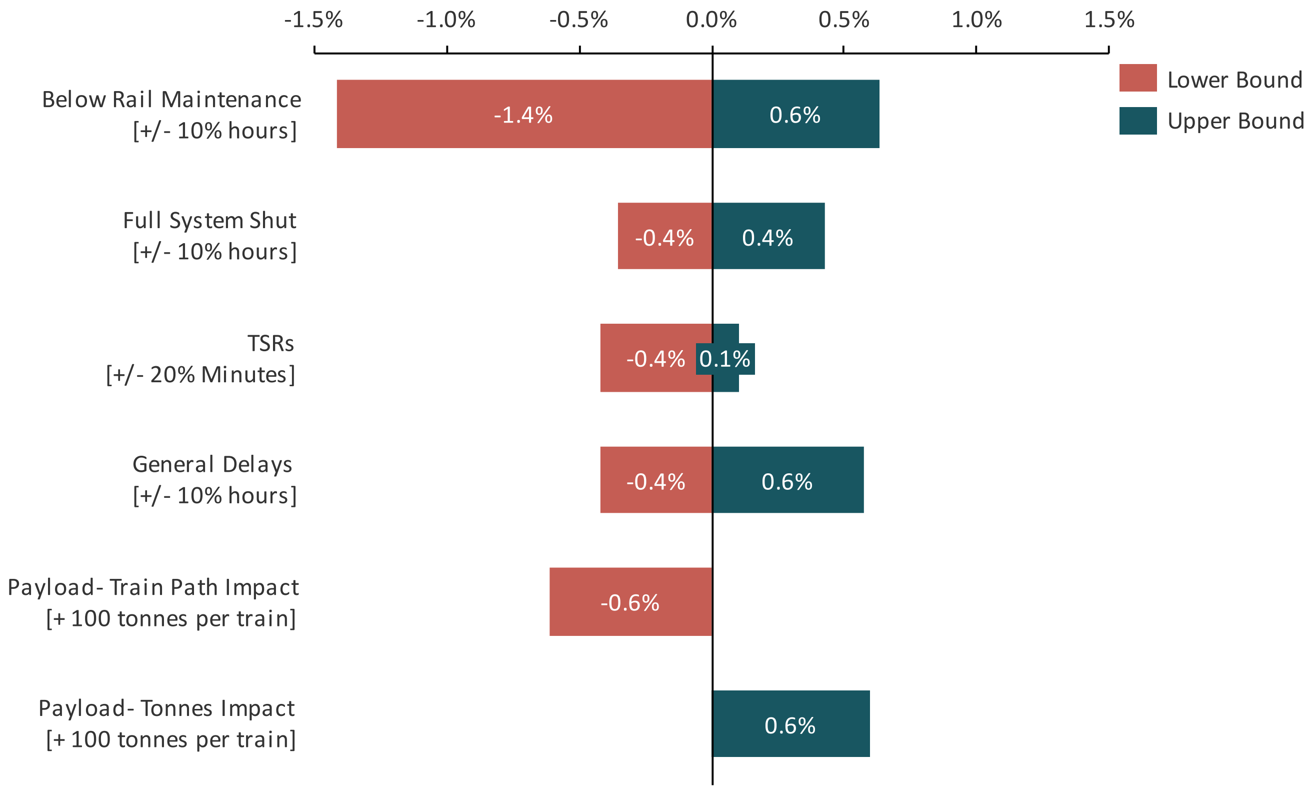
As DNC is evaluated on a higher number of consists to support unconstrained demand, modelled cycle times may be higher than those required to deliver contractual demand.

The median modelled train cycle times for Blackwater of 30.6 hours has reduced by 1% (0.2 hours) compared to ACAR 2022 (30.8 hours).

5.6 DNC Materiality Analysis

For the key operating parameters, the sensitivity analysis in **Figure 22** shows the impact to FY24 DNC of changes to these variables.

Figure 22 - Blackwater sensitivity impact to DNC of key operating parameters – FY24



The sensitivity analysis provides insight on how changes to operational parameters may influence capacity outcomes in a system. Where the change in operating parameters result in a difference of 10 or less train paths the sensitivity has been reflected as 0%.

In Blackwater, the most sensitive parameter is Below Rail maintenance. If maintenance hours were reduced by 10% the modelled outcomes indicate this would provide a 0.6% (66 train paths or 0.5 mtpa) capacity uplift and inversely if maintenance hours increase by 10% the impact to capacity is -1.4% (-147 train paths or -1.2 mtpa).

Furthermore, if light loading events reduced so that the average payload per train increased by 100 tonnes, this would achieve additional throughput of 0.6% (0.5 mtpa) for the system.

6. Moura System

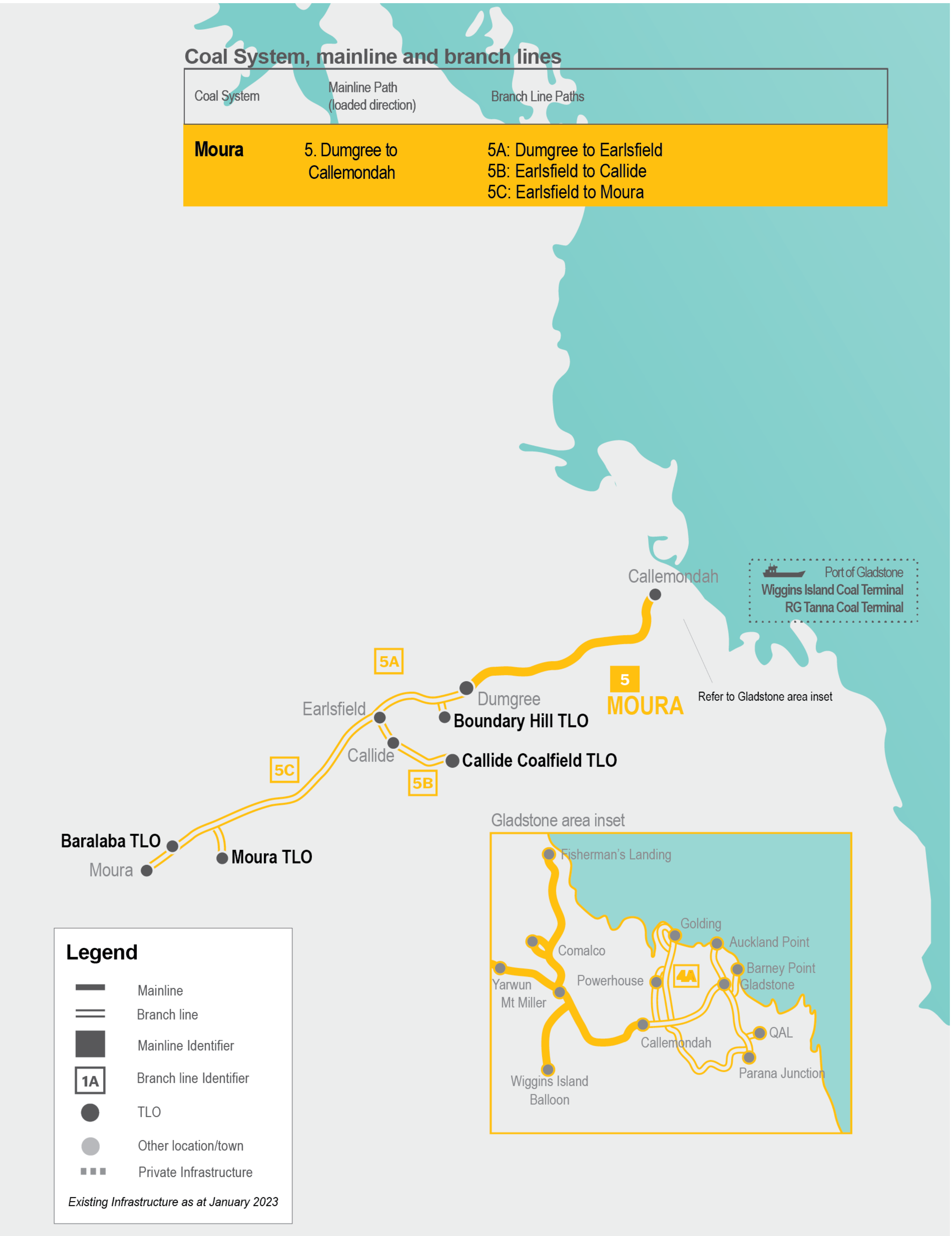
6.1 Overview of System

A map of the Moura System is provided in **Figure 23**. It shows the system and each mainline and branch line that makes up the Moura System with the DNC and ECD for each for the five-year assessment period.

The Moura System refers to the Rail Infrastructure comprising the rail corridor from the RG Tanna Coal Terminal and Domestic user sites to Moura mine, Callide and Earlsfield and all branch lines directly connecting coal mine loading facilities to those corridors. The Moura System has a number of domestic coal users that are considered.

The Blackwater System branch line 4A Callemondah to Port of Gladstone is also utilised by Moura System traffic.

Figure 23 - Moura System



6.2 Deliverable Network Capacity

6.2.1 Summary

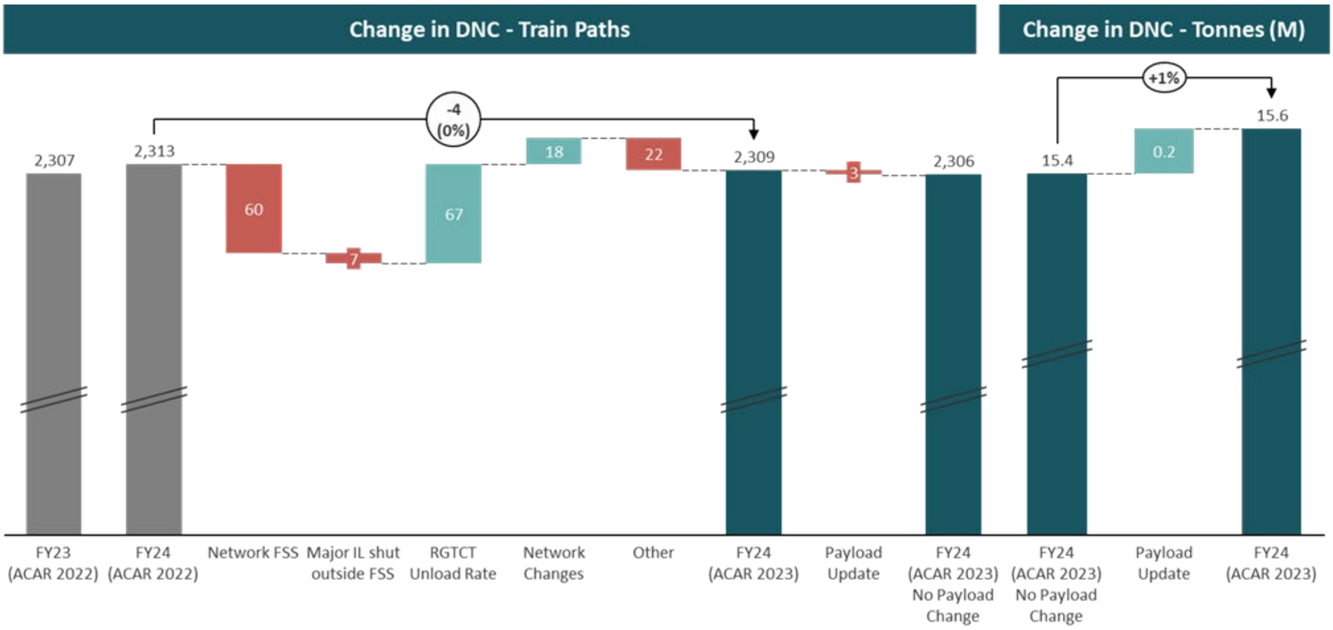
Compared with the other CQCN systems, there has been comparatively fewer changes to the modelling of the Moura system for ACAR 2023.

FY24 DNC for Moura is essentially unchanged at 2,309 train paths (4 train paths more than ACAR 2023). Other years show variance of less than 1% from ACAR 2022. Unlike other systems, median payload in Moura has increased (by 1.3%). The net impact sees capacity in tonnage terms increase by just over 1% to 15.6 mtpa in FY24.

In the ICAR 2021 and ACAR 2022, the conversion of train paths to tonnes for the Moura System used nominal payload on the basis of the variable payload of the two different sized trains operating within the Moura System. This has been modified for ACAR 2023 so that the conversion of train paths to tonnes for all systems use the modelled median payload. Where applicable, prior period ACAR reported tonne values have been restated in this report.

The changes to FY24 capacity are shown in **Figure 24** below:

Figure 24 - Moura changes from ACAR 2022 to ACAR 2023 – FY24



6.2.1 Network Full System Shuts ("FSS")

Aurizon Network's forecast hours for FSS in FY24 for the Moura system increased from 120 hours in ACAR 2022 to 252 hours in ACAR resulting in a reduction in capacity of -2.6% (60 train paths).

6.2.2 Terminal Inloader Maintenance

Like the Blackwater system, Moura is affected by changes at RGTCT where minor amount of maintenance is now modelled to occur outside Aurizon Network system shuts.

6.2.3 Terminal Unload Performance

As with the Blackwater system, the Moura system benefits from a revised understanding of RGTCT unloading performance and the corresponding improvements in train movement in and around the terminal precinct. Moura's benefit from this amendment reflects its share of throughput at the terminal.

6.2.4 Network Infrastructure and Operations

In consultation with Aurizon Network and other stakeholders, CNCC has made some minor amendments to model parameters in the Moura system, including changes to the entry to the Callemondah area from the Byelle flyover (previously modelled as two interchangeable tracks), and maintenance related restrictions to certain Moura operations. These have had a negligible impact on Moura system capacity.

6.3 Committed Capacity

There have been no changes to Committed Capacity in the Moura system since ACAR 2022 which remains at 2,334 train paths or 15.7 mtpa at median expected payload in FY24.

6.4 DNC and Available Capacity/Expected Capacity Deficit

6.4.1 System

Given the (very marginal) reduction in DNC and no change to Committed Capacity for the Moura system, this system retains an **Existing Capacity Deficit** of 25 train paths in FY24 – equivalent to 0.2 mtpa at median expected payload. The deficit drops however from FY25 to less than 10 train paths.

Available capacity for all years of the ACAR period is outlined below in **Figure 25** in Train paths and **Figure 26** in Tonnes.

Figure 25 - Moura summary for FY24 to FY28 (Train Paths)

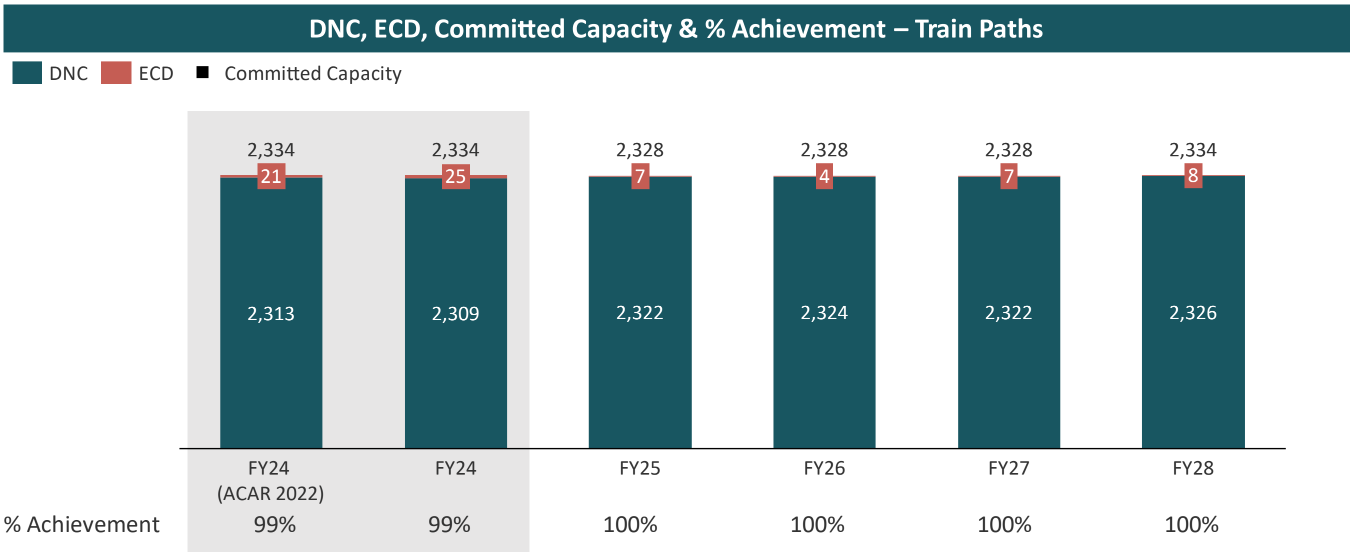
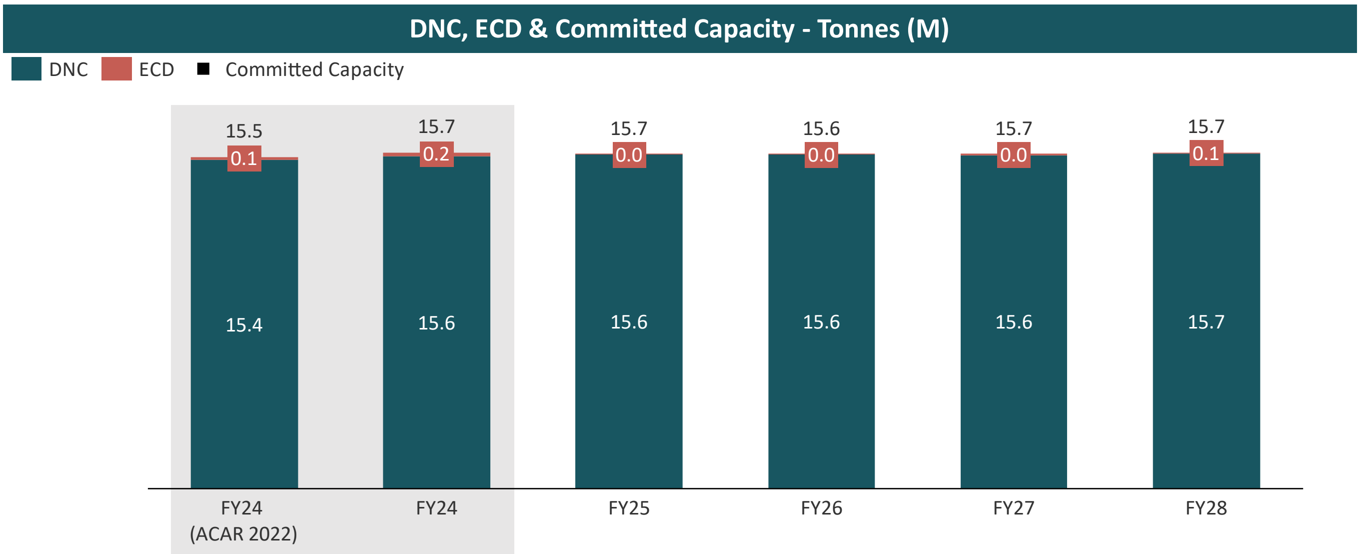


Figure 26 - Moura summary for FY24 to FY28 (Tonnes)



The DNC calculated for the Moura System by month for the five-year assessment period is shown in ***APPENDIX E: Moura System Information***.

6.4.2 Mainline and Branch Line

The DNC, Committed Capacity and ECD values per mainline and branch line for Moura are outlined below in in **Table 4** in Train Paths and Tonnes.

Table 4 - Moura values per Mainline and Branch line for FY24 to FY28

System	Mainline / Branch Line		DNC					Committed Capacity					ECD				
			FY24	FY25	FY26	FY27	FY28	FY24	FY25	FY26	FY27	FY28	FY24	FY25	FY26	FY27	FY28
Train Paths																	
Moura	5	M.L. - Dumgree to Callemondah	2,309	2,322	2,324	2,322	2,326	2,334	2,328	2,328	2,328	2,334	25	7	4	7	8
	5A	B.L. - Earlsfield to Dumgree	2,309	2,322	2,324	2,322	2,326	2,334	2,328	2,328	2,328	2,334	25	7	4	7	8
	[redacted]																
Tonnes (M)																	
Moura	5	M.L. - Dumgree to Callemondah	15.6	15.6	15.6	15.6	15.7	15.7	15.7	15.6	15.7	15.7	0.2	0.0	0.0	0.0	0.1
	5A	B.L. - Earlsfield to Dumgree	15.6	15.6	15.6	15.6	15.7	15.7	15.7	15.6	15.7	15.7	0.2	0.0	0.0	0.0	0.1
	[redacted]																

The values shown in **Table 4** above represent only that coal traffic that has a destination of that system's Port Precinct.

6.5 Cycle Times

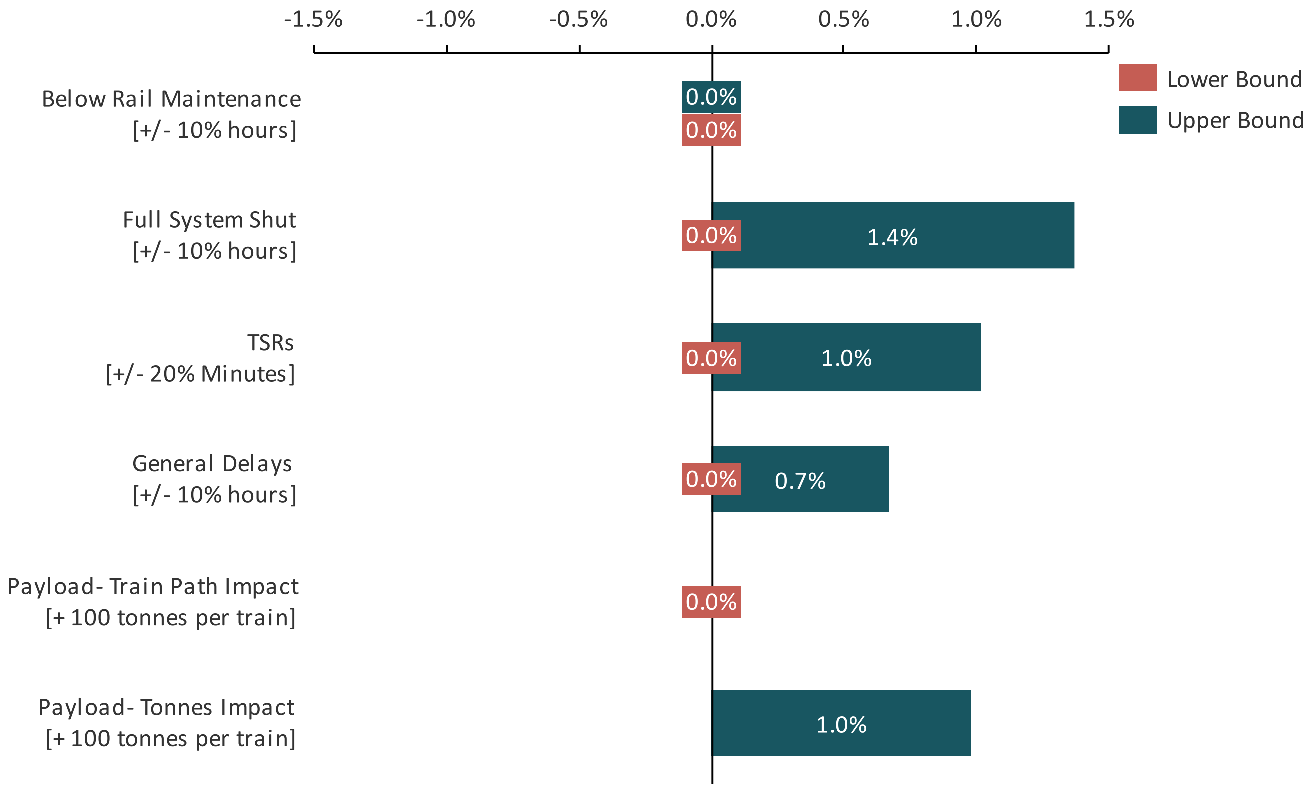
As DNC is evaluated on a higher number of consists to support unconstrained demand, modelled cycle times may be higher than those required to deliver contractual demand.

The median modelled train cycle times for Moura of 23.0 hours has improved by 1% (0.2 hours) compared to ACAR 2022 (23.2 hours).

6.6 DNC Materiality Analysis

For the key operating parameters, the sensitivity analysis in **Figure 27** shows the impact to FY24 DNC of changes to these variables.

Figure 27 - Moura sensitivity impact to DNC of key operating parameters – FY24



The sensitivity analysis provides insight on how changes to operational parameters may influence capacity outcomes in a system. Where the change in operating parameters result in a difference of 10 or less train paths the sensitivity has been reflected as 0%.

In Moura, the most sensitive parameter is FSS hours. If FSS hours were reduced by 10% the modelled outcomes indicate this would provide a 1.4% (32 train paths or 0.2 mtpa) capacity uplift.

The sensitivity modelling shows little to no downside impact from increased maintenance, speed restrictions etc., suggesting a degree of resilience in the Moura system to such changes. This effect likely reflects, in part, some simplifying assumptions made in the modelling between the interface of Moura and the Gladstone precinct. This will be an area for further investigation during FY24.

Furthermore, if light loading events reduced so that the average payload per train increased by 100 tonnes, this would achieve additional throughput of 1.0% (0.2 mtpa) for the system.

7. Abbreviations & Definitions

7.1 Abbreviations

The following abbreviations are used throughout this document:

ABBREVIATION	MEANING
ACAR	Annual Capacity Assessment Report
AN	Aurizon Network
BCM	Ballast Cleaning Machine
BR	Below Rail
CQCN	Central Queensland Coal Network
DBT	Dalrymple Bay Coal Terminal
DNC	Deliverable Network Capacity
DTC	Direct Traffic Control
ECD	Existing Capacity Deficit
FSS	Full System Shut
FY	Financial Year
GAPE	Goonyella Abbott Point Expansion
GLR	Gross Load Rate
HPT	Hay Point Coal Terminal
ICAR	2021 Initial Capacity Assessment Report
IE	Independent Expert
Model	CQCN Dynamic Simulation Model
MRSB	Maintenance, Renewal and Strategy Budget
Mtpa	Tonnes per annum in Millions
NQXT	North Queensland Export Terminal
NRG	Gladstone Powerhouse
QAL	Queensland Alumina Limited
QCA	Queensland Competition Authority
RCS	Remote Control Signalling
RGTCT	RG Tanna Coal Terminal
RIG	Rail Industry Group
SOP	System Operating Parameters
TAs	Transitional Arrangements
TLO	Train Load Out
TP	Train Path
TSE	Train Service Entitlement
TSR	Temporary Speed Restriction
UT5	2017 Aurizon Network Access Undertaking
WICET	Wiggins Island Coal Export Terminal

7.2 Definitions

Terms that are capitalised within the document are defined terms as per **Part 12** of the Aurizon Network's 2017 Access Undertaking (UT5). The following additional definitions are provided:

MEASURE	DEFINITION
Train Service Entitlement (TSE)	An Access Holder's entitlement pursuant to an Access Agreement to operate or cause to be operated a specified number and type of Train Services over the Rail Infrastructure (as defined in UT5) including within a specified time period, in accordance with specified scheduling constraints and for the purpose of either carrying a specified commodity or providing a specified transport service (UT5). Note that two TSEs are required per train cycle.
Train Cycle	In general, Train Cycles typically proceed as follows: 1. Dispatch from yard 2. Travel empty to mine 3. Load at TLO 4. Travel loaded to rail receival station 5. Unload 6. Travel empty to yard for possible provisioning and/or maintenance 7. Wait for next dispatch Cycle Time measures items 1 to 6 Turnaround Time measures items 1 to 7
Train Path (TP)	Is the occupation of a specified portion of Rail Infrastructure, which may include multiple sections in sequential order, for a specified time. UT5 outlines that such Train Paths needing to be useable including in respect of return journeys. One (1) Train Path is equivalent to two (2) TSEs.
Train Loadouts (TLO)	The upstream boundaries of the model are the Train Loadout (TLO) facilities at each mine, with their associated balloon loop. Coal enters the Model at these facilities.
Cycle Time	Represents the time a train takes to operate its Train Cycle from departing the yard to returning to the yard.

APPENDIX A: Newlands System Information

Figure 28 - Newlands summary for FY24 to FY28 (Train Paths and Tonnes)

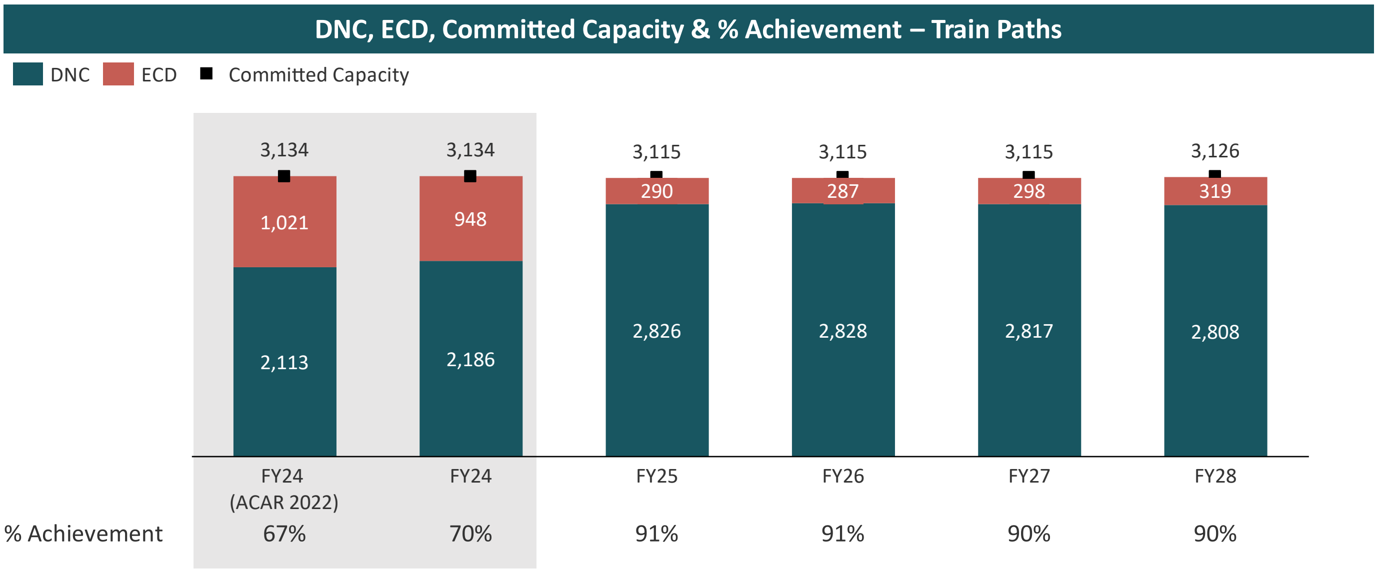


Figure 29 - Newlands summary for FY24 to FY28 (Tonnes)

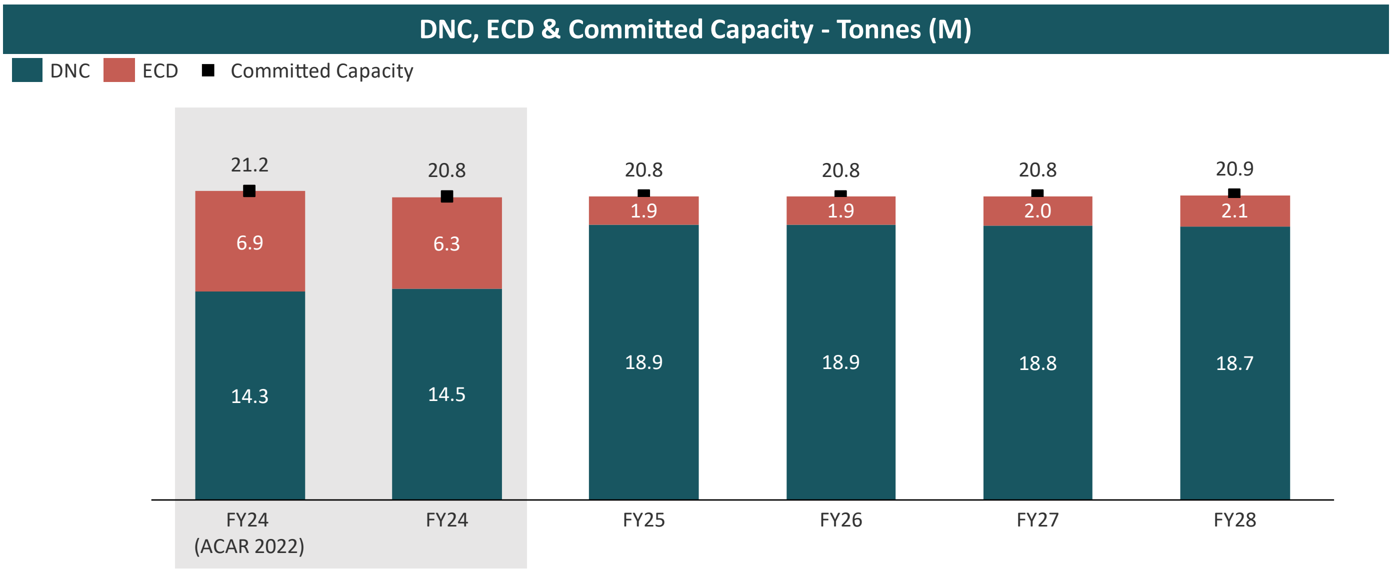
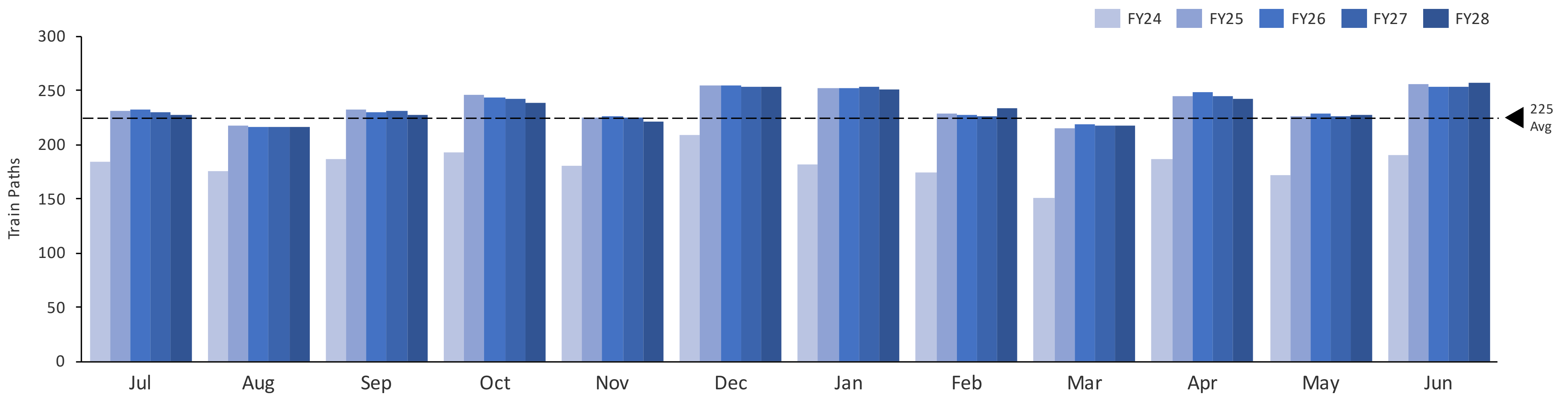


Chart A1: Newlands System DNC per month per year



	Month											
Year	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun
FY24	216	201	218	226	212	246	256	229	196	246	230	254
FY25	282	262	283	298	273	319	312	279	261	302	277	312
FY26	285	259	279	299	272	317	310	278	264	306	281	313
FY27	282	257	283	297	273	316	311	276	264	300	275	312
FY28	279	255	278	291	267	316	305	282	261	301	279	304

APPENDIX B: GAPE System Information

Figure 30 - GAPE summary for FY24 to FY28 (Train Paths)

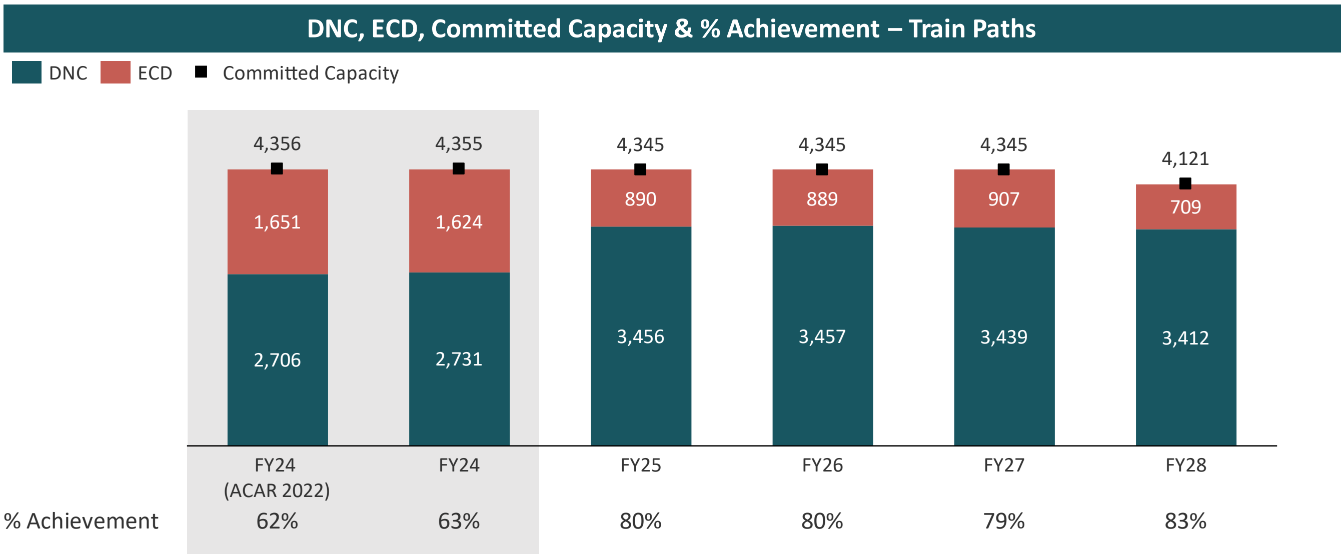


Figure 31 - GAPE summary for FY24 to FY28 (Tonnes)

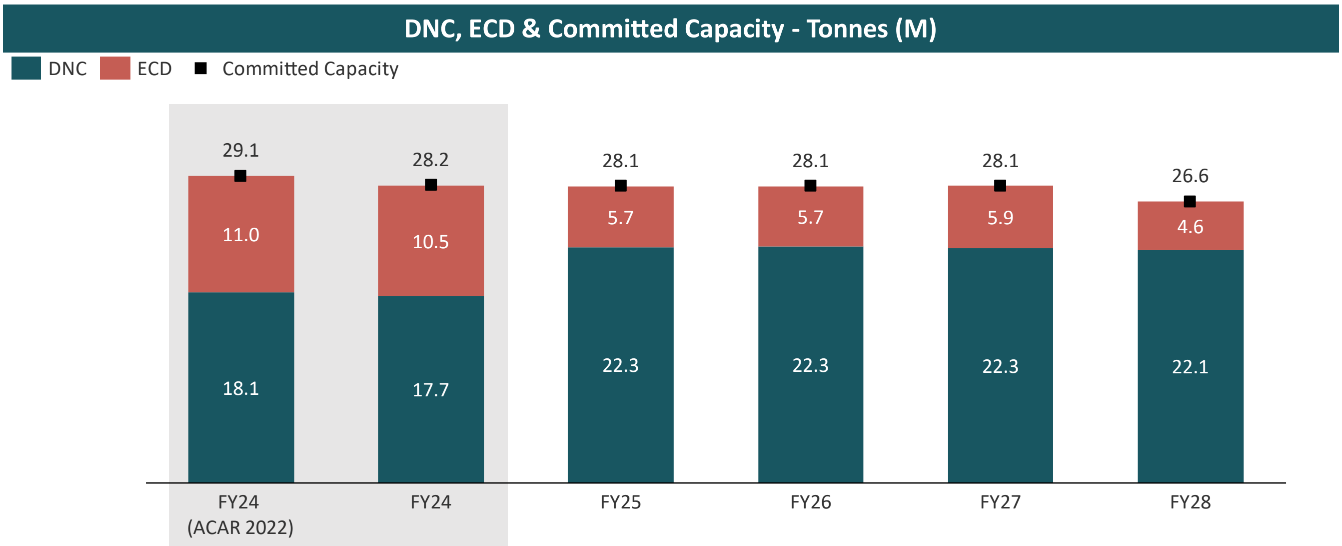
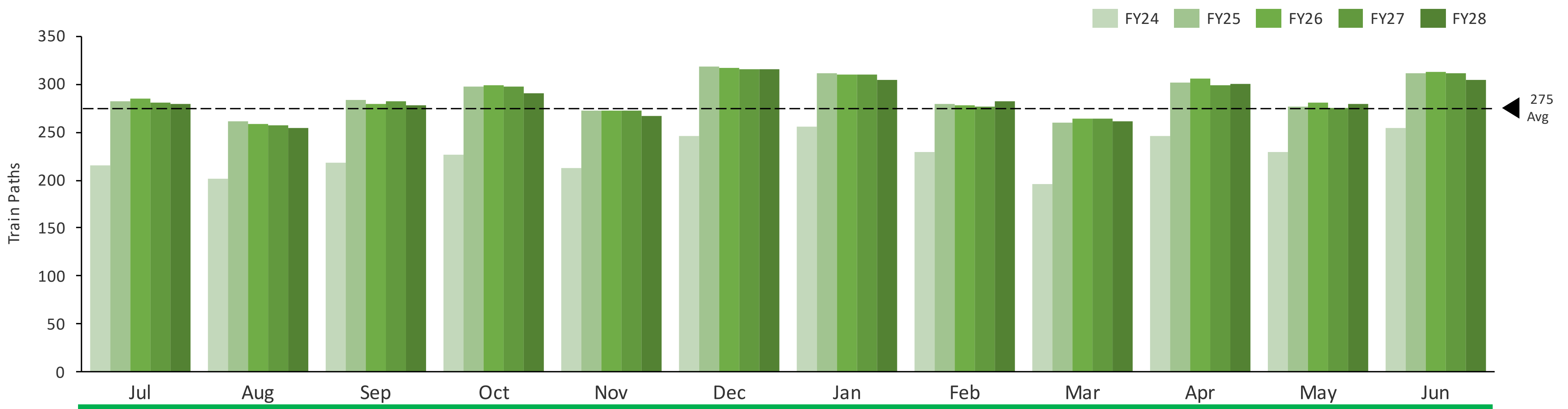


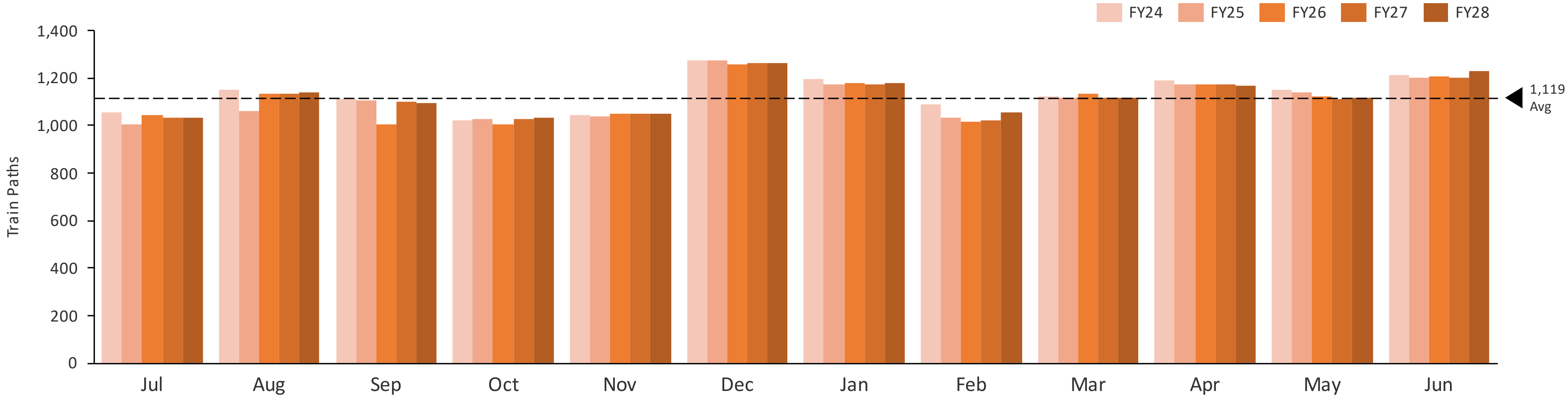
Chart B1: GAPE System DNC per month per year



	Month											
Year	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun
FY24	216	201	218	226	212	246	256	229	196	246	230	254
FY25	282	262	283	298	273	319	312	279	261	302	277	312
FY26	285	259	279	299	272	317	310	278	264	306	281	313
FY27	282	257	283	297	273	316	311	276	264	300	275	312
FY28	279	255	278	291	267	316	305	282	261	301	279	304

APPENDIX C: Goonyella System Information

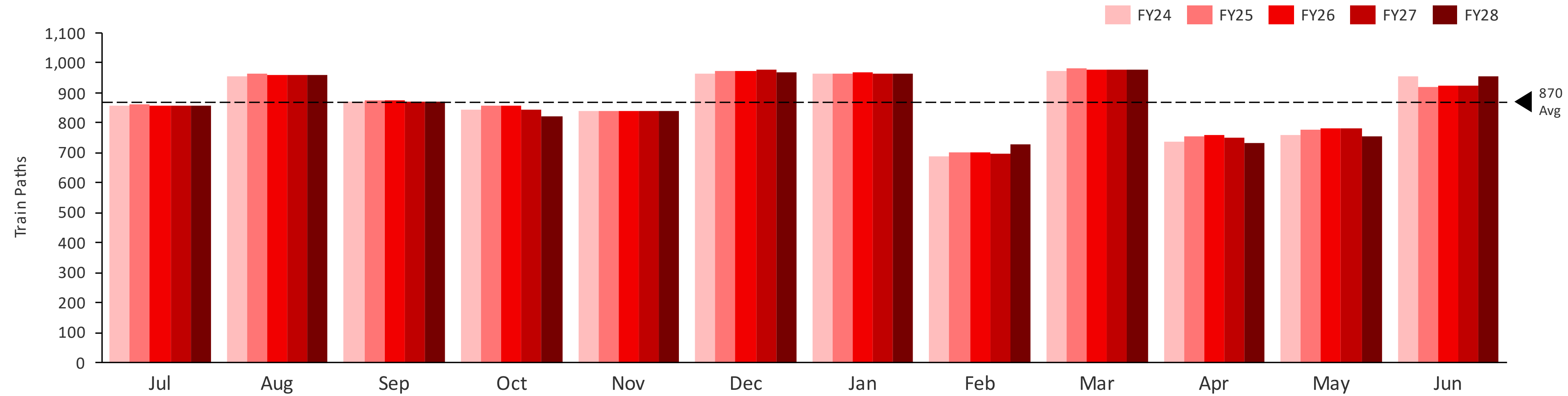
Chart C1: Goonyella System DNC per month per year



	Month											
Year	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun
FY24	1,053	1,149	1,112	1,023	1,043	1,277	1,193	1,090	1,125	1,187	1,149	1,210
FY25	1,005	1,064	1,104	1,025	1,039	1,274	1,173	1,030	1,119	1,174	1,137	1,199
FY26	1,047	1,132	1,007	1,006	1,052	1,257	1,177	1,018	1,136	1,171	1,122	1,207
FY27	1,030	1,135	1,099	1,029	1,050	1,264	1,171	1,021	1,118	1,176	1,111	1,202
FY28	1,032	1,140	1,097	1,031	1,049	1,265	1,176	1,058	1,117	1,166	1,116	1,227

APPENDIX D: Blackwater System Information

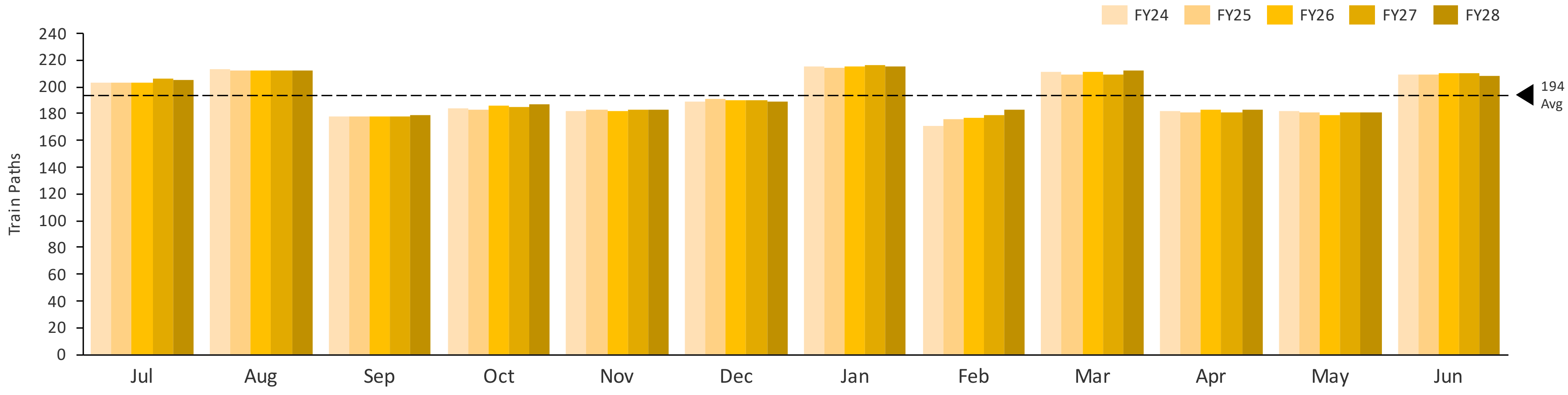
Chart D1: Blackwater System DNC per month per year



	Month											
Year	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun
FY24	858	956	869	845	839	963	966	688	975	735	760	955
FY25	861	962	874	857	840	972	963	701	983	756	776	921
FY26	859	959	873	859	839	973	968	700	976	759	781	923
FY27	860	961	872	846	841	976	966	698	978	749	781	923
FY28	859	958	870	822	838	967	963	730	980	733	755	957

APPENDIX E: Moura System Information

Chart E1: Moura System DNC per month per year



	Month											
Year	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun
FY24	204	213	178	184	182	189	215	171	211	182	182	210
FY25	203	212	178	183	183	191	214	176	209	181	181	209
FY26	204	212	178	186	182	191	215	177	211	183	179	210
FY27	207	213	178	185	183	190	216	179	209	181	181	210
FY28	205	212	179	187	183	190	216	183	212	183	181	208