Queensland Competition Authority

Draft recommendation

Part A: Aurizon Network declaration review

December 2018

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Contents

1 INTRODUCTION

1.1 The existing declaration

The service which is 'the use of a coal system for providing transportation by rail' is taken to be declared under Part 5, division 2 of the QCA Act (see Box 1).

This service is provided by Aurizon Network Pty Ltd (Aurizon Network) and is referred to as a 'below-rail' service.

As set out in Box 1, the service is the use of rail transport infrastructure that is part of any of the Blackwater, Goonyella, Moura and Newlands railway systems, as well as specified connections and extensions, for providing transportation by rail. These systems, connections and extensions, as defined in ss. 250(3) and (4) of the QCA Act, are collectively referred to as the Central Queensland coal network (CQCN).

The regulatory framework for the existing declaration is currently governed by the 2016 Access Undertaking (UT4) which expires on 30 June 2019. UT4 sets out the terms and conditions under which Aurizon Network provides access to the service. UT4 also addresses the process required for an access seeker to negotiate access to the service, and the way in which any disputes in relation to access are to be resolved.

On 6 December 2018, the QCA released its final decision to refuse to approve Aurizon Network's draft access undertaking on UT5. The QCA has issued a secondary undertaking notice that requests Aurizon Network to amend its 2017 DAU in accordance with the final decision and submit a compliant draft access undertaking to the QCA within 60 days to enable the QCA to approve a replacement access undertaking shortly thereafter.[1]

The QCA notes the UT5 process is a separate matter to the review of the Aurizon Network service against the access criteria in s. 76 of the QCA Act.

[1] The QCA's final decision outlines the reasons for the refusal and how Aurizon Network should amend its 2017 DAU in order for the QCA to approve a replacement access undertaking for Aurizon Network's declared service. Further information is available on the QCA's website at http://www.qca.org.au/Rail/Aurizon/Intro-to-Aurizon/UT5/In-Progress/2016-DAU

Box 1: The declared service

Section 250(1)(a) provides that 'the use of a coal system for providing transportation by rail' is taken to be a service declared under Part 5, Division 2 of the QCA Act.

Section 250(3) provides that 'For this section, ***coal system*** means rail transport infrastructure that is -

(a) part of any of the following—

(i) the Blackwater system, being the railway connecting Gregory, Rolleston and Minerva to Gladstone, including the part of the North Coast Line between Parana and Rocklands, as shown on the diagram in schedule 1;

(ii) the Goonyella system, being the railway connecting Gregory, North Goonyella and Blair Athol mine to the Port of Hay Point, as shown on the diagram in schedule 1;

(iii) the Moura system, being the railway connecting Moura mine to Gladstone, as shown on the diagram in schedule 1;

(iv) the Newlands system, being the railway connecting Newlands to the Port of Abbot Point, including the part of the North Coast Line between Durroburra and Kaili, as shown on the diagram in Schedule 1;

or

(b) directly or indirectly connected to a system mentioned in paragraph (a) and owned or leased by the owner or lessee, or a related body corporate of the owner or lessee, of the system.'

The diagram in schedule 1 referred to above is set out in Figure 1 below.

Section 250(4) provides that, 'Also, a ***coal system*** includes an extension of the coal system

that—

(a) is built on or after 30 July 2010; and

(b) does not directly connect the coal system to a coal basin to which the coal system was not directly connected on 30 July 2010; and

(c) is owned or leased by—

(i) the owner or lessee of the coal system; or

(ii) a related body corporate of the owner or lessee of the coal system.'

Section 250(5) provides that 'North Coast Line means the railway running the length of the coast of Queensland from Brisbane to Cairns'.

For the meaning of 'rail transport infrastructure' see *Transport Infrastructure Act 1994*, schedule 6 (Schedule 2 of the QCA Act).

1.2 Aurizon Network's below-rail network

Aurizon Network is responsible for operating the CQCN, including managing the network infrastructure (e.g. construction, maintenance and renewal) and network operations (e.g. train control and scheduling[2]). Rail infrastructure is governed by 99-year lease arrangements with the State of Queensland.

The CQCN comprises approximately 2,725 km of rail network connecting over 40 mines in central Queensland to five export coal terminals, and also provides services direct to domestic coal consumers (see Figure 1).[3] It includes:

[2] Aurizon Network, *Below Rail Financial Statement FY17*, p. 3, https://www.aurizon.com.au/~/media/aurizon/files/what%20we%20do/network/network%20downloads/financial%20information/an%20brfs%20fy17-signed.pdf.

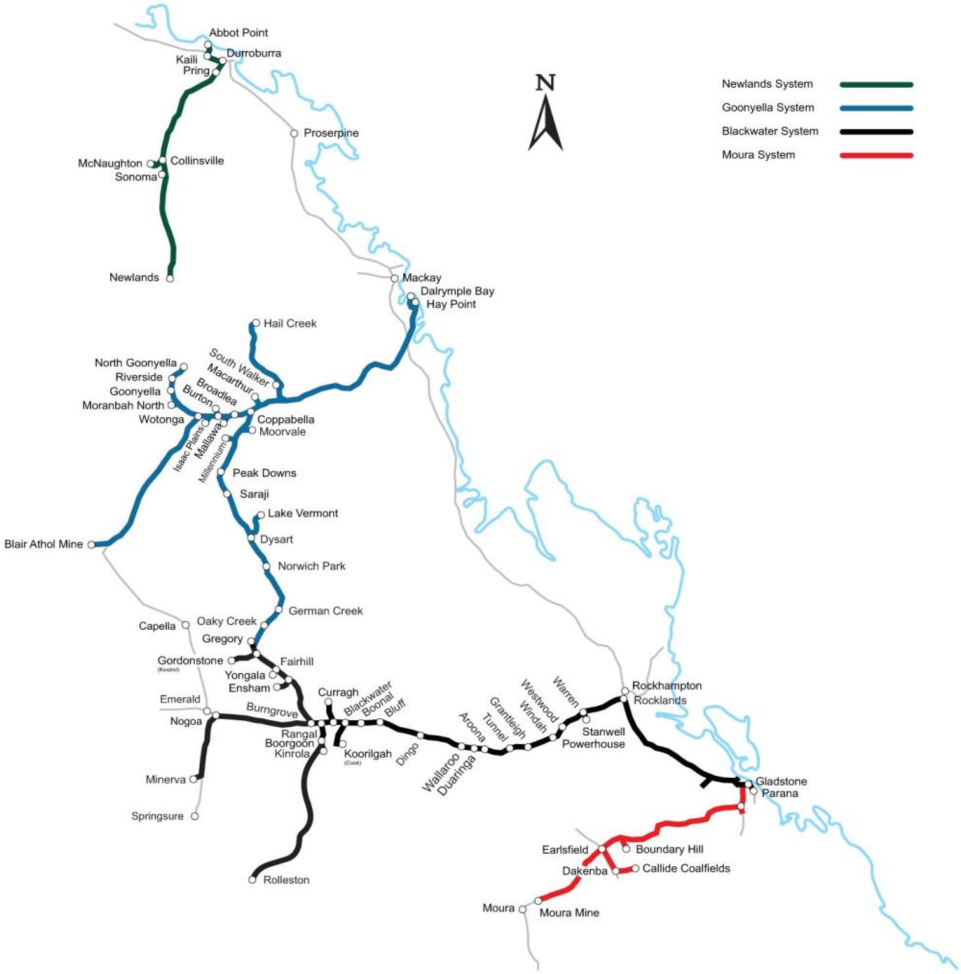
[3] Aurizon Network, sub. 6, pp. 36–37, including the figure, p. 37.

- the Newlands system (green in Figure 1)—around 311 km of total track connecting Newlands with the port of Abbot Point[4]
- the Goonyella system (blue in Figure 1)— around 1,021 km of total track connecting a number of mines in the region to the Dalrymple Bay Coal Terminal and the Hay Point Coal Terminal[5]
- the Blackwater system (black in Figure 1)—around 1,171 km of total track connecting mines with the Port of Gladstone (includes track between Parana and Rocklands that form part of the North Coast Line)[6]
- the Moura system (red in Figure 1)—around 315 km of total track[7] connecting mines with the Port of Gladstone and servicing the industrial and rural communities of the Dawson and Callide Valley to intrastate destinations (via the North Coast Line)[8]
- the Goonyella to Abbot Point Expansion (GAPE)—connecting the Goonyella system and Newlands system. The GAPE system was built and commissioned in late 2011 and is therefore not depicted in Figure 1 (which is sourced from Schedule 1 to the QCA Act). Aurizon Network includes GAPE as part of the Newlands system in its graphic depiction of the CQCN.[9]

In 2015, the Wiggins Island Rail Project (WIRP) was completed. It provided rail infrastructure enhancements to part of the Blackwater coal system to allow the transportation of coal to the Wiggins Island Coal Export Terminal (WICET).

[4] Aurizon Network, *Newlands System Information Pack*, March 2017, p. 9.
[5] Aurizon Network, *Goonyella System Information Pack*, March 2017, p. 9.
[6] Aurizon Network, *Blackwater System Information Pack*, March 2017,p. 8.; BITRE, *Freightline 4*, p. 13; Geoscience Australia, Australian Operating Mines Map 2017.
[7] Aurizon Network, *Moura* System *Information Pack*, March 2017, pp. 6, 9.'Total track' includes the length/ total as set out in the information pack, inclusive of track, yards, sidings and passing loops.
[8] Aurizon, *Moura System Information Pack*, March 2017, p. 9; BITRE, *Freightline 4*, p. 13; Geoscience Australia, Australian Operating Mines Map 2017.
[9] Aurizon Network, sub. 6, p. 37, figure 6.

Figure 1 CQCN coal systems[10]



More than half of Australia's coal exports pass over Aurizon Network's CQCN. Around two thirds of this is metallurgical coal, the balance is thermal coal.[11]

Aurizon Network is part of Aurizon Holdings Limited (the parent company). The organisational structure facilitates the separation of the management of below-rail infrastructure from the above-rail operation of train services (undertaken by Aurizon Operations). Aurizon Operations competes with other above-rail haulage operators, currently hauling 70 per cent of the coal transported over the CQCN.

In the 2018 financial year 229.6 mt of coal was transported over the CQCN.[12] In addition to the train services for coal, the CQCN supports relatively small amounts of non-coal freight, primarily operating on the North Coast Line (for which Aurizon Network operates a fragment of the total transport distance for these services). On a gross tonne kilometre basis, these traffics account for

[10] Schedule 1 of the QCA Act
[11] Aurizon, FY2018 Sustainability Report, p. 26.
[12] Aurizon Network, *FY2018 Maintenance Cost Report*, p. 9.

around 1 per cent of the traffic using the CQCN and include agricultural and general freight and passenger services.[13]

The rights for use of the CQCN are contracted with Aurizon Network through access agreements, typically entered into directly by miners with above-rail coal haulage demand requirements. However, coal haulage providers can (and do) directly enter into contracts for use of the CQCN.[14]

1.3 Overview of stakeholder submissions

Submissions specific to the assessment of Aurizon Network's below-rail services were received from Anglo American (Anglo), Australian Rail Track Corporation (ARTC), Aurizon Network, Pacific National (PN), Peabody Energy (Peabody) and the Queensland Resources Council (QRC).

1.4 Overview of key positions and draft recommendation

The QCA's draft recommendation for the Aurizon Network service against each access criterion is summarised below.

Table 1 Summary of key positions and draft recommendation—Aurizon Network

QCA Act, s. 76	***Draft recommendation and draft view of each access criterion***
	The QCA is satisfied all criteria are met and recommends declaration of the service
Criterion (b)	Criterion (b) is satisfied The CQCN could meet total foreseeable demand in the market over the period for which the service would be declared and at the least cost compared to any two or more facilities where: • no other service provider exists • there are no viable substitutes for the service • the cost of expanding the CQCN is significantly less than the cost of developing a new facility (for all or part of the network)
Criterion (a)	Criterion (a) is satisfied Access (or increased access) to the use of the CQCN , on reasonable terms and conditions, as a result of declaration would promote a material increase in competition in at least one dependent market, in particular the above-rail haulage market
Criterion (c)	Criterion (c) is satisfied The CQCN is of significance having regard to its size and importance to the Queensland economy
Criterion (d)	Criterion (d) is satisfied Access (or increased access) to the use of the CQCN on reasonable terms and conditions, as a result of declaration would promote the public interest The QCA has balanced the costs and benefits and considers: • Investment – There is no evidence to suggest declaration will impact on incentives to invest in the CQCN – Declaration would promote efficient investment in the above-rail market

[13] Aurizon Network, sub. 6, p. 37.
[14] QRC, sub. 7, p. 31.

QCA Act, s. 76	*Draft recommendation and draft view of each access criterion*
	• Significant public benefits arise from the conclusions drawn for criteria (a), (b) and (c) The costs associated with regulation and compliance under declaration are not excessive, most of which are borne by the coal industry (who indicate that they are willing to bear the costs of regulation). Aurizon Network can seek to manage compliance costs associated with any undertaking at any time by proposing amendments to the QCA On balance, the benefits outweigh these costs As the CQCN does not extend outside Queensland, the QCA has not considered s. 76(5)(a) any further

2 CRITERION B—MEET TOTAL FORESEEABLE DEMAND AT LEAST COST

2.1 Introduction

Section 76(2)(b) of the QCA Act is expressed as follows:

> that the facility for the service could meet the total foreseeable demand in the market–
>
> (i) over the period for which the service would be declared; and
>
> (ii) at the least cost compared to any 2 or more facilities (which could include the facility for the service);

Sections 76(3) and (4) of the QCA Act further state:

> (3) For subsection (2)(b), if the facility for the service is currently at capacity, and it is reasonably possible to expand that capacity, the authority and the Minister may have regard to the facility as if it had that expanded capacity.
>
> (4) Without limiting subsection (2)(b), the cost referred to in subsection (2)(b)(ii) includes all costs associated with having multiple users of the facility for the service, including costs that would be incurred if the service were declared.

The key matters in respect of s. 76(2)(b) for the below-rail service provided by Aurizon Network are summarised below. This is followed by a more detailed analysis.

Table 2 Summary of key positions—s. 76(2)(b) of the QCA Act

Criterion (b)			
Issue	***Aurizon Network***	***Other stakeholders***	***QCA draft views***
The service and facility	Use of the CQCN (assessed under s.76(2)(d)) A number of services which are parts of the service should be assessed separately	A single service as specified in s. 250(1)(a) and the facility is the CQCN	The service is a single service as defined in s. 250(1)(a) of the QCA Act The facility is the CQCN as defined in s. 250(3) and (4) of the QCA Act 'Parts' of the service will be assessed against the access criteria only where there is a need to do so
The market	Discrete services have individual market characteristics. Future rail projects may provide competition for use of the CQCN	The market is the market for below-rail services on the CQCN	The market is the market for access to rail infrastructure in the coal basins served by the CQCN
Period for assessing total foreseeable demand	5 years	15 years	15 years
Total foreseeable demand	No forecast provided, noting uncertainty over long-term outlook and short declaration period	A maximum of 298.3 mt over the 15-year period	260–300 mt over the period, although the level of demand does not impact the QCA's conclusions

Criterion (b)			
	in the event of declaration		
At the least cost	Outlined a range of considerations the QCA should consider when assessing whether each discrete service satisfies each of the declaration criteria (including criterion (b))	CQCN (with moderate expansions) will meet foreseeable demand at the least cost. Additional capital costs of around $690m estimated to provide for around 90 mt expansion to CQCN over the period	CQCN (expanded to the extent necessary) could meet total foreseeable demand at less cost compared to any two or more facilities Criterion (b) is satisfied

2.2 The service and facility

The relevant service is the service taken to be declared under Part 5 of the QCA Act, pursuant to s. 250(1)(a), that is, 'the use of a coal system for providing transportation by rail'.

The facility for the service is defined in ss. 250(3) and (4) of the QCA Act.[15] In summary, the facility is 'rail transport infrastructure' that is part of the Blackwater, Goonyella, Moura or Newlands railway systems, as well as specified connections and extensions, for providing transportation by rail.[16] The GAPE is an extension of the coal system within the meaning of s. 250(4) of the QCA Act.[17] These systems, connections and extensions, as defined in ss. 250(3) and (4) of the QCA Act, are collectively referred to as the CQCN.

For the sake of brevity, we describe the service outlined above as the 'CQCN service'.

Stakeholders did not dispute that the service is defined in s. 250(1)(a) of the QCA Act and the facility for the service is defined in ss. 250(3) and (4) of the QCA Act. However, Aurizon Network had different views to other stakeholders on whether the CQCN service should be analysed as a single service or a series of smaller services (or 'parts') (discussed below).

2.2.1 Considering whether parts of the service satisfy the access criteria

Aurizon Network said each part of the CQCN service must be considered in order to declare the service:

> As the declared service has not been subject to a comprehensive assessment against the access criteria, the QCA review must ensure that all parts of the declared service satisfy the access criteria before making a recommendation to declare any particular part of the service to the Minister. Such a recommendation would require that the QCA reach an affirmative conclusion, based on the application of sound principles to facts, that each distinct service within the declared service met all of the access criteria.[18]

Aurizon Network also said:

[15] See Box 1 in section 1.1 for more information.

[16] The QCA Act defines 'rail transport infrastructure' by reference to schedule 6 of the *Transport Infrastructure Act 1994*.

[17] The GAPE was built after 30 July 2010 (it was completed in late 2011), it is leased by Aurizon Network (who is the lessee of the Goonyella and Newlands systems), and as it connects the Goonyella system and Newlands system it does not directly connect the coal system to a coal basin that was not directly connected on 30 July 2010.

[18] Aurizon Network, sub. 6, p. 8.

> [A]ccess criteria for each of the following discrete services must be satisfied for that service to be declared:
>
> - The use of a coal system for providing transportation by rail for services that originate from a coal basin which the coal system was not directly connected on 8 September 2020 (by way of example, services which originate in the Galilee Basin and would also utilise an existing coal system);
> - The use of a coal system for the transportation of intermodal freight by rail;
> - The use of a coal system for the transportation of passengers by rail;
> - The use of a coal system for transportation of agricultural products by rail;
> - The use of the Moura coal system for providing transportation by rail;
> - The use of the Newlands coal system (inclusive of the Northern Missing Link) for providing transportation by rail;
> - The use of the Blackwater or Goonyella coal system for providing transportation by rail;
> - The use of more than one existing coal system (cross system services) for providing transportation by rail.
>
> Aurizon Network has identified these individual part services on the basis that the market conditions, existence or feasibility of substitutes and industry dynamics are sufficiently different to warrant independent consideration against the access criteria.[19]

Stakeholders had a different view and considered the service should be considered in relation to the CQCN as a whole.[20] The QRC said proper construction of the QCA Act requirements makes it clear there is a single declared service in relation to the CQCN and it is this service the QCA is required to assess.[21] Further, the QRC pointed to its legal advice and said there is no legal requirement for the QCA to find each part of the service satisfies the access criteria in declaring the service as a whole.[22]

The QCA does not consider it is required to separately consider and determine whether each 'part' of the CQCN service satisfies the access criteria before it can recommend that the service be declared.

The QCA must decide whether to recommend declaration of the service defined in s. 250 of the QCA Act. If the QCA is satisfied each of the access criteria are satisfied for this service, it is required by s. 87C(1) to recommend that it be declared. Nothing in the QCA Act requires the QCA to deconstruct this service into a series of smaller services, and then apply the access criteria to each one. The QCA considers the necessary starting point for its analysis is to consider whether the service defined in s. 250 satisfies the access criteria.

To start from this position is not to preclude consideration of whether only part of the CQCN service satisfies the access criteria. If, for example, there was a part of this service which did not satisfy one of the access criteria, the QCA could still recommend declaration of the remainder of the service provided that what remained (a) was itself a service and (b) satisfied each of the access criteria.

However, in considering this, the task of the QCA is not to separately apply the access criteria to each 'part' of the CQCN service identified by Aurizon Network. Rather, the QCA has considered

[19] Aurizon Network, sub. 6, p. 38.
[20] QRC, sub. 20, pp. 5-6. Anglo, sub. 14, p. 2. Pacific National, sub. 9, p. 13.
[21] QRC, sub. 20, p. 6.
[22] QRC, sub. 20, p. 7. QRC, sub. 20 (Att 1), paras 13-14.

whether there is any part of the CQCN service that exhibits characteristics which suggest it may not satisfy one or more of the access criteria. Only where such characteristics are identified is it necessary to consider whether only part of the CQCN service satisfies each of the access criteria.

The 'parts' of the CQCN service identified by Aurizon Network can be grouped into four categories:

(1) services identified by reference to the use of the CQCN for providing transportation by rail for a particular purpose (that is, transportation of intermodal freight, agricultural products or passengers)

(2) a service identified by reference to the existing coverage of the CQCN (i.e. excluding 'greenfield' extensions)

(3) a service identified by reference to the use of more than one existing coal system (which Aurizon Network refers to as cross-system services) for providing transportation by rail

(4) services identified by reference to the use of a discrete system (that is, the Moura, Blackwater, Goonyella or Newlands system (including GAPE)) for providing transportation by rail.

These categories are considered in turn below.

Parts of the service identified by reference to a particular purpose

Aurizon Network identified a category of services in the same terms as s. 250(1)(a) of the QCA Act, with the added refinement of the purpose of the transportation by rail, specifically:

- use of a coal system for the transportation of intermodal freight by rail
- use of a coal system for the transportation of agricultural products by rail and
- use of a coal system for the transportation of passengers by rail.

A 'service' is defined by s. 72 of the QCA Act. The language of s. 72 of the QCA Act does not preclude the definition of a service by reference to the use to which that service is put (e.g. the 'handling of coal' at DBCT). The QCA notes the NCC's views that in characterising a service provided by means of a facility it may be useful to specify the purpose for which access is sought[23], but also notes this statement from the NCC:

> The purpose for which the service is provided should, however, be distinguished from the process of characterising a service by referring to the identity of particular users or the particular activity an access seeker intends to undertake if it obtains access. A service does not change with the identity of the access seeker or any particular operational ends for which access is sought: a distinct service is not identified by reference to each user or intended use of the service.[24]

Generally speaking, rail access rights for one type of above-rail service (e.g. coal) are not easily distinguished from access rights for rail services to transport other commodities or passengers. In each case, the relevant service involves access to a rail network (by acquiring a train path) in order to operate a train. In each case:

- the facility used to provide the relevant service is the same
- there are above-rail services that are dependent on the use of the facility.

[23] NCC, *Guide to Declaration of Services*, April 2018, p. 23.
[24] NCC, *Guide to Declaration of Services*, April 2018, p. 23.

In view of this, and based on its consideration of the material before it, the QCA does not consider there is a basis on which the use of the CQCN service to operate any particular type of rail transport service requires separate consideration against the access criteria.

Parts of the service—existing coverage of the CQCN

Aurizon Network identified a service in the same terms as s. 250(1)(a) of the QCA Act but with the following limitation:

> the use of a coal system for providing transportation by rail for services that originate from a coal basin which the coal system was not directly connected on 8 September 2020 (by way of example, services which originate in the Galillee Basin and would also utilise an existing coal system).[25]

This is similar (but not identical) to the feature of the definition of the relevant service found in s. 250(4)(b) of the QCA Act. In particular, s. 250(4) provides that the CQCN service includes future extensions to the rail infrastructure, provided that three conditions are met:

(1) the extension is built on or after 30 July 2010

(2) the extension 'does not directly connect the coal system to a coal basin to which the coal system was not directly connected on 30 July 2010' and

(3) the extension is owned or leased by the owner or lessee of the CQCN or a related body corporate (i.e. Aurizon Network).

Part of the 'service' described by Aurizon Network involves the use of an extension to the CQCN not caught by the existing declaration. If, for example, a new line was to be built, connecting the CQCN to a basin not already connected (e.g. the Galilee Basin), that new line would be an extension to the CQCN which would not in fact be part of the service described in s. 250 of the QCA Act. The new line would not form part of the service which the QCA is required to consider under s. 87A of the QCA Act. It is not a question of whether the new line is a 'part' of the CQCN service that might not satisfy the access criteria. Rather, the new line would not be part of the CQCN service at all, and would therefore not be part of this declaration inquiry.

However, Aurizon Network also proposes that the use of an existing rail system might not satisfy the access criteria, in so far as it involves traffic which originates from a 'greenfield' basin (e.g. the use of the Newlands system to transport coal originating from a mine in the Galilee Basin). The QCA is not satisfied it is necessary to separately assess the application of the access criteria to the use of an existing coal system under these circumstances. A new line might be built, connecting a greenfield basin to the CQCN, but from the point of interconnection with the CQCN, the service required by the user is indistinguishable from other CQCN services provided using the same rail infrastructure.

Parts of the service—use of more than one existing coal system

Aurizon Network identifies as a discrete service:

> the use of more than one existing coal system (cross system services) for providing transportation by rail.[26]

On the material before it, the QCA does not consider there is any basis on which the use of more than one coal system requires different or further consideration against the access criteria, from considering the service as a whole. The CQCN service is already defined as the use of 'rail

[25] Aurizon Network, sub. 6, p. 38.
[26] Aurizon Network, sub. 6, p. 38.

transport infrastructure' that is part of any of the Blackwater, Goonyella, Moura and Newlands railway systems (as well as connections and extensions). There is nothing in this definition that precludes the use of more than one rail system, or requires the separate consideration of such a service.

Parts of the service—use of a discrete coal system

Aurizon Network identifies the use of each individual railway system comprising the CQCN as a part of the service to be considered separately.

The QCA recognises that separate consideration of an individual system might be appropriate if there was reason to consider that system may not satisfy one or more of the access criteria.

The QCA does not consider there is any material before it, including in relation to market conditions, substitutability and industry dynamics, requiring it to give separate consideration to these individual services.

Aurizon Network itself appears to view the service more broadly as the use of an 'integrated and interconnected heavy haul rail transport network'[27] and, beyond this, has said improvements to the regulatory framework should be made:

> to better reflect the CQCN as one inter-connected system so that contracted access rights can be transferred to other mines in a different system facilitating the ability for mines to access multiple ports through the interconnected system.[28]

2.3 The market

2.3.1 CQCN operations

Aurizon Network operates and manages Australia's largest export coal rail network, the CQCN. This 2,725 km multi-user rail network comprises four major coal systems and connects more than 40 mines to five major export ports, plus domestic coal consumers.[29] The CQCN is a pivotal component to Queensland's coal industry, transporting more than half of Australia's coal exports.[30]

The CQCN is also used by a small number of non-coal carrying services (including services primarily using the Queensland Rail infrastructure but which traverse sections of the CQCN as part of their overall journey).[31]

Three haulage operators currently operate on the CQCN:

- Aurizon Operations—the largest haulage provider operating on the CQCN. The company is a related body corporate of Aurizon Network
- Pacific National—commenced operations in 2005 as a provider of haulage services[32]

[27] Aurizon Network, *2017 Draft Access Undertaking (UT5)*, 30 November 2016, p. 3, http://www.qca.org.au/getattachment/f2e21ac5-eb97-4ad9-b01b-142d9250a45f/Aurizon-Network-submission-on-the-2017-DAU.aspx.
[28] Aurizon Network, *Delivering for the long haul*: *2017 Sustainability Report*, 2017, p. 12.
[29] Aurizon Network, What we deliver/Network, https://www.aurizon.com.au/what-we-deliver/network.
[30] Aurizon Network, submission to the QCA on the 2017DAU (UT5), p. 16.
[31] Pacific National, sub. 9, pp. 2–3.
[32] Pacific National, sub. 9, pp. 3, 7.

- BMA Rail—commenced operations in 2014 and provides haulage services exclusively to related coal producer BHP Billiton Mitsubishi Alliance (BMA).[33]

The QCA understands Aurizon Operations' share of the CQCN above-rail haulage task is around 70 percent, with the balance reflecting around 25 per cent Pacific National and 5 per cent BMA Rail.[34]

Aurizon Network enters into access agreements for the supply of CQCN services with haulage operators or mining companies (in which case haulage operators use the access rights under separate train operator agreements to provide haulage services to mines).

The demand for haulage services comes predominantly from the coal mines, spread across central Queensland, that transport coal from mine to port for export (95%). The remaining demand relates to the transport of coal for domestic customers (4%) and other freight (e.g. intermodal and passengers).[35]

2.3.2 Stakeholder submissions

Most stakeholders appear to agree the relevant market relates to the use of a below-rail service. There is, however, disagreement as to the geographic market or markets in which this service is supplied.

With the exception of Aurizon Network, stakeholders considered:

- the relevant market is the market for the use of the below-rail infrastructure that makes up the CQCN as a whole (the below-rail market)
- there are no substitute facilities for the relevant service—for example, no other railway is capable of providing transportation by rail (actual or planned)
- given the transportation distances involved, there is no alternative mode of transport that is a substitute for the service—for example, road haulage is not viable in terms of price and a range of other factors.[36]

Aurizon Network, however, defines the service in discrete parts, where each is an individual service. It considers each service has unique market characteristics[37], and views the QRC's approach as being contrary to the DBCT User Group, current regulatory pricing and the NCC (all of whom define the boundaries of the relevant market by reference to the systems comprising the CQCN rather than as a whole).[38]

Aurizon Network also considered it possible for different coal systems (or supply chains) to be considered as substitutable, and thus relevant to identifying different potential markets.[39] On this, Aurizon Network considered future projects may provide direct facilities-based competition

[33] Pacific National, sub. 9, p. 7.
[34] These percentages based on Pacific National FY17 55mt (Pacific National, sub. 9, p. 7, figure 1), Aurizon Operations FY17 143.5mt and CQCN FY17 210.8mt (Aurizon ASX announcements, 13 August 2018, Appendix 4E, pp. 8, 11).
[35] Aurizon Network, sub. 6, p. 37, table 2.
[36] QRC, sub. 7, p. 31; Pacific National, sub. 9, p. 13; Peabody, sub. 2, pp. 3, 13. Anglo American, sub. 14, p. 3.
[37] Aurizon Network, sub. 19, p. 35.
[38] Aurizon Network, sub. 19, pp. 30–31.
[39] Aurizon Network, sub. 6, pp. 44–45 and sub. 19, p. 31.

and should be considered as a substitute for relevant parts of the CQCN, noting there is no requirement for the facility providing the substitute service to be owned by different entities.[40]

Pacific National said there was 'no real prospect of a competing facility being built' and noted that given fixed costs of construction, the CQCN would have large cost advantages over new facilities.[41]

2.3.3 QCA analysis

Consistent with the approach outlined in Chapter 2, the QCA has considered the market in which the CQCN service is provided, including any other service able to be substituted for, or that is otherwise competitive with, the declared service.

The QCA considers the relevant market is characterised by the interaction between:

- Aurizon Network, as the entity providing access to, and coordinating the use of, its rail infrastructure
- access seekers and access holders using Aurizon Network's rail infrastructure.

Most of the users for the service are above-rail haulage operators servicing coal mines connected to the CQCN.

Substitution between rail and road infrastructure

The QCA considers the use of road infrastructure is not substitutable for the CQCN service. The relevant service is a service involving the use of rail infrastructure to provide transportation *by rail*. In terms of function and capability, road infrastructure cannot be substituted for the CQCN.

Nor does the QCA consider road transportation constrains the operation of rail infrastructure. As explained by the QRC:

> In the event that the Facility were to become temporarily unavailable, the most likely outcome would be for customers to rely on stockpiling until the Service comes back online.
>
> Indeed, this is what happened in the aftermath of Cyclone Debbie last year. It is possible that, in exceptional circumstances, some customers might temporarily seek to use road transportation. Given the lack of appropriate terminal infrastructure to support road haulage and the safety/regulatory implications of doing so (e.g. the sheer number of trucks attempting to access terminals at once), the QRC submits that a transfer of material coal volumes to road haulage is unlikely to occur.
>
> In any event, the QRC submits that road haulage is not a viable alternative and certainly not a genuine economic substitute. The QRC submits that assessing customer behaviour in such circumstances would lead to an exaggerated demand side response, resulting in an overly inclusive, and therefore inaccurate, market definition.[42]

It is clear, due to the nature and scope of the task carried out on the CQCN, rail transport is the only mode of transport capable of meeting the requirements for transporting large quantities of coal, over considerable distances, on an ongoing and regular basis (see Box 2 below for more discussion).

While it may be possibility to use road transport temporarily or in response to an unforeseen event, there is no evidence customers have availed themselves of this option in the past, or would

[40] Aurizon Network, sub. 6, p. 40 and sub. 19, pp. 7, 29–31.
[41] Pacific National, sub. 9, p. 13.
[42] QRC, sub. 7, p. 32.

do so in future (particularly in an ongoing manner). The QRC's comments around customer responses to Cyclone Debbie provide further evidence in support of this view.

Is the use of each rail system supplied in a separate market?

Aurizon Network said each coal system has divergent market conditions and prospective substitute facilities, noting criterion (b) does not explicitly require the facilities providing the substitute service to be owned by different entities.[43]

Aurizon Network considered the QCA's consideration of the market for the DBCT service was highly relevant and has implications for the assessment of its service. It said if the QCA defines the boundary of the market for the DBCT service with reference to geographic catchment (e.g. Hay Point), and concludes DBCT can meet demand in that market at least cost, then there is no market for the use of the GAPE system.[44] Further, non-declaration of the part service (comprising GAPE users transporting coal on the Goonyella and GAPE system) would not be contrary to the interests of existing users of the service given operations would continue pursuant to the commercially negotiated GAPE deeds.[45]

The QCA has set out its approach to this assessment, including how it intends to define the market with respect to the services currently being reviewed against the declaration criterion (see Chapter 2). To the extent Aurizon Network's main concern is the application of the criterion consistently across all services being reviewed, the QCA concurs with this view. While each service defined in s. 250 of the QCA Act must be separately assessed against the access criteria, it is important a consistent approach is applied, including, in this instance, the approach to defining the relevant market.

However, the QCA does not consider that its conclusions drawn in relation to the market in which the DBCT service is provided define the boundary of the CQCN market (or parts of it). The economic considerations that affect substitution possibilities between coal terminals are not necessarily the same as those that affect demand and supply side substitution for rail infrastructure. While there may be information informing the analysis of both markets, determining the boundaries of one market does not automatically define the market in which the other service is provided.

Aurizon Network's comments go to the nature of demand for use of the CQCN and, in particular, the fact demand for above rail services is a derived demand. On the CQCN, a specific mine owner will require the use of rail infrastructure connecting its mine to a port. From the miner's perspective, the use of rail infrastructure connected to a different mine is not substitutable. Some mine operators may have a choice of using different ports (and potentially different systems) but most do not. A specific mine owner may therefore have few substitution possibilities in terms of rail infrastructure access.

However, the primary market for use of below rail access rights on the CQCN is made up of above-rail haulage operators. These operators do have the ability to switch their rollingstock between different parts of the CQCN depending on the demand for rail transportation from mine owners. The ability of rail operators to switch between different parts of Aurizon Network's interconnected rail system is a powerful indicator that the use of the CQCN is a service provided

[43] Aurizon Network, sub. 19, p. 31.
[44] Aurizon Network, sub. 19, p. 29.
[45] Aurizon Network, sub. 19, p. 30.

in a single geographic market. The fact that some mine owners can and do use more than one rail system further supports this conclusion.

The QCA recognises the rail systems have different levels of utilisation and, largely, this can be attributed to the mines located within proximity to the relevant system (and the port that serves as their final destination). Nevertheless, the QCA remains of the view the market, in the case of the below-rail service Aurizon Network provides, is for the CQCN as a whole. While coal system utilisation may be relevant to Aurizon Network as a business (for capital investment decisions) and may help explain customer decision making in specific cases, these factors alone do not indicate the existence of separate markets.

Are there any substitutes for the CQCN in the relevant market?

The QCA considers there are no substitutes for the CQCN. This is unlikely to change over the proposed period of declaration (see section 2.4).

It is of course possible new rail infrastructure could be built to provide a viable alternative for customers who currently utilise the CQCN. Aurizon Network has pointed to future projects which it says could be substitutable for parts of the CQCN (e.g. the Northern Galilee Basin Rail (NGBR) project for users on the Newlands corridor).[46] However, the construction of such a line, together with its route, capability and market impact, remain uncertain.[47] It is too early to conclude the NGBR project would constrain prices or compete with infrastructure serving the Newlands corridor.

Conclusion on market definition

The QCA considers the relevant market, for the purpose of applying criterion (b) is the market for access to rail infrastructure in the coal basins served by the CQCN.

Further information on market considerations, including the demand drivers in the market for Aurizon Network's below-rail service, is provided in Box 2.

[46] A proposed standard gauge, greenfield rail line in central Queensland, approx. 310 km long, which is intended to connect the northern Galilee Basin to the Port of Abbot Point. See Department of State Development, Manufacturing, Infrastructure and Planning, North Galilee Basin Rail Project, http://statedevelopment.qld.gov.au/assessments-and-approvals/north-galilee-basin-rail-project.html.

[47] Also see QRC, sub. 7, p. 33; Pacific National, sub. 9, p. 13. In addition, Adani released revised project plans more recently stating it no longer intended to construct its own rail line, but instead would connect to the existing (CQCN) network. See Adani projects update at https://www.adaniaustralia.com/en/projects-businesses/rail.

Box 2: The derived demand

The primary market is the market for the below-rail service. In this market, Aurizon Network is the supplier and the above-rail operators (currently Aurizon Operations, Pacific National and BMA Rail) are the customers.

However, the demand in the primary market—that is, the demand for the use of rail transport infrastructure by above-rail operators—is a derived demand. Above-rail operators do not seek access to the below-rail services to run trains for the sake of running trains, their demand is derived from their customers (e.g. miners) who need to transport goods by rail from one point to another.[48]

Broadly, there are two categories of freight task on the CQCN which drive demand in the primary market:

- the transportation of coal; this freight task made up 98.8% of all traffic (by gtk) carried on the CQCN in 2016–17
- the transportation of non-coal freight (e.g. agricultural, containerised and general freight) and passengers; together, this freight task made up 1.2 per cent of all traffic (by gtk) carried on the CQCN in 2016–17.[49]

A proper input market analysis involves examining the extent to which end customers would respond to a SSNIP in the below-rail price. That is, if Aurizon Network increased the price of its below-rail service by 5 to 10 per cent, and it is assumed the above-rail operator passed on the entirety of this increase, to what extent would the end customer (e.g. miners or owners of freight) switch away from the use of rail for the transportation of their goods?

Coal

Coal is categorised as bulk goods. 'Bulk goods' describes freight involving large volumes of homogenous product, transported in mass quantities, and which tend to be relatively non-perishable and non-fragile. Evidence from the industry indicates that rail transport has an inherent cost advantage in the transport of bulk freight due to its ability to exploit economies of scale. For example the ACCC noted:

> Market feedback has indicated that freight owners moving large volumes of non-perishable or long-shelf life perishable goods view rail as the more appropriate mode over longer distances due to its tonnage and volume capacity, lack of time sensitivity and lower price.[50]

The Australian Government Bureau of Infrastructure, Transport and Regional Development (BITRE) also noted that the scale economies of rail advantage it over road transport for the transport of bulk commodities:

> Australia's bulk freight task is dominated by rail (48 per cent) and shipping (36 per cent) … Road carries only a small proportion of bulk freight, with most of this aggregate building supplies, such as sand and gravel, generally carted short distances (less than 20 kilometres) … Transporting many of these commodities [bulk freight] by road would be vastly more expensive, and so there is effectively no competition from road transport.[51]

The QCA considers, in the vast majority of cases, miners are constrained by the bulk nature of coal (being high-volume, low unit-value goods) to transportation by rail due to its cost effectiveness. Rail transport is able to utilise economies of scale to realise cost advantages: by attaching more wagons to a locomotive, more volumes of coal can be carried for the one locomotive and one train path; consequently, average rail costs typically decline with increasing volumes. In contrast, one truck can only carry a defined volume, therefore the average per truck road freight cost is constant with respect to volume. For the typical miner on the CQCN which requires the transport of large volumes of coal on a consistent periodic basis, the QCA is satisfied that rail transport is the most cost effective option.

Additionally, rail transport is likely to be particularly cost-effective for miners on the CQCN compared to an alternative such as road transport, as rail transport is essentially integrated with mining operations on the CQCN. For example, there are streamlined loading/unloading systems at many mines and ports, and dedicated below-rail infrastructure[52] to support the transportation of coal. Therefore, the QCA considers that miners on the CQCN would not switch from using rail to transport their coal in response to an increase in the below rail price (and certainly not in response to a 5 to 10 percent increase).

Non-coal freight

For the purposes of this analysis, the QCA does not consider it is necessary to examine in detail the likely behaviour of non-coal customers in response to a SSNIP in the below-rail price. This is because non-coal traffic on the CQCN represents only 1 per cent (approximately) of total traffic (by gtk) on the CQCN. Hypothetically, even if all non-coal freight customers switched away from the use of rail in response to a SSNIP in the below-rail price, this would have a minor effect on the overall demand by end customers for above-rail haulage on the CQCN, with 99 per cent of end customers (i.e. coal miners) constrained to transportation by rail.

Conclusion

Therefore, although the demand of above-rail operators for below-rail services on the CQCN is a derived demand, an analysis of demand from the end customers shows almost all (around 99 per cent) would not switch from using above-rail transport in response to a SSNIP. As a result, the QCA considers that above-rail operators who acquire the below rail service provided in the primary market (who face the derived demand) are unlikely to switch away from the use of rail transport infrastructure in response to a SSNIP in the below-rail price. This supports the market analysis above.

[48] It is important to note, however, that the existence of the derived demand does not mean that the market for below-rail services and the market for above-rail haulage (i.e. the transportation of goods by rail) are in the same market. Clearly, below-rail services are not a substitute for above-rail haulage services: these services are different components of the supply chain and are in distinct markets.

[49] These percentages are calculated using data supplied by Aurizon Network, based on financial year 2016–17 data: Aurizon Network, sub. 6, p. 37.

[50] ACCC, *Pacific National/Linfox—Proposed acquisitions of intermodal assets from Aurizon*, Statement of Issues, March 2018, p. 13, para 79.

[51] BITRE, *Road and rail freight: competitors or complements*? I*nformation sheet 34*, Australian Government, July 2009, p. 3.

[52] For example, dedicated A-grade track to handle heavy coal trains, and specific passing loops and balloon loops built at strategic locations to accommodate coal train traffic.

2.4 Period for assessing foreseeable demand

2.4.1 Stakeholder submissions

Aurizon Network said if the service is declared, it should be for no longer than five years. It said there is sufficient uncertainty around: the long-term demand for thermal coal, the prospect of supply chain substitution from reduced long-term demand, development of competing facilities and the technological disruption of the railway industry through increasing levels of autonomous vehicles. All of these factors support a relatively short declaration period.[53]

When considering the appropriate period, Aurizon Network said the QCA should not give weight to arguments that support a longer declaration period because it provides additional certainty:

- long term certainty for access seekers is not a material consideration given the ability to revoke declaration if there is a material change in circumstances (e.g. due to technology or the prospect of development of competing facilities)
- a long declaration period provides limited certainty to the access provider in respect of asset stranding risk where the regulatory framework fails to provide adequate safeguards.[54]

Stakeholders preferred a declaration period of a minimum of 15 years or longer. The QRC said this was appropriate given:

- the significant nature of the assets and the typical declaration period for similar services—e.g. Tasmania Railway, Port of Newcastle and the Goldsworthy Railway with declaration periods of 10, 15 and 20 years respectively
- the benefits to businesses and the public—providing long-term certainty for businesses and investment decisions and permitting the public benefits of declaration to be realised
- the unlikelihood of technological or other significant changes occurring over this time period.[55]

Peabody supported the QRC's view and added a longer period was appropriate given the unlikelihood of duplication or any commercially sensible alternative to the service.[56]

Pacific National said the declaration period should be extended for the longest period for which the QCA is satisfied the declaration criterion are met.[57]

2.4.2 QCA analysis

The QCA's initial view is that a period of 15 years could be appropriate for assessing total foreseeable demand for the Aurizon Network service.

In recommending this period, the QCA considers it has balanced the need for access seekers and holders to have certainty over the period of declaration with the legitimate business interests of Aurizon Network to have its service declared for only as long as is considered necessary. The QCA has also considered whether it is able to make sufficiently robust predictions about demand and cost to satisfy itself about criterion (b) over this period.

[53] Aurizon Network, sub. 6, p. 49.
[54] Aurizon Network, sub. 6, pp. 47–48;
[55] QRC, sub. 7, p. 10-11, 34. QRC, sub. 20, p. 16.
[56] Peabody, sub. 2, p. 4.
[57] Pacific National, sub. 9, p. 11.

Long-term certainty and asset lives

The QCA considers certainty is a factor which favours a longer declaration period.

The QCA notes other declarations of rail access services have typically been for longer periods of time (at least 10 years). For instance, the QRC noted the service provided by the Tasmanian Railway was declared under Part IIIA for 10 years, while the service provided by the Goldsworthy Railway (Western Australia) was declared for 20 years.

In part, this reflects the long-lived nature of the sunk investments that will be made in expectation of access; for example, investments in rollingstock and mining operations typically have a useable life of 20–30 years. Assuming that at a particular point in time (e.g. at the time of declaration), asset lives across the industry are on average around half life-expired at the time of declaration, a declaration period of 10 to 15 years would be appropriate.

The QCA also notes Aurizon Network's planning horizon goes up to 15 years (and beyond).[58]

While the QCA notes Aurizon Network's position that declaration can be revoked if circumstances change, the QCA does not consider this a significant factor in weighing the benefits of increased certainty stakeholders consider a longer declaration period will provide.

Timing of future market changes

On the available information, the QCA does not consider substantial changes in the market for the service over the next 10 to 15 years are likely and which would affect whether the service provided by Aurizon Network continues to satisfy the declaration criteria:

- No other service provider is envisaged to enter the market, noting also the breadth of service offered by Aurizon Network. Developments such as the Carmichael coal mine and rail project and the NGBR project continue to progress but there appears to be uncertainty around aspects of both projects, including the scope of the rail project associated with the NGBR and whether it will connect to Aurizon Network's facility or not.[59,60]
- To the extent the NGBR project was completed and can be demonstrated to materially affect circumstances during the declaration period, it would be open for Aurizon Network to submit a revocation application at the relevant time with evidence demonstrating this.
- The QCA does not consider global trends in climate policy appear likely to impact thermal coal demand in a 15 year period. Thermal coal makes up one third of total coal transported over the CQCN.[61] By current expectations, demand is likely to remain strong, including due to Queensland's high-quality (high energy content) thermal coal and other factors (including construction of 'high efficiency low emissions' (HELE) thermal coal power stations in South East Asia and the Middle East).[62] The majority of coal transported is metallurgical coal which is less likely to be affected by climate policy.

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[58] Aurizon Network, *Network Development Plan 2016-17*, pp. 3-4.

[59] The EIS status of the Carmichael coal mine and rail project is 'Approved with conditions'; see the Department of State Development, Manufacturing, Infrastructure and Planning, Carmichael coal mine and rail project, http://statedevelopment.qld.gov.au/assessments-and-approvals/carmichael-coal-mine-and-rail-project.html.

[60] See also Aurizon Network, sub. 6, pp. 41–42.

[61] Aurizon, *FY2018 Sustainability Report*, p. 26.

[62] QCA, *Aurizon Network's 2017 draft access undertaking*, draft decision, December 2017, pp. 179–180; Resource Management International, *Assessment of Coal Volume Forecasts for Aurizon Network's 2017 Draft Access Undertaking*, report for the QCA, May 2017, pp. 14–17.

Periodic review of declarations

The QCA considers it appropriate for any declaration to be periodically reviewed. The application of the declaration criteria requires a consideration of likely future scenarios (e.g. the future state of markets with and without declaration and future foreseeable demand). Forecasts of the future are, by their nature, inexact. However, the QCA considers a 15-year declaration period allows the QCA to make sufficiently robust predictions about the future market conditions, while also providing an opportunity for review. This balances the legitimate business interests of Aurizon Network, as well as access seekers and holders in the context of industries which require large sunk investments.

2.5 Total foreseeable demand

2.5.1 Stakeholder submissions

The QRC submitted total foreseeable demand estimates for the below-rail market over the proposed 15-year declaration period, based on its expert report prepared by RBB Economics (see table below).

Table 3 QRC total foreseeable demand estimate for the below-rail market[63]

2020	*2021*	*2022*	*2023*	*2024*	*2025*	*2026*	*2027*
248.6	257.4	258.7	259.3	260.8	268.5	256.1	257.2
2028	***2029***	***2030***	***2031***	***2032***	***2033***	***2034***	***2034[sic]***
271.1	276.0	271.4	278.1	279.2	292.9	298.3	281.0

On this information, the QRC said total foreseeable demand in the below-rail market was expected to reach a peak of 298.3 mtpa (excluding outliers) during the declaration period.[64]

Aurizon Network did not provide demand estimates, noting there was considerable uncertainty in foreseeable demand beyond UT5 (one of the reasons it supported a shorter declaration period).[65]

Aurizon Network observed QRC's total foreseeable demand estimates assume a modest 1.3 per cent annual growth rate. However, Aurizon Network said it was unclear why the QRC had not explicitly referenced the demand for the Surat basin volumes having included expansion works relating to these volumes in determining CQCN expansion costs later on in the analysis.[66] In addition, Aurizon Network had mixed views on RBB Economics' approach to determining the total foreseeable demand estimates, saying some adjustments were reasonable and others flawed.[67]

2.5.2 QCA analysis

On the information available, the QCA considers the QRC's estimate within a reasonable range of total foreseeable demand that could be expected to use the CQCN over the period (Table 3).

[63] QRC, sub. 6, p. 12.
[64] QRC, sub. 6, pp. 12, 24, 36.
[65] Aurizon Network, sub. 19, p. 34.
[66] Aurizon Network, sub. 19, p. 34.
[67] Aurizon Network, sub. 19, p. 37.

The QCA has reviewed information and comments provided by stakeholders, noting the QRC's estimate of total foreseeable demand over the period that was developed with input from (member) mining companies using individual production estimates.

The QCA considers the QRC's expert report (prepared by RBB Economics) is sufficiently detailed and robust. It uses and analyses information from QRC members (estimates of coal production), other reputable sources (including Wood Mackenzie) and its own independent analysis. All of which form the basis for the estimate of total foreseeable demand the QRC has proposed.

Aurizon Network's concerns do not appear to raise any significant issues with the overall demand estimate the QRC proposed, noting the estimates assume a modest growth rate of 1.3% over the period. Most of the concerns Aurizon Network raised relate to it not being able to verify the build-up of the QRC's aggregated CQCN demand estimates. On this, Aurizon Network queried why tonnes relating to the Surat basin had not been identified but, in any event, did not consider there to be any reasonable prospect of the Surat basin interconnecting with the CQCN over the declaration period.[68]

While the Surat basin tonnes have not been explicitly identified, it is reasonably apparent these have been included in the QRC's demand estimates – total foreseeable demand increases by 5 per cent in 2028 and the associated costs proposed by QRC (and timing) align with this[69] as Aurizon Network has pointed to. This is within the range of 22 mtpa cited in government project approvals.[70]

The QCA invites comments from stakeholders on the reasonableness of this range for foreseeable demand over the period and, if relevant, invites further information where stakeholders have differing views or new information that may inform this assessment (including on whether the Surat basin volumes should form part of this review and, given recent developments, the demand associated with the Carmichael mine).

The QCA notes the QRC's estimate does not include demand relating to non-coal traffic. However, according to Aurizon Network's estimates the volumes associated with this traffic are not material or expected to become material in future.[71]

The critical point (which is canvassed below) is that demand for access to the CQCN, during at least part of the period for declaration, is expected to exceed the capacity of the rail network. This is relevant to the application of criterion (b), since it indicates the CQCN will need to be expanded to meet this forecast demand.

[68] Aurizon Network, sub. 19, p. 37.

[69] QRC, sub. 6, Attachment 2, p. 25.

[70] See Wandoan project information page, Queensland Government, Department of State Development, Manufacturing, Infrastructure and Planning http://statedevelopment.qld.gov.au/assessments-and-approvals/wandoan-coal-project.html.

[71] Aurizon Network said capacity for foreseeable demand for intermodal freight services is preserved under s266A of the Transport infrastructure Act 1994. Also that expansion of these volumes (access paths) would likely require government assistance, agreement and funding. See Aurizon Network, sub. 6, p. 46.

2.6 At the least cost, compared to two or more facilities

2.6.1 Stakeholder submissions

The QRC said capacity of the facility is currently 275 mt (based on a report prepared for it by Calibre).[72]

Given capacity and demand requirements, the QRC said the CQCN is unlikely to be able to meet total foreseeable demand in the market over the declaration period without moderate expansion. It considered a further 90 mtpa of capacity is likely to be required. The QRC said this would cost around $695 million and would include:

- a decrease in headway on the Goonyella system and development of a fourth loop at DBCT ($145 million)
- construction of a fourth balloon loop at RG Tanna and a second balloon loop at WICET ($90 million)
- construction of a third balloon loop at WICET and construction of the Moura Link and Moura main line passing loops ($460 million and would be supplemented (if required) by formation strengthening, further passing loops and duplication (at a cost of $100 million per year).[73]

Given there are no alternative facilities, the QRC said the cost of developing a new facility as an alternative to the CQCN would be around $20 billion and it is not possible to develop a 90 mt facility (simply to meet the excess demand requirements).[74]

The QRC's view was that compared to developing a new railway, an expanded CQCN could meet total foreseeable demand in the below-rail market at least cost over the period.[75]

Aurizon Network had reservations on various elements of Calibre's report (prepared for the QRC). In particular, Aurizon Network said:

- the report:
  - does not contribute to the assessment of capacity given the recent work undertaken with respect to the CQCN BCA
  - makes erroneous conclusions regarding the capacity of the CQCN in reliance on the applied maintenance regime but fails to acknowledge that increased maintenance costs and flexibility in maintenance delivery are means of expanding system throughput
  - does not consider the total foreseeable demand by coal system and therefore cannot be reconciled with demand forecasts in the DBCT Management and DBCT User Group submissions
  - does not identify what expansions are most likely to be required to meet the total foreseeable demand by coal system
- the options for expanding the capacity of the CQCN are widely understood and identified in the Aurizon Network successive network development plans (NDPs)

[72] QRC, sub. 6, p. 29.
[73] QRC, sub. 6, pp. 12–13.
[74] QRC, sub. 6, p. 13.
[75] QRC, sub. 6, pp. 6, 13. The QRC proposed a 15-year period.

- the estimation of total replacement costs for the CQCN is unlikely to be relevant to the consideration of where an alternative facility might meet part of the total foreseeable demand at least cost.[76]

Aurizon Network also noted the report considers the costs of upgrading the Moura system if the system was extended to the Surat Basin but makes no consideration of the costs of that extension which is contrary to the requirements of criterion (b).[77]

2.6.2 QCA analysis

The ability of the CQCN to meet expected demand

Aurizon Network did not agree that the QRC's estimate of existing capacity on the CQCN was reasonable, pointing to its BCA and its NDPs.

The table below compares the QRC's estimates and Aurizon Network's capacity estimates (including available capacity) set out in Aurizon Network's 2016 BCA.[78]

Table 4 Comparison of CQCN existing capacity estimates

	QRC (mtpa)	*Aurizon Network's BCA (mtpa)*		
	Estimated capacity	*Existing capacity*	*Committed capacity*	*Available capacity*
Newlands/GAPE	50	53.7	51.4	2.31
Goonyella	130	140	139	1.86
Blackwater	75	171[a]	153.3[b]	17.9
Moura	20	32.7	7.96	24.7
CQCN	275	397.4	351.1[c]	46.7

a *Including coal and non-coal capacity;.* ***b*** *78.2 mt coal and 75.1 mt non-coal;* ***c*** *276 mt coal and 75.1 mt non-coal (Blackwater).*

Two key differences are clear between the QRC and Aurizon Network's capacity estimates:

- In relation to existing capacity estimates broadly—Calibre said it largely used Aurizon information and demand profiles, taking into consideration the QCA's review of the BCA[79], Aurizon Network's changed maintenance practices[80] (as announced by Aurizon Network in January 2018 to have significant impacts on the CQCN) and other factors it specified (e.g. operating constraints and maintenance levels on parts of the network).[81]
- In relation to non-coal traffic—Calibre has not included non-coal capacity estimates (and has excluded Aurizon Network's committed capacity for these traffics from its analysis and its existing capacity estimate).

Aurizon Network's BCA data suggests the total capacity of the CQCN may in fact be greater than indicated by the QRC's analysis. If this is correct, the expansions required to meet forecast

[76] Aurizon Network, sub. 19, pp. 37–39.
[77] Aurizon Network, sub. 19, p. 39.
[78] Aurizon Network, Baseline Capacity Assessment Report 2016.
[79] QRC, sub. 7, Att. 2, pp. 11–14.
[80] QRC, sub. 7, Att. 2, p. 14.
[81] QRC, sub. 7, Att. 2, p. 16.

demand may be fewer (and less costly) than the QRC's estimates. Ultimately, the QCA does not consider it necessary to arrive at a firm view on which of these capacity estimates are likely to be correct. The QCA has undertaken its analysis, for the purpose of criterion (b) using the more conservative estimate of capacity (i.e. that produced by the QRC), and considering the cost of the necessary expansions.

If the CQCN was able to meet total foreseeable demand without expansion, it is highly unlikely the use of two or more facilities could meet that foreseeable demand at a lower cost. In those circumstances, criterion (b) is likely to be satisfied. Conversely, if it were not possible to expand the CQCN to meet foreseeable demand, it is highly likely two or more facilities would be needed and, as a consequence criterion (b) would not be satisfied.

The scenario before the QCA in this case sits between these outcomes. That is, it will be necessary (but possible) to expand the CQCN to meet foreseeable demand in the market. This means the QCA needs to consider whether foreseeable demand in the relevant market, over the period of the declaration, could be met at least cost by:

- expanding the CQCN to meet foreseeable demand, or
- using the CQCN in combination with one or more other facilities.

Other facilities might include existing facilities, or facilities that could be constructed to meet foreseeable demand.

The QRC said it would cost approximately $695 million to expand the CQCN and additional detail was provided in Calibre's report on the nature, cost, location and timing of potential expansion options proposed.[82]

While Aurizon Network said Calibre’s report did not identify what expansions are most likely to be required to meet the total foreseeable demand by coal system, the QCA notes the following:

- Regarding Calibre's proposed expansion option:
  - Calibre identified a decrease in headway on the Goonyella system and development of a fourth loop at DBCT. The Connors Range headway has been identified by Aurizon as the main constraining section:[83]
    - Aurizon Network's NDP outlined two development options to address this constraint—the construction of a third track between Hatfield and Yukan estimated at $800 million, or a decrease in headway from Hatfield to Yukan estimated at $100 million. In the event of either of these proposed developments, the construction of a fourth loop at DBCT would be required to cater for the additional throughput—estimated by Aurizon Network to cost $45 million.[84]
    - Calibre advised a decrease in headway on the Goonyella system and development of a fourth loop at DBCT at a combined cost of $145 million would be reasonable and cost-effective.

[82] QRC, sub. 6, p. 12.
[83] Aurizon Network, *Network Development Plan 2016–17*, p. 11; Aurizon Network*, Network Development Plan 2018*, p. 7.
[84] Aurizon Network, *Network Development Plan* 2016–17, pp. 41–44; QRC, sub. 6, Att. 2, p. 23.

- Calibre identified construction of a fourth balloon loop at RG Tanna and a second balloon loop at WICET:
  - Aurizon Network's NDP noted there was available capacity in both the Blackwater and Moura systems and identified the construction of a fourth loop at RG Tanna as an initial development option to increase system capacity.[85]
  - Calibre recognised the ability to delay this investment through network improvements such as additional sets of signals to reduce headways, but noted Aurizon Network's estimated cost of $40 million for the construction of the additional balloon loop to increase system capacity by 30 mtpa presented a good value investment.[86] This increase in system capacity would also require supplementation to meet foreseeable demand in the future (as forecasted by RBB), which Calibre suggested be met through construction of a second balloon loop at WICET, estimated by Aurizon Network to cost $50 million[87], and providing capacity from South Goonyella, Rolleston and Blackwater trunk.
- Calibre identified construction of a third balloon loop at WICET and construction of the Moura Link and Moura main line passing loops, supplemented (if required) by formation strengthening, further passing loops and duplication:
  - This development was suggested by Calibre to address the need for additional capacity required on the Moura system to accommodate demand from the Surat Basin[88], as well as the current constraints on the system such as speed restrictions, maintenance requirements and constrained paths.[89] Calibre suggested the above system upgrades based on Aurizon Network's preference to upgrade existing assets rather than adopting a new alignment.

The expansion options identified by Calibre are not necessarily the only expansions that could or would be undertaken over this period to meet future services. They do, however, provide an estimate of the likely cost of expanding the CQCN to the extent required, and provide a basis on which the QCA can assess whether the expansion of the CQCN is likely to meet foreseeable demand at less cost than the use of two or more facilities.

In addition, the QCA notes Calibre has been guided by Aurizon Network's NDP and identified options Aurizon Network itself has set out as possibilities for expansion.

Given this, the QCA considers the Calibre estimate is a reasonable estimate of the likely cost of expanding the CQCN to meet foreseeable demand, noting Aurizon Network has critiqued Calibre's estimates, but did not propose an alternative.

Other information and options under Aurizon Network's NDP

The QCA has reviewed Aurizon Network's NDP as an alternative basis on which the QCA can assess whether the expansion of the CQCN is likely to meet foreseeable demand (see Appendix A).

The NDP shows the CQCN can be expanded to meet foreseeable growth over the period—with existing capacity shown to be 310 mt across the CQCN, and possible growth scenarios provided

[85] Aurizon Network, *Network Development Plan—2016–17*, pp. 12, 54-62; QRC, sub. 6, Att. 2, pp. 23-24.
[86] QRC, sub. 6, Att. 2, pp. 23–24.
[87] Aurizon Network, Network Development Plan – 2016–17, p. 60.
[88] QRC, sub. 6, Att. 2, p. 25.
[89] QRC, sub. 6, Att. 2, p. 24.

for up to 630 mt which is well in excess of the total foreseeable demand estimates being considered over the declaration period (section 2.5).

Based on the information in Aurizon Network's BCA and NDP, the QCA notes the following[90]:

- The Goonyella system has limited available capacity (2 mt) and is therefore likely to require moderate expansions to meet future demand:
  - Stage 1 and 2 scenarios show the CQCN can meet expected 8X and Zone 4 growth requirements at DBCT, at a cost of between $145 million to $845 million.[91] The QCA considers this upgrade likely to be required to meet DBCT total foreseeable demand estimates (section 2.7, Part C)
  - Stage 3 to 5 scenarios show further infrastructure upgrades are possible (e.g. 60 mt capacity could be provided at (the highest) cost of $472 million.[92]
- Newlands/GAPE has limited available capacity (2 mt). It is not clear whether expansions will be required to meet further demand, however further infrastructure upgrades are possible (the NDP shows a further 120 mt of capacity could be provided at (the highest) cost of $4.2 billion)
- Blackwater/Moura has available capacity (42.6 mt). It is not clear whether expansions will be required to meet further demand, however further infrastructure upgrades are possible (the NDP shows a further 120 mt of capacity could be provided at (the highest) cost of $3.8 billion).

The NDP outlines various incremental upgrades to meet port expansion scenarios that could be undertaken, including providing an alternative basis to test whether expanding the CQCN is likely to meet foreseeable demand at less cost than the use of two or more facilities.

The information points to a range of options, including capital and operating costs of incremental expansions of the capacity of the CQCN, which are likely to be far less than constructing a similar length track on a standalone basis to meet the same demand (for all or part of the CQCN).

Other facilities

There is currently no other existing facility (i.e. rail transport infrastructure) that is capable of meeting any part of the total foreseeable demand in the relevant market. Therefore, it is necessary to consider whether it would be cheaper to develop other facilities to meet foreseeable demand.

It is clear duplication of the CQCN is not feasible. The QRC estimated a replacement facility would cost around $20 billion—however, it would be necessary to duplicate the entire CQCN to meet foreseeable demand for services in this market. The question is whether it would be cheaper to develop other facilities as an alternative to expanding the CQCN.

The QCA is satisfied the expansions to the CQCN needed to meet foreseeable demand are likely to be moderate. Aurizon Network has a range of incremental expansion options that can be

[90] See Table 4 above for available capacity according to Aurizon Network's BCA.

[91] See section 2.7 of Part C. Aurizon Network, *Network Development Plan* 2016-17, pp. 41-48. In particular, options in year 2020/2021 [stage 1 and 2], pp. 42, 44, 46, 48. Includes costs for each scenario based on existing infrastructure standard and upgrades and / or operational improvements (excludes option for network upgrade to allow for heavier (30 tonne) axle loads).

[92] Aurizon Network, Network Development Plan 2016-17, pp. 41, 42, 44, 46, 48.

undertaken to meet additional demand, including adding mine and passing loops, additional signalling, and extensions to existing infrastructure to allow for longer trains. The capital and operating costs involved in incremental expansions of the capacity of the CQCN are likely to be far less than constructing a similar length track on a standalone basis to meet the same demand.[93]

Until the CQCN reaches the maximum scope of its potential capacity (i.e. all incremental expansion options are exhausted leaving duplication the only remaining option), the most economical option for meeting foreseeable demand is more than likely to be using and expanding the CQCN.

2.6.3 Conclusion

The task of the QCA is to form a view as to whether the CQCN (taking into account its expanded capacity as provided for under s.76(3) of the QCA Act) could meet total foreseeable demand in the market over the period for which the service would be declared at the least cost compared to any two or more facilities.

The expansion options identified by Calibre appear reasonable and, relevantly, are based on Aurizon Network's own NDP. In noting that Calibre's expansion option is not necessarily the only expansions option that could or would be undertaken over this period to meet future demand, the QCA's own review of the NDP shows that CQCN capacity can be expanded incrementally using infrastructure and operational improvements.

While the NDP outlines expansion options that could more than double the existing capacity of the CQCN, clearly a doubling of capacity is not necessary to satisfy total foreseeable demand. However, it is likely moderate expansions closer to the QRC's estimate would be necessary.

Whether Calibre's estimate or some other mix of options and costs identified by Aurizon Network in the NDP is adopted, it is less costly to incrementally expand the CQCN than develop an alternative facility (or part facility).

Given the above considerations, including stakeholder submissions, the QCA considers the CQCN could meet total foreseeable demand in the market over the period for which the service would be declared at the least cost compared to any two or more facilities. The QCA is satisfied as to criterion (b).

[93] QRC, sub. 7, p. 13.

3 CRITERION A—PROMOTE A MATERIAL INCREASE IN COMPETITION

3.1 Introduction

Section 76(2)(a) of the QCA Act is expressed as follows:

> that access (or increased access) to the service, on reasonable terms and conditions, as a result of a declaration of the service would promote a material increase in competition in at least 1 market (whether or not in Australia), other than the market for the service.

The focus of the QCA's assessment of criterion (a) in respect of the Aurizon Network service is whether Aurizon Network would have an ability and incentive to exert market power so as to adversely affect the environment for competition in at least one dependent market, and whether access to the service on reasonable terms, as a result of declaration of the service, would materially improve the environment for competition in the dependent market.

Broadly speaking, the QCA's assessment of criterion (a) for the Aurizon Network service consists of the following steps:

- Identify markets other than the market for the Aurizon Network service (i.e. dependent markets) and confirm each is separate from the market for the service provided by Aurizon Network.
- Assess whether Aurizon Network has the ability and incentive to exercise market power so as to adversely affect the environment for competition in at least one dependent market in the absence of declaration.
- Assess the environment for competition in one or more dependent markets if the Aurizon Network service is not declared and compare it to the environment if the service is declared.
- Conclude whether access (or increased access) to the service as a result of declaration would promote a material increase in competition in at least one dependent market.

Stakeholders made comments in respect of the assessment of criterion (a) for Aurizon Network's below-rail service. Those comments are summarised in the table below and are considered further in sections 3.2 to 3.8 of this chapter.

Table 5 Summary of key positions—s. 76(2)(a) of the QCA Act

Criterion (a)			
Issue	***Aurizon Network's position***	***Other stakeholders' position***	***QCA draft view***
That access (or increased access) to the service, on reasonable terms and conditions, as a result of declaration of the service would promote a material increase in competition in at least 1 market, other than the market for the service	Declaration is not likely to promote a material increase in competition in another market when compared with an alternate (more light-handed) regulatory approach A principles-based approach with commercial negotiations would provide	Declaration of the service promotes competition in dependent markets, including in the above-rail haulage market	Criterion (a) is satisfied

Criterion (a)			
	protections for above-rail competition		
Identify markets other than the market for the service (dependent markets)	The rail haulage market is the relevant functional market for assessment Other markets include the market for construction and operation of rail transport infrastructure, seaborne coal, transport of freight and passengers and agricultural products Other markets not relevant include the markets for coal tenements and financing of coal projects in the Bowen Basin	The rail haulage market is a dependent market which is functionally separate to the below-rail market Other markets include the market for coal exploration, coal handling services, export of coal globally and a variety of specialist mining services	The key dependent market is the above-rail haulage market. This market is separate from the market for below-rail services Other relevant dependent markets are coal export markets and market for coal tenements See section 3.2
Aurizon Network's ability and incentive to exercise market power	An alternative light-handed model is proposed to provide protections to rail haulage market participants	Aurizon Network's behaviour demonstrates that it is willing to exercise market power in the interests of maximising value for its shareholders	There is sufficient evidence that Aurizon Network has the ability and incentive to exercise market power See section 3.3
Promote a material increase in competition in at least one market, other than the market for the service	Declaration is not necessary. An alternative light-handed model that would promote access is proposed	Declaration is necessary to maintain protections for access seekers and access holders, and to promote competitive entry to the rail haulage market	Access (or increased access) on reasonable terms and conditions as a result of declaration would promote a material increase in competition in the above-rail haulage market See section 3.4

3.2 Market(s) other than the market for the service

Criterion (a) requires identification of markets other than the market for the service.

The service is the use of Aurizon Network's below-rail infrastructure for transportation by rail (section 2.2), and the market for the service is the market for access to rail infrastructure in the coal basins served by the CQCN (section 2.3).

Therefore, this section is about the identification of other markets (which may be referred to as dependent markets) and confirmation whether each market is separate from the market for using Aurizon Network's service.

Stakeholders identified a range of markets as separate from the market for Aurizon Network's service, including the:

- above-rail (haulage) market
- coal tenements market

- coal exports market
- financing of coal mining tenements market
- mining related services market (e.g. operation and construction of rail infrastructure)
- other transport services markets, including passenger, freight and agricultural user markets.

Of these markets, stakeholders focused on the effect of declaration on competition in the above-rail haulage market.

3.2.1 Above-rail haulage market

Stakeholder submissions

Stakeholders identified the above-rail haulage market as the most relevant dependent market in which to assess the effect of declaration.[94] In particular, Aurizon Network identified:

> the rail haulage market as being the relevant functional market for assessing whether access, or increased access to part of the service on fair and reasonable terms from declaration would promote a material increase in competition.[95]

The QRC's view was the same. It said the key consideration is to identify one or more markets where competition appears likely to be materially affected by an improvement in the terms and conditions of access to the service as a result of declaration. As such, the QRC said the key market considered in its submission was the above-rail haulage market.[96] Pacific National and Peabody supported this view, pointing to Pacific National's own entry and growth in this market as an example of the type of competition facilitated by effective regulation of the CQCN.[97]

Having identified the above-rail haulage market as most relevant for the assessment, stakeholders also agreed this market was separate to the market for Aurizon Network's below-rail service.[98]

Aurizon Network said a market is assumed to exist where consumers are prepared to pay the additional costs of separating the rail service into its functional components and having them provided in separate markets.[99]

The QRC said the markets for rail haulage services have long been accepted as separate from the markets for the use of below-rail infrastructure, including by the NCC, the Tribunal and the Federal Court.[100] The QRC also provided legal advice that concluded:

> evidence that a vertically integrated firm supplies to third parties those goods or services that it supplies to itself by means of its vertical integration is strong evidence of the existence of separate functional markets'.[101]

Further, in the case of Aurizon Network specifically, the QRC said:

> The fact that Aurizon Network and Aurizon Operations are part of the same corporate group suggests that there may be some efficiencies to be achieved from vertical integration of the CQCN

[94] QRC, sub. 7, pp. 15–16, Pacific National, sub. 9, p. 4, Aurizon Network, sub. 6, p. 39.
[95] Aurizon Network, sub. 6, p. 39.
[96] QRC, sub. 7, p. 15.
[97] Pacific National, sub. 9, pp. 2, 11; Peabody, sub. 2, p. 14.
[98] QRC, sub. 7, pp. 15–16, Pacific National, sub. 9, p. 4, Aurizon Network, sub. 6, p. 39.
[99] Aurizon Network, sub. 6, p. 39.
[100] QRC, sub. 7, p. 16.
[101] QRC, sub. 7, p. 16.

> Service with rail haulage services. However, the fact that Aurizon Network supplies the CQCN Service for use by Pacific National and BMA Rail, who together haul a material proportion of the total coal volume carried over the CQCN, strongly suggests that above and below rail haulage services can profitably be supplied on a vertically separated basis, and hence that the efficiencies from vertical integration are not such as to dictate that integration.[102]

Pacific National also agreed the above-rail haulage market is functionally distinct from the market for the below-rail access services.[103]

QCA analysis

On the information before it, including stakeholder comments, the QCA is satisfied the above-rail haulage market is a key market relevant to the assessment and that this market is separate from the market for Aurizon Network's below-rail service. The QCA considers that with respect to:

- the above-rail haulage market:
  - haulage operators are directly dependent on access to Aurizon Network's below-rail service to compete in the above-rail haulage market
  - changes in the terms and conditions of access (including availability of access) to Aurizon Network's below-rail service could, depending on the terms imposed, have a direct impact on competition in the above-rail haulage market
- separation of the above-rail haulage market from the market for the service:
  - separate functions exist within Aurizon Holdings for the above- and below-rail functions, undertaken by separate business entities (subsidiaries of Aurizon Holdings)
  - assets required for the operation of haulage services are distinct from the provision of the service for using below-rail infrastructure
  - Aurizon Network provides below-rail service to its related haulage operator as well as other (third party) operators (Pacific National and BMA Rail).[104]

The QCA notes stakeholders did not contest that the above-rail haulage market is separate from the market for the service. Aurizon Network and the QRC provided detailed evidence to support this, including legal advice and relevant precedents (legal and regulatory).

The QCA considers, on the information presented, that all relevant factors identified show the above-rail market is a key dependent market and it is a market separate from the market in which Aurizon Network's below-rail service is supplied.

The geographic dimension of the above-rail market may extend to the Bowen Basin, i.e. the region serviced by the above-rail haulage market utilising the CQCN. As the QCA's views on criterion (a) do not turn on the geographic dimension of the market, the QCA does not propose to define the geographic boundaries of the market with further precision.[105]

[102] QRC, sub. 7, p. 17.
[103] Pacific National, sub. 9, p.11.
[104] Peabody noted Genessee Wyoming Australia as a prospective market entrant. See Peabody, sub. 2, p. 4.
[105] Also see the NCC's approach to geographic definition in the Port of Newcastle matter. NCC, *Declaration of the shipping channel service at the Port of Newcastle,* final recommendation, November 2015, para 4.58.

3.2.2 Other markets

The QCA has also given consideration to other markets that are separate from the market for the below-rail service, including where stakeholders provided comments.

Coal tenements market

The QCA considers the market for coal mining tenements is separate from the market for below-rail services provided by Aurizon Network.

The QCA notes stakeholder views differed on the relevance of this market to the assessment—whereas QRC considered it relevant, Aurizon Network did not. Aurizon Network noted the NCC's consideration and acceptance of the iron ore tenements market as relevant in the Pilbara but observed:

> The NCC has previously considered that the market for iron ore tenements in the Pilbara to be a relevant market for consideration of declarations applications for the Pilbara rail networks. However, the relevance of this market is in the context of the owners of the rail networks also being vertically integrated into the market for iron ore extraction and marketing.
>
> As Aurizon Network is not vertically integrated into the market for coal extraction or marketing and would have strong incentives to increase incremental demand for the service then the market for coal tenements in the Bowen Basin is not a relevant market. [106]

The QCA considers that the environment and conditions for competition in the coal tenements market in Queensland may be affected by declaration of Aurizon Network's below-rail service. While Aurizon Network is not vertically integrated within the coal tenements market, participants in this market rely on other coal chain participants when the mine enters production phase in order to transport product from mine to port.

As such, the ability (perceived or actual) to secure access to Aurizon Network's below-rail service on reasonable terms and conditions may affect investment decisions in the coal tenements market and, if additional risks are associated with obtaining access to Aurizon Network's service, these risks may impact project viability/bankability.

The global markets for coal (both thermal and metallurgical)

The QCA considers the markets for coal globally are separate to the market for below-rail services provided by Aurizon Network. The geographic dimensions of these markets may extend beyond Australia and into the Asia-Pacific region, where the customers of the CQCN's main users are located.

The CQCN is estimated to transport around 264 mt of coal in 2020–21, which is around 20 per cent of demand for global seaborne coal (around 1340 mt).[107]

For this reason, the QCA considers that coal export markets are dependent markets for the purpose of this assessment.

Other markets

Other markets raised by stakeholders included the market for the financing of coal mining developments and the market for specialist mining services.

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[106] Aurizon Network, sub. 6, pp. 39–40.

[107] Resource Management International, *Assessment of Coal Volume Forecasts for Aurizon Network's 2017 Draft Access Undertaking*, report to the QCA, 2017, p. 5.

The QCA is satisfied that both markets are separate to the market for below-rail services provided by Aurizon Network. However, on the information before the QCA, it is not evident the scope of either market is limited to, or influenced by the dimensions of the primary market.

The NCC and the Australian Competition Tribunal in the Port of Newcastle matter did not consider either market in any detail. For instance, the NCC noted, in respect of the market for:

> [financing of coal mining developments] … evidence has not been provided to suggest that, on the demand side, coal producers have only a specified group of substitutable financiers from whom to obtain funds for coal projects …[108]
>
> [specialist mining services] … providers of specialist services may be able to work in different mining regions around Australia …[109]

The QCA is of the view that similar considerations may apply in the context of the Aurizon Network service. As such, for the purpose of this draft recommendation, the QCA has not considered the market for the financing of coal mining developments and the market for specialist mining services further in the context of criterion (a).

3.3 Whether Aurizon Network would be constrained from exercising market power in the absence of declaration

The QCA considers it is relevant to assess whether there would be any effective constraints on Aurizon Network's ability and incentive to exercise market power in the absence of declaration.

This will inform the QCA's consideration of the environment for competition in dependent markets in a future with and without declaration.

The starting point for this analysis is to recognise that Aurizon Network faces no competition from other rail networks in providing rail infrastructure access. The QCA has found that:

- Aurizon Network's service is essential to provide transportation by rail, the majority of which is to transport coal from mine to port for export
- Aurizon Network is the only service provider in this market.

If Aurizon Network is not constrained by direct competitors, the question is whether there are factors, other than declaration, that would constrain Aurizon Network in the rail access market.

Stakeholders had strong opposing views on whether Aurizon Network would be constrained by other factors. The QCA has considered these views in the context of:

- the regulatory environment identified by Aurizon Network
- countervailing power of users.

In section 3.4 the QCA assesses the likely effect on the competitive conditions in the above-rail haulage market if Aurizon Network were to engage in conduct that involved the exercise of market power. A brief discussion on the likely effect on competitive conditions in other dependent markets is provided in section 3.5.

[108] NCC, *Declaration of the shipping channel service at the Port of Newcastl*e, final recommendation, November 2015, para 4.63.

[109] NCC, *Declaration of the shipping channel service at the Port of Newcastle*, final recommendation, November 2015, para 4.69.

3.3.1 Regulatory environment identified by Aurizon Network

Stakeholder comments

In the context of assessing criterion (d), Aurizon Network outlined what it considered are substantial constraints on its ability to exercise market power in the absence of declaration, including referring to price monitoring, the threat of regulatory intervention and s. 46 of the CCA.[110] For the purpose of assessing costs and benefits under criterion (d), Aurizon Network pointed to a regulatory environment possessing the following features:

- the right to negotiate access on reasonable terms with recourse to arbitration where reasonable terms cannot be agreed as would occur if the service was declared under Part IIIA of the CCA
- ring-fencing (including compliance and audit) and functional separation with access being provided on an arm's length basis between the network operator and the upstream users of the service (i.e. coal producers)
- conduct that substantially lessens competition being subject to remedy and enforcement of provisions under Part IV of the CCA
- price oversight that monitors whether the business is earning a reasonable return (as a threat for more intrusive regulation). This includes investigations about the monopoly business activities under Division 3 of Part 3 of the QCA Act for a declared non-government business activity under s. 21A.[111]

In the context of criterion (d), Aurizon Network also pointed to the provision of voluntary but enforceable access protocols (e.g. access frameworks via Deed Poll as proposed by Queensland Rail and DBCT) as an option available to ensure access on reasonable terms continued to be provided.[112]

Aurizon Network said, absent declaration, it would have increased incentives and ability to negotiate mutually beneficial terms and conditions and maximise access to the CQCN and would be acting against its own interests to deny or offer access on uneconomical terms.[113]

Peabody said that access regulation was of 'critical importance' given the vertical integration of Aurizon Network. It noted that in the absence of declaration, Aurizon Network has strong incentives to prevent entry and discriminate against competitors in favour of its own above-rail operations and pointed to Aurizon Network's tendency to maximise its own commercial position.[114]

Pacific National submitted that declaration has provided effective regulation of access to the CQCN and important structural and behavioural measures (such as ring fencing and non-discrimination obligations) and noted the potential risks to the competitive environment if

[110] Aurizon Network, sub. 6, p. 32. Aurizon Network primarily discussed its counterfactual in the context of criterion (d). However, the QCA has also considered it as relevant to criterion (a).
[111] Aurizon Network, sub. 19, pp. 14-15, Att. 2, p. 2.
[112] Aurizon Network, sub. 19, p. 14.
[113] Aurizon Network, sub. 6, pp. 5, 20.
[114] Peabody, sub. 2, pp. 13-14.

declaration was removed. In particular, it noted the possibility that 'Aurizon could revert to being a vertically integrated rail infrastructure owner and haulage provider' without declaration.[115]

The QRC said the arrangements proposed under Aurizon Network's counterfactual were uncertain. The National Access Regime was introduced because of well-recognised limitations of s. 46 of the CCA in facilitating access to infrastructure and that, even in its amended form, s. 46 provides an unlikely and ineffective alternative to providing access to facilities.[116]

The QRC also said a key rationale for access regulation is the prevention of a vertically integrated entity using its control over access to an essential bottleneck facility. Aurizon Network is a commercial profit maximizing entity and is motivated to drive value for its shareholders. Given its vertical integration, Aurizon Network has a clear incentive to prevent or restrict competition and has stated in numerous public statements its goal is to become a fully integrated logistics company.[117]

QCA analysis

The QCA acknowledges the regulatory environment outlined above was submitted as a baseline for assessing benefits from declaration, rather than an alternative access framework. However, as Aurizon Network's view is that alternative forms of regulation would be a 'substantial constraint' on its exercise of market power (in the absence of declaration), the QCA has considered this regulatory environment in the context of criterion (a).

Aurizon Network has outlined a future which assumes some alternative form of regulation, or competition law, would be sufficient to ensure access is provided on reasonable terms and conditions.

Declaration under Part IIIA of the CCA

One example Aurizon Network identified was the possibility that services might be declared under Part IIIA of the CCA. This is possible, in a scenario where the service is not already subject to an effective state access regime. However, the criteria for declaring services under Part IIIA are very similar to the access criteria under Part 5 of the QCA Act. As such this is, in effect, an argument the service can be declared, on similar grounds, at a later date.

The QCA does is not satisfied this is a satisfactory outcome where the service can otherwise be shown to satisfy the criteria now. Further, declaration (at some point in the future) would not remedy any adverse effects that had occurred in the meantime.

Voluntary access undertakings and behavioural constraints

Aurizon Network pointed to the possibility of, similar to the access regime for ARTC's Hunter Valley services, submission of a voluntary access undertaking under s. 44ZZA of the CCA. The QCA notes ARTC is obliged to submit voluntary access undertakings under state agreements.[118] As such, conclusions cannot be drawn on incentives to do so absent this obligation.

Voluntary access undertakings can also be submitted to the QCA under Part 5 of the QCA Act for a non-declared service. However, a voluntary access undertaking would be submitted only at

[115] Pacific National, sub. 9, p. 11.
[116] QRC, sub. 20, p. 11.
[117] QRC, sub. 7, p. 21.
[118] The Commonwealth, NSW and ARTC, *Memorandum between the Commonwealth of Australia, NSW and ARTC in relation to the lease of NSW interstate and Hunter Valley rail assets to ARTC and associated arrangements*, cl. 12, p. 8, https://www.artc.com.au/uploads/Final_Tripartite_Agreement.pdf.

Aurizon Network's discretion, with the QCA being unable to require compulsory amendment of the draft access undertaking under s. 136A of the QCA Act. As such, the QCA is not satisfied the ability to submit a voluntary access undertaking would act as a realistic constraint on any market power that might be exercised by Aurizon Network.

Similarly, voluntary commitments to develop minimum standards are unlikely to act as a realistic constraint on Aurizon Network–e.g. for ring-fencing (including compliance and audit) and functional separation (including access being provided on an arm's length basis between the network operator and the upstream users of the service). There are significant risks with such arrangements, which ultimately rely on Aurizon Network to self-regulate, monitor and enforce conduct in each of these areas. Also, Aurizon Network's vertically integrated structure presents a higher risk, relying on breaches to be reported by Aurizon Network's related party (or identified by a third party operator not part of the Aurizon group). Even where Aurizon Network takes all efforts to administer and comply with such arrangements, without a level of independent oversight akin to that afforded under an access regime, there is likely to be a perceived risk of mistreatment and, in turn, an impact on the competitive environment.

Other forms of regulation

Various forms of price oversight can be imposed under Part VIIA of the CCA or Part 3 of the QCA Act. This would require a decision to impose the relevant regime. That aside, it is not clear such a regime would act as a realistic constraint on Aurizon Network exercising market power.

Price oversight regimes, such as that under Part 3 of the QCA Act, provide less of a constraint on Aurizon Network's behaviour than would be the case under declaration in Part 5, only focusing on the monitoring of prices and the reporting of investigations to the relevant Minister (see Part 3, Division 3 of the QCA Act).

Concluding remarks

The QCA notes Aurizon Network's comments in relation to a private access regime supported by a deed poll and the operation of general competition laws (in particular s. 46 of the CCA). The QCA has considered this issue in detail in reviewing the access framework for the DBCT service (see section 3.3 of Part C) and in considering the relevance of s. 46 of the CCA as part of this review (see chapter 2).

In short, the QCA considers that the regulatory environment outlined by Aurizon Network is based on a number of assumptions about the application of various forms of regulation which will not necessarily be realised in the absence of declaration. This regulatory environment would not effectively constrain Aurizon Network's ability and incentive to exercise of market power by Aurizon Network in the absence of declaration.

3.3.2 Countervailing power of users

Stakeholder comments

Aurizon Network and ARTC were aligned in the view that users of their services have sufficient countervailing power:

- Aurizon Network said access is likely to continue to be provided on reasonable terms due to the ability of large end users to exercise countervailing market power by seeking authorisation from the ACCC to exchange information and collectively negotiate terms and conditions.[119]

- ARTC submitted similar views, noting the rail industry consisted of a small number of highly informed, well-resourced and large counterparties who can exercise significant bargaining power against infrastructure owners.[120]

The QRC did not agree. It said third parties will not have any countervailing power when negotiating with Aurizon Network if the service is not declared. With no credible threat of bypass, the QRC argued that Aurizon Network would have the ability to take advantage of its position in dealing with potential competitors of its related above-rail business.[121]

QCA analysis

On the information available, including stakeholder comments, the QCA does not consider the countervailing power of above-rail haulage operators or mining companies will effectively constrain Aurizon Network from exerting market power in a way that adversely impacts the environment for competition in the above-rail haulage market.

As per the QCA's criterion (b) analysis, there is no substitute for using Aurizon Network's below-rail service on the CQCN and there is no viable prospect of another service provider able to provide a similar service.

On this basis, while the QCA acknowledges mining companies and above-rail haulage companies are sophisticated and have a high level of expertise, absent declaration Aurizon Network has an incentive to ensure its own commercial objectives are met.

In the Sydney Airport case, the Tribunal said the most realistic way to test countervailing power was to ask:

> whether a party can create a credible threat to withdraw from negotiations or whether the party must accept a take-it-or-leave-it offer.[122]

In the case of Aurizon Network, mining companies and haulage operators do not have the ability to create a credible threat of bypass. Whether negotiations occur with Aurizon Network individually or collectively (as suggested by Aurizon Network), access to the below-rail network is the only viable way for coal from the Bowen Basin to be transported to a coal handling port and the only provider of a below-rail service in the Bowen Basin is Aurizon Network. Moreover, users cannot sustainably bypass the Aurizon Network below-rail service by utilising the road network to transport coal to a port.

As such, any bargaining power mining companies or haulage operators have will be limited when dealing with Aurizon Network.[123]

3.3.3 The 'future with' declaration

In contrast to the scenarios outlined above, declaration has the potential to materially constrain Aurizon Network’s exercise of market power in the above-rail haulage market, materially improving the competitive environment for potential above-rail haulage providers as well as

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[119] Aurizon Network, sub. 19, p. 15.
[120] ARTC, sub. 22, p. 9.
[121] QRC, sub. 7, p. 20.
[122] *Virgin Blue Airlines Pty Limited* [2005] ACompT 5 at [484].
[123] See *Virgin Blue Airlines Pty Limited* [2005] ACompT 5 at [485].

incumbent above-rail haulage providers who are considering renewing their access to haulage rights.

Part 5 of the QCA Act (which governs access to declared services) includes the power of the QCA to require Aurizon Network to submit a draft access undertaking for approval. Collectively, the QCA Act and the related undertakings approved under the QCA Act can provide important detail and obligations on behavioural and other relevant requirements with respect to Aurizon Network's operations, including recognising the vertical integration issues that arise.

The QCA considers that above-rail users rely on key protections under the QCA Act to effectively access and use the service, for example:

- an access provider is required to negotiate with an access seeker for making an access agreement relating to the service (s. 99)—Aurizon Network would be prevented from refusing to negotiate with a potential new haulage operator
- negotiating in good faith (s. 100)—Aurizon Network would be prevented from seeking to unnecessarily elongate the negotiation process, thereby creating commercial risks for a potential entrant
- making all reasonable efforts to satisfy access seekers' reasonable requirements (s. 101)—Aurizon Network could not refuse reasonable requirements of a potential haulage provider for access to the network
- setting out proposed terms of access on request (s. 103)—Aurizon Network would be required to provide clarity on proposed terms and conditions of access
- not engaging in conduct for the purpose of preventing or hindering access (including not offering a related body corporate more favourable terms than a competitor) (s. 104); not setting terms and conditions in favour of a related body corporate of the access provider, except to the extent the cost of providing access is higher (s. 168A(c))—the prospective haulage provider would have explicit protections against Aurizon Network seeking to cost shift away, or favour, its above-rail related party.

Moreover, access undertakings approved under declaration can provide arrangements to:

- facilitate commercial negotiations for access and renewal of access, including information provision, timeframes and access to standard agreements
- support efficient cost recovery via access charges, including using methodologies that are known and understood by industry
- provide a framework to support efficient capacity expansion
- guide when Aurizon Network can seek additional terms and conditions where it is justified, in a way that is transparent and equitable
- support a robust reporting, compliance and audit framework
- facilitate ring-fencing, including confidential information requirements to protect third party information (and prevent disclosure to other Aurizon business groups).

In addition, day to day operational matters are also important and an access undertaking can provide for monitoring and compliance of these provisions by the QCA—for instance, the ability to audit decisions to ensure there is no differential treatment of haulage operators within the operational environment.

Collectively, the above controls under the QCA Act framework and related undertakings would constrain the exercise of market power by Aurizon Network in the supply of rail access, compared to a future scenario in which the relevant service is not declared.

3.3.4 Conclusion

The QCA's view is that, in the absence of declaration, Aurizon Network would have the ability and incentive to exercise market power. Aurizon Network's ability and incentive to exert market power in the absence of declaration would not be constrained by:

- the counterfactual environment outlined by Aurizon Network, including:
  - declaration under Part IIIA of the CCA
  - other regulatory mechanisms (such as price monitoring)
  - application of the general competition law (and in particular s46 of the CCA)
  - voluntary commitments to develop protocols (e.g. ring-fencing)
- the countervailing power of users (particularly potential entrants).

In contrast, when considering the future with declaration, the QCA Act's third party access regime provides a credible constraint on Aurizon Network's exercise of market power.

3.4 Environment for competition in dependent markets

It is necessary to assess the environment for competition in a dependent market if Aurizon Network's below-rail service is not declared, compared with the environment if the service is declared. If there is at least one dependent market where access (or increased access) to the service, on reasonable terms and conditions as a result of declaration, would promote a material increase in competition, criterion (a) will be satisfied (see Chapter 2).

The QCA's view is that the words 'would promote a material increase in competition' requires an assessment of whether access on reasonable terms and conditions as a result of declaration would materially improve the environment or conditions for competition in a dependent market. In undertaking the analysis the QCA has considered whether Aurizon Network's conduct in the market for the service could have a material adverse effect on the ability of third party operators to provide an effective and credible competitive constraint to Aurizon Network's related party; or discourage efficient entry or restrict participation in a dependent market, such that it would materially impact on competition.

This section deals with the above-rail haulage market and section 3.5 deals briefly with other dependent markets.

3.4.1 Above-rail haulage market: environment for competition with and without declaration

Stakeholder comments

With the exception of Aurizon Network, stakeholders agreed declaration was necessary to obtain access on reasonable terms and attributed successful entry (and continued operation) of third party haulage operators to the underlying environment and access arrangements in place as a result of declaration.[124]

[124] Peabody, sub. 2 pp. 4, 14. Pacific National, sub. 9, pp. 3, 7, 11. QRC, sub. 7, p. 19.

The QRC said, absent the protections afforded by the QCA Act and under the access regime, it would be increasingly difficult to negotiate and obtain access on reasonable terms from a vertically integrated entity like Aurizon Network. The QRC considered Aurizon Network's incentive to engage in destructive behaviour would harm competition in the above-rail market.[125]

The QRC noted a high level of investment is required to support entry into the above-rail haulage market and, as a result, a high level of certainty about gaining reasonable access is required to make that investment.[126] Factors affecting investment in the above-rail haulage market include:

- the asset life of rollingstock is about 25 years, while the weighted average length of a rail haulage contract is 10 years
- specific rollingstock are obtained to operate on the CQCN narrow gauge track. This means the equipment/assets are effectively stranded and cannot easily be transferred to another jurisdiction
- rail haulage rollingstock is industry-specific and cannot easily be converted to other freight
- new entry requires one or more significant initial haulage contracts to justify the level of investment required.[127]

Pacific National said the growth in its share of coal freight volumes on the CQCN (from 10 percent to 30 per cent) has been underpinned by certainty in the pricing, terms and conditions underpinning the provision of services on the CQCN.[128] Peabody said market entry and expansion by Pacific National and others can only reasonably be viewed as due to the effectiveness of declaration and oversight of the access regime by the QCA.[129]

The QRC noted the benefits from competition to date, including productivity gains and competitive haulage market price pressure.[130] As an example, the QRC noted that Pacific National has been able to introduce productivity gains such as electronically controlled pneumatic braking, increased locomotive power and safe operation of over-length trains.[131]

In the context of assessing criterion (d), Aurizon Network acknowledged third party entry into the rail haulage market in Central Queensland has coincided with substantial productivity improvements in that market.

Aurizon Network said a number of stakeholder claims were unsubstantiated, unsupported and not relevant in considering competition impacts.[132]

Aurizon Network emphasised it did not contend there was a lack of connection between the provision of access to services in the CQCN and the benefits of competition in the rail haulage market. However, consistent with recent amendments to Part IIIA and the QCA Act, it said these benefits must be found to be the result of access arising from declaration, and not simply from access alone. If competition and efficiency benefits of access are able to be both retained and

[125] QRC, sub. 7, p. 19.
[126] QRC, sub. 7, p. 19.
[127] QRC, sub. 7, p. 19.
[128] Pacific National, sub. 9, p. 7.
[129] Peabody, sub. 2, p. 4.
[130] QRC sub. 7, p. 18.
[131] QRC, sub. 7, p. 18.
[132] Aurizon Network, sub. 19, p. 8.

enhanced through effective principles-based access rather than from declaration, the declaration criteria will not be satisfied.[133]

Regarding uncertainty in future below-rail costs, Aurizon Network said it agreed with the reasoning adopted by the Tribunal in the Port of Newcastle matter and submitted it is appropriate for the QCA to apply the same approach and reasoning:

> As to uncertainty in relation to PNO's future charging increases, the Tribunal agrees with the Minister that, compared to the significant uncertainty they face from changes in coal prices, other costs and regulation, any such uncertainty is likely to be very small. It would concern charges that are a very small component of the overall cost of delivered coal, while coal producers also face significant uncertainty from changes in the price of coal, ongoing costs (for example labour costs) and changes in regulation, such as those dealing with carbon emissions. Removing the uncertainty about Port access charges is not likely to promote a material increase in competition in a dependent market. [134]

In responding to QRC's views on price certainty and incentives to invest, Aurizon Network said there is no evidence presented that prices would be any less stable or predictable under its counterfactual. Rather, market norms for unregulated infrastructure provision demonstrate commercially negotiated private contracts will typically provide greater long term price certainty than regulatory determined mandatory tariffs.[135] More broadly in relation to investment, Aurizon Network said access from declaration is not relevant to the scale of above-rail haulage tenders and how customers sponsor market entry—these concerns would be addressed through appropriate ring-fencing arrangements which would be in place under both access from declaration and access provided under the counterfactual.[136]

Aurizon Network noted the QRC's concerns predominantly related to whether, in the absence of declaration, there would be ongoing rights of access to the CQCN and assurances that access continues to be provided on a non-discriminatory basis. Aurizon Network noted the counterfactual it proposed, in the context of assessing criterion (d), would include rights of access and behavioural controls proportional to those that currently exist in the undertaking.

Aurizon Network noted the concerns identified by other stakeholders would not arise under an alternative regulatory framework in the absence of declaration, as:

- access is provided to the end-users of the service independently of the rail haulage (bundling is not permitted)
- margin squeezing would not occur where the below-rail access arrangements are negotiated independently and prior to the rail haulage arrangements
- key terms and conditions of access are negotiated with the end-user independently from the rail haulage and therefore discrimination between rail operators will not occur.[137]

QCA analysis

The QCA notes Aurizon Network and stakeholders had opposing views on whether access (or increased access) to the service as a result of declaration would promote a material increase in competition in the above-rail haulage market:

[133] Aurizon Network, sub. 19, p. 7.
[134] Aurizon Network, sub. 19, p. 9.
[135] Aurizon Network, sub. 19, pp. 16–17.
[136] Aurizon Network, sub. 19, p. 18.
[137] Aurizon Network, sub. 19, p. 35.

- Industry stakeholders considered a future with declaration would promote a material increase in the environment for competition. In comparison, a future without declaration would have adverse impacts on competition as a consequence of dealing with a profit maximising, vertically integrated monopolist providing a service without effective constraints.
- Aurizon Network viewed the factors raised by stakeholders were focused on access and not declaration and was of the view declaration was unnecessary to obtain reasonable terms and conditions of access and realise benefits.

Ability to compete in the above-rail market

The above-rail haulage market currently consists of three active above-rail haulage providers, including an incumbent (Aurizon Network related) operator (Aurizon Operations) and two third party operators (BMA Rail and Pacific National). Of the third party operators, Pacific National competes with Aurizon Operations to service mines on the CQCN, with BMA Rail exclusively supplying haulage services to its own (related) mines.

The positioning of the incumbent in the market and the scale of operations (for the incumbent as well as competing above-rail haulage operators) are relevant in assessing potential competition impacts—providing information on the dynamics and intensity of competition that currently exists.

Pacific National's entry into the above rail haulage market provided competition for haulage services on the CQCN. While Aurizon Operations has maintained its dominant position in terms of market share (currently around 70 per cent), Pacific National's current market share is double the level it was in 2013.[138]

Changes in the terms and conditions are likely to impact the competitive environment, particularly with regards to ongoing rivalry and the potential for efficient entry by other third party above-rail haulage operators as explained below.

Matters raised in connection with vertical integration

Aurizon Network’s below- and above-rail services are part of a vertically integrated set of operations. It would be consistent with Aurizon Network’s commercial incentives to increase profits and maximise shareholder value by ensuring its related above-rail haulage operator is the operator of choice on the CQCN. Also, absent declaration Aurizon Network would not be effectively constrained from exerting its market power to provide its related above-rail haulage provider with an advantage over existing or new entrants into the above-rail haulage market (discussed in section 3.3).

There are a range of potential means in which Aurizon Network may cause a third party operator to be an unattractive option compared with its related haulage provider (due to price or conditions offered for access, scheduling of train services)—all of which have the potential to materially impact the competitive environment. Even the perception this may occur is likely to impact the ongoing above-rail market conditions for existing haulage operators (or new entrants).

Factors affecting the competitive environment

Based on evidence submitted by stakeholders, the QCA is satisfied that a potential new entrant to the above-rail haulage market will have to incur significant sunk costs to enter the market, such as through the need to invest in long-life rollingstock assets which are unable to be readily

[138] QRC, sub. 6, p. 18.

switched to alternative uses elsewhere. Similarly, existing operators on the CQCN face ongoing decisions to re-invest in the above-rail haulage market, for example through the need to replace aging rollingstock. Assets such as rollingstock typically have a useful life of 25 years, compared to below-rail access agreements with Aurizon Network, which typically have a duration of 10 years. Therefore, sometime during the useful life of the rollingstock, the below-rail access agreement need to be renewed.

In a future without declaration, the presence of sunk investments at the time of contract renewal gives rise to the 'hold-up problem' commonly discussed in the economic literature on monopoly regulation. The QRC summarised the hold-up problem in the context of mining investment as follows:

> One needs to understand that, in order to product or extract a commodity like coal, this requires a major sunk investment in mining equipment and infrastructure. These sunk investments give rise to what are known as 'quasi-rents' which are subject to the threat of hold-up.
>
> The threat of expropriation of rents by a monopoly service provider in such a situation would only in extreme circumstances result in a pure transfer. More likely, even the threat of such expropriation can limit future investment and innovation by the upstream firms.
>
> What miner would invest in reducing its extraction costs if it knew that the lower extraction costs would simply be met by higher port charges? More generally, what miner would invest in its mines knowing that the benefits of that investment could be expropriated by a monopoly somewhere in the supply chain?[139]

In a future without declaration, market participants in the above-rail haulage market (existing and potential entrants) face uncertainties relating to price and non-price access terms at the time of market entry or contract renewal, as Aurizon Network will be relatively unconstrained in its ability to exercise market power. This is particularly the case as access agreements with Aurizon Network do not contain evergreen renewal rights; therefore, any existing protections or favourable clauses in current contracts may not necessarily be replicated in a new contract at the time of contract renewal. In a future without declaration, Aurizon Network may seek to raise prices and/or offer less favourable non-price terms, for example in order to favour its own above-rail operator.

It is arguable that any such monopolistic pricing may nevertheless amount to a pure transfer of economic rents between market participants with little impact on competition. However, the QCA considers that the crucial issue is that above-rail operators can foresee the risk that any sunk investments it makes will be exposed to the risk of expropriation by the monopolist in a future without declaration. The QCA considers that this risk is sufficiently material that market participants (or a potential new entrant) will delay or be deterred from making the investment in the first place. Furthermore, all market participants in the above-rail haulage market are likely to face this risk[140], including more efficient firms. Therefore, the QCA considers that future uncertainties about terms and conditions of access would discourage efficient entry and efficient investment by market participants over time. Where efficient high-value firms are discouraged from entering or continuing to participate in the market, the QCA considers that there is likely to be a material adverse impact on competition.

Conversely, the QCA considers that the protections and certainties of access offered in a future with declaration would materially improve the environment for competition by encouraging efficient entry and operations (through a stable and predictable environment).

[139] QRC, sub. 20, p. 14.
[140] Except perhaps Aurizon Network's related above-rail operator.

The effect of declaration

The QCA has compared the potential constraints on Aurizon Network's market power in the rail access market both with and without declaration and has concluded that Aurizon Network's ability to exercise market power:

- would not be constrained in the absence of declaration
- would be effectively constrained by declaration under Part 5 of the QCA Act.

It is clear that the benefits to competition in the rail haulage market, outlined above, are the result not merely of access to the Aurizon Network's rail infrastructure service, but access as a result of the declaration of that service.

Conclusion

The QCA's conclusions are:

- Use of Aurizon Network's below-rail service is essential for haulage operators on the CQCN, who transport predominantly coal from mines in the Bowen basin for export.
- In the absence of declaration, Aurizon Network would have the ability and incentive to exercise market power in providing access to its service such that third party haulage operators (existing or new entrants) would be deterred or unable to effectively participate in the above-rail haulage market, and the environment for competition in that market would be adversely affected in a material way.
- Access as a result of declaration would constrain Aurizon Network's market power such that the opportunities or conditions for competition in the above-rail haulage market would be materially better than they would be without declaration.

As there is at least one market—the above-rail haulage market—where access as a result of declaration would promote a material increase in competition, criterion (a) is satisfied in respect of Aurizon Network's below-rail service.

3.5 Other dependent markets

Given there is one dependent market for which criterion (a) is satisfied, it is not necessary to consider further dependent markets.

Stakeholders did not make detailed submissions on other dependent markets, including the market for coal tenements, coal exports, financing of coal developments, and the mining related services and other transport services. These are briefly discussed below.

The market for coal tenements

In identifying the coal tenements market as a dependent market, the QCA's view is that this market may be impacted by conditions in the market for the below-rail service in the CQCN. To the extent accessing the below-rail service is a key element of the coal supply chain (and one proponents in the coal tenement market need to consider in the production phase of mining operations), actual or perceived risks in gaining access to the below-rail service may impact investment decisions and project bankability.

As such, the exercise of market power by Aurizon Network in the below-rail market may impact the market for coal tenements across the CQCN, given the future requirement for access to the below-rail service and an above-rail service to transport coal.

Miners in the CQCN either contract directly for below-rail access rights, or contract through an above-rail provider for these rights.

Under either arrangement, Aurizon Network may have an incentive to offer terms and conditions for access to encourage utilisation of the rail network yet not adversely affect its above-rail interests. However, once a miner has made sunk investments, it will be vulnerable to the expropriation of its rents by Aurizon Network. Relevantly, it appears that in the absence of declaration, Aurizon Network would have the incentive to increase its below-rail access charge up to, but not exceeding the point where a mine becomes unviable.

While a transfer of rents is not an impact on competition, a miner will see the risks of expropriation prior to competing for a tenement, materially impacting on the competitive environment for tenement developments.[141]

The QCA's initial view is that declaration may impact competition in the market for coal tenement development. That said, stakeholders have not made detailed submissions which provide guidance as to the materiality of competition impacts on this dependent market.

The market for coal exports

The coal export market comprises separate markets of metallurgical coal and thermal coal and the geographic scope of these markets is likely to extend into the Asia-Pacific region. There are a significant number of participants in these markets, including coal from the Hunter Valley.[142]

In the draft recommendation for the DBCT service (Part C), the QCA considered there was insufficient evidence the market for coal exports would be impacted if the DBCT service was not declared. This is because existing port capacity contracts (with evergreen renewal rights) are likely to constrain DBCT Management's ability to exert market power over terms and conditions relating to majority of the export volumes.[143]

Also, in the Port of Newcastle matter, the NCC concluded port charges were unlikely to materially impact competitive conditions in the global market. This was because port charges were a relatively small proportion of the overall cost of delivering coal (less than 1 per cent).[144]

In the case of Aurizon Network, the circumstances are different, in particular:

- network access contracts do not contain evergreen renewal rights and so Aurizon Network's ability to exert market power is not constrained in this way (like in the case of DBCT)
- CQCN transport costs (which include above-rail haulage costs) account for around 10 to 20 percent of the overall cost of delivering coal (for metallurgical and thermal coal respectively).[145] If it is assumed the below-rail component is around half this, the portion of CQCN below-rail costs would account for around 5 percent (for metallurgical coal) and 10 per cent (for thermal coal) of the overall cost of delivering coal (as compared with less than 1 per cent in the case of the Port of Newcastle).

[141] Note that unlike existing DBCT users who have evergreen renewal rights, above-rail providers (who contract on behalf of miners for below-rail access) or miners who contract directly with Aurizon Network for below-rail access, have rights which are not evergreen in nature.

[142] NCC, *Declaration of the shipping channel service at the Port of Newcastle*, *Final recommendation*, November 2015, para 4.60.

[143] See section 3.7 of Part C.

[144] NCC, *Declaration of the shipping channel service at the Port of Newcastle*, *Final recommendation*, November 2015, paras 4.60, 4.97 and 4.104.

[145] Aurizon Network, sub. 19, pp. 36-37. QRC, sub. 7, p. 40.

The QCA notes stakeholders did not provide detailed comments on the competition impacts in the global coal export markets.

Given the above considerations, the QCA has not formed a view at this stage on whether there would be a material impact on competition in the market for global coal exports.

Other markets

Other markets raised by stakeholders, without elaboration, related to the market for mining related services (e.g. operation and construction of rail infrastructure) and the market for other transport services, passenger, freight and agricultural user markets.

These markets have not been considered further.

4 CRITERION C—STATE SIGNIFICANCE

4.1 Introduction

Section 76(2)(c) of the QCA Act is expressed as follows:

> that the facility for the service is significant, having regard to its size or its importance to the Queensland economy

Stakeholders made limited submissions on this criterion (Table 6).

Table 6 Summary of key positions—s. 76(2)(c) of the QCA Act

Criterion (c)			
Issue	***Aurizon Network's position***	***Other stakeholders' position***	***QCA draft views***
Size or importance to the Queensland economy	State significance should be assessed for each part of a facility	Facility (as a whole) is of state significance	Criterion (c) is satisfied. The facility as a whole is of state significance. It is not necessary to consider each part of the facility separately

4.2 Size and importance to the Queensland economy

4.2.1 Stakeholder submissions

The QRC and Pacific National considered the facility is of state significance. It is the largest of its kind in Australia and is a vital component of the Queensland mining industry and economy.[146]

The QRC said the CQCN directly stimulates the Queensland economy by facilitating coal industry employment, spending, government payments and community contributions. During 2016-17, accessing the CQCN enabled the Queensland coal industry to:

- directly contribute $16,649 million to the Queensland economy
- directly contribute to the employment of 18,927 people on a full time basis, resulting in $2,450 million in salaries being paid
- provide $7.1 million in local government payments and $3,392 million in state government payments
- purchase $10,716 million worth of goods and services which directly supported 7,997 Queensland businesses
- contribute $7.1 million to 387 community organisations around Queensland.[147]

In addition, the QRC said the spill over benefits of the CQCN are substantial. The CQCN (through the Queensland coal industry) indirectly contributed to the full time employment of 162,917 employees and added $19,786 million worth of value to the Queensland economy.[148]

[146] QRC, sub. 7, pp. 41–42. Pacific National, sub. 9, p. 12.
[147] QRC, sub. 7, p. 23.
[148] QRC, sub. 7, p. 23.

Aurizon Network said when considering criterion (c), the QCA should consider the Moura system as a part of the CQCN service. It said Moura is the smallest of all the systems it operates and the QCA will need to consider the impact the loss of the Moura coal system would have on the Queensland economy. It noted the value of total coal exports represents around 35 per cent of the total exports for the state, with Moura contributing only around 1 per cent of the total value of exports.[149]

The QRC and Anglo American did not accept Aurizon Network's position as demonstrating that the Moura network was not of significance to the state, and said state significance should not be measured in reference to other assets.[150] The QRC said the royalties provided by mines on the Moura system are significant and, for instance, are three times over the Queensland Government's spending on the 'Extra Teachers' initiative.[151]

4.2.2 QCA analysis

The QCA considers Aurizon Network's facility as described in s. 250(3) and (4) of the QCA Act is significant, having regard to its size and its importance to the Queensland economy.

Size

Aurizon Network noted the CQCN comprises around 2,725 km of rail network[152] and is Australia's largest export coal rail network.[153] Over the Central Queensland region, the CQCN links over 40 mines to export terminals and provides services for domestic customers.

Also, additional information on the CQCN is provided in Information Packs on Aurizon Network's website, including on the physical track length of Coal Systems (including connections and extensions) forming part of the CQCN, notably:

- the Newlands system—311 km of total track connecting Newlands with the port of Abbot Point. Also, the Goonyella to Abbott Point Expansion (GAPE) connects the Newlands and Goonyella system allowing travel to the Port of Abbott Point from the Goonyella system
- the Goonyella system—1,021 km of total track connecting a number of mines in the region to the Dalrymple Bay Coal Terminal and the Hay Point Coal Terminal[154]
- the Blackwater system—1,171 km of total track , connects mines with the Port of Gladstone (includes track between Parana and Rocklands which form part of the North Coast Line)[155]
- the Moura Coal system—315 km of total track[156] connecting mines with the Port of Gladstone and servicing the industrial and rural communities of the Dawson and Callide Valley to intrastate destinations (via the North Coast Line).[157]

[149] Aurizon Network, sub. 6, p. 6.
[150] QRC, sub. 19, pp. 27-–28. Anglo American, sub. 14, p. 4.
[151] QRC, sub. 19, p. 27.
[152] Aurizon Network, sub. 6, p. 36.
[153] Aurizon, What we deliver, https://www.aurizon.com.au/what-we-deliver/network
[154] Aurizon, *Goonyella System Information Pack*, March 2018, p. 8.
[155] Aurizon, *Blackwater System Information Pack*, March 2018, p. 8; BITRE, *Freightline 4*, p. 13; Geoscience Australia, Australian Operating Mines Map 2017.
[156] Aurizon Network, *Moura Information Pack*, March 2018. p. 6, 9. 'Total track' includes the length/total as set out in the information pack, inclusive of track, yards, sidings and passing loops.
[157] Aurizon, *Moura System Information Pack*, March 2017, p. 9; BITRE, *Freightline 4*, p. 13; Geoscience Australia, Australian Operating Mines Map 2017.

On this basis, the QCA considers the large geographic coverage and physical length of the CQCN track is significant.

The QCA notes Aurizon Network considered Moura the smallest coal system[158] relative to other coal systems. However, the QCA does not consider this fact is determinative.

The portion of the CQCN serviced by Moura is significant, providing rail infrastructure from inland Central Queensland to the Port of Gladstone. Further, it is not significantly different in size to the Newlands coal system and is significantly larger than other railways found to be nationally significant, including the Goldsworthy Railway (210 km).[159]

Importance to the Queensland economy

The CQCN facilitates the operation of a significant proportion of Queensland's coal industry, which in turn makes a sizeable economic and social contribution to the Queensland economy.

As the QRC's information shows, the direct contributions together with the spill over benefits are substantial and directly stimulate the Queensland economy via employment, spending, government payments and community contributions.

Given the above, the QCA's view is that the CQCN is of significance having regard to its importance to the Queensland economy.

Aurizon Network considered the Moura system represented a small percentage of overall coal industry contributions to the Queensland economy and on its own was not significant. However, the QCA does not consider the portion of contribution made by Moura (as compared with other coal systems) is determinative. The Moura system (even if considered individually) makes a significant contribution to the Queensland economy.

[158] Aurizon Network's submission indicates that the total track for Moura is 275 km. This differs from the 315 km outlined by Aurizon Network in the Moura Information Pack and used above.

[159] As noted by QRC, sub. 20, p. 28 in reference to *Re Fortescue Metals Group Limited* [2010] ACompT 2, [4] and [795].

5 CRITERION D—PROMOTE THE PUBLIC INTEREST

5.1 Introduction

Section 76(2)(d) of the QCA Act is expressed as follows:

> that access (or increased access) to the service, on reasonable terms and conditions, as a result of a declaration of the service would promote the public interest

Section 76(5) of the QCA Act further states:

> In considering the access criterion mentioned in subsection (2)(d), the authority and the Minister must have regard to the following matters –
>
> (a) if the facility for the service extends outside Queensland[160] –
>
> (i) whether access to the service provided outside Queensland by means of the facility is regulated by another jurisdiction; and
>
> (ii) the desirability of consistency in regulating access to the service;
>
> (b) the effect that declaring the service would have on investment in –
>
> (i) facilities; and
>
> (ii) markets that depend on access to the service;
>
> (c) the administrative and compliance costs that would be incurred by the provider of the service if the service were declared;
>
> (d) any other matter the authority or Minister considers relevant.

The key matters in respect of s. 76(2)(d) for the CQCN service provided by Aurizon Network are summarised in the table below and detailed explanations in sections that follow.

Table 7 Summary of key positions—s. 76(2)(d)

Criterion (d)			
Issue	***Aurizon Network***	***Other stakeholders***	***QCA draft views***
That access (or increased access) on reasonable terms and conditions, as a result of a declaration of the service would promote the public interest	Declaration of the service (as a whole) would not promote the public interest; the costs outweigh the benefits	Declaration of the service would promote the public interest	Criterion (d) is satisfied
The effect that declaring the service would have on investment in facilities	The nature and application of the existing regulatory framework acts as a disincentive for investment in long-term rail infrastructure	To the extent disincentive is acknowledged, its impact is minor; declaration provides certainty and opportunities for attracting capital from long-term investors	There is no evidence to suggest that declaration would impact Aurizon Network's incentives to efficiently invest in the CQCN. See section 5.2
The effect that declaring the service would have	Third party entry into the rail haulage market	Declaration provides certainty for	Declaration would promote efficient

[160] As the CQCN does not extend outside Queensland, the QCA has not considered s. 76(5)(a) any further.

Criterion (d)			
on investment in markets that depend on access to the service	has coincided with substantial productivity improvements in that market. But there are costs of regulation and associated efficiency losses from coordinating multiple users	investment in above-rail markets and in the coal supply chain, from mine to port	investment in the above-rail market. See section 5.3
Administrative and compliance costs incurred by the service provider	Administration and compliance costs with the existing regulatory process are estimated at $15 million per year. Costs could be significantly reduced under alternate forms of regulation	Regulatory costs are passed through to industry	Administrative and compliance costs are not likely to be excessive such as to impact on the promotion of public interest. Aurizon Network can propose amendments to the regime at any time to seek to reduce compliance costs associated with the undertaking See section 5.4
The effect of Aurizon Network's proposed alternative to declaration on public interest considerations	A less intrusive baseline framework is proposed as the basis against which to assess benefits (and costs) of access to the service arising from declaration	Aurizon Network's proposed alternative has its own inefficiencies	The possibility of regulation (or price oversight) through other means, as outlined by Aurizon Network, does not mean that declaration under Part 5 of the QCA Act would not promote the public interest See section 5.5
Other considerations	Aurizon Network identified a number of further costs arising due to inefficiencies in the existing framework	Commercial negotiations outside of the access regime may result in significant costs and inefficiencies	The QCA has considered other matters raised See section 5.5

On balance, the QCA considers that access (or increased access) to the CQCN service on reasonable terms and conditions as a result of declaration would promote the public interest. This includes from having a net beneficial effect on efficient investment in the above-rail haulage market that depends on access to the service and may benefit investment in related supply chain infrastructure.

5.2 Investment in facilities

The QCA has considered the effect of declaring the service on investment in the CQCN as well as other coal supply chain facilities.

5.2.1 Stakeholder submissions

Aurizon Network submitted there are substantial costs from declaration under the QCA Act, which materially exceed expected benefits. These 'costs are largely associated with the design and performance of the current regulatory framework'.[161]

Aurizon Network submitted the nature and application of the existing regulatory framework acts as a disincentive for investment in long-term rail infrastructure by:

- materially hindering the ability for parties to strike commercial arrangements suited to rail investments, which has had the effect of hindering improvements to the CQCN[162]
- reducing incentives to invest in network expansions (among other things) due to inadequate regulatory returns[163]
- creating risks for attracting investment capital and causing costly delays to expansions due to delays in regulatory decisions.[164]

The QRC acknowledged declaration may create some disincentives for Aurizon Network to invest, but said the impact was minor. The QRC said the regulated environment provides opportunities for Aurizon Network to attract capital from investors with long-term investment mandates[165], removes investment uncertainty and reduces transactions costs.[166]

Anglo American submitted the framework itself should not disincentivise investment—rather, the nature of the QCA process is to guarantee the return Aurizon Network will receive on assets ensuring regulatory certainty.[167]

5.2.2 QCA analysis

The QCA has considered the effect of declaring the service on investment in the CQCN and other supply chain facilities (above-rail facilities are considered in the next section).

Investment in the CQCN

Disincentives to invest in long-term rail infrastructure due to the nature and application of the existing regulatory framework is one of the costs of declaring the service identified by Aurizon Network. Aurizon Network pointed to a range of factors regarding the existing regulatory framework including excessive regulatory discretion and delays in regulatory determinations.

Aurizon Network submitted the costs of declaration are likely to relate to productive inefficiency, allocative inefficiency and dynamic inefficiency, with dynamic inefficiency likely to take the form of:

> the removal of incentives for Aurizon Network to invest in economically-efficient practices, projects or technology. This arises when there are errors in setting access prices. If, for example, prices are set too low, investment in infrastructure or technology may be inefficiently delayed or not provided. If prices cannot be differentiated, Aurizon Network has no incentive to differentiate

[161] Aurizon Network, sub. 6, p. 5. Aurizon Network, sub. 19, p. 6.
[162] Aurizon Network, sub. 6, pp. 4–5.
[163] Aurizon Network, sub. 6, p. 24.
[164] Aurizon Network, sub. 6, pp. 20–21, 31.
[165] QRC, sub. 7, pp. 25, 42.
[166] QRC, sub. 7, p. 42.
[167] Anglo American, sub. 14, p. 6.

> its services to meet a spectrum of service demands from its customers, but must provide a wholly homogenous service offering.[168]

The QCA considers that, in analysing the effect of declaring the service on efficient investment in facilities, it is relevant to consider the nature of the existing regulatory framework and how it could be applied, including that an access undertaking could be approved with respect to the service. For this purpose, the QCA has considered the evidence submitted in relation to the current regulatory framework to the extent it considers relevant in balancing the costs and benefits in order to be satisfied as to the forward looking assessment of the promotion of public interest required by criterion (d).

The QCA is satisfied there are features of the regulatory framework with declaration that can provide certainty, including as to pricing. While the QCA acknowledges delays in regulatory determinations could impact incentives to invest, there is no evidence to suggest potential delays would necessarily be less in a future without declaration. The QCA considers factors unrelated to the regulatory framework can contribute to delays in decisions (such as the responsiveness of parties in the process). The framework provides for a balancing of interests.

The regulated environment does not appear to impede the ability for Aurizon Network to attract capital—from the coal industry (to underwrite/fund major CQCN expansions) and from investors more broadly (with long-term investment mandates). Two significant projects funded by users under long term arrangements with Aurizon Network are the GAPE extension completed late 2011 and the WIRP upgrade completed in 2015. Since 2012–13, the QCA has approved $2.3 billion in renewals and expansion capex (including interest during construction). Of this, only $27 million in capex was disallowed in the ex post approval framework.

The QCA considers, on balance, there is no evidence to suggest declaration of the service would impact Aurizon Network's incentives to invest efficiently in the CQCN.

In the following subsections the QCA addresses some of the specific issues raised in the submissions which further support this view.

Consideration of regulatory error

Aurizon Network said the risk of regulatory error is a basis on which access regulation is less effective than the market in driving cost efficiency (supporting its view that the benefits of declaration are not substantive).[169]

The QCA acknowledges the possibility of regulatory error by a regulator. In this respect, it notes the views of the Productivity Commission that:

> [g]iven that regulators are unable to set optimal access prices (prices that would maximise overall economic efficiency) with precision, there is scope for regulatory error in the setting of access terms and conditions.[170]

Declaration of the CQCN service would mean access regulation pursuant to Part 5 of the QCA Act, which provides for (among other things) access undertakings to establish terms and conditions of access. The approval and operation of access undertakings, if not properly implemented, has the potential to lead to regulatory error, which could impact on investment incentives.

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[168] Aurizon Network, sub. 6, p. 16.
[169] Aurizon Network, sub. 6, p. 33.
[170] Productivity Commission, *National Access Regime*, inquiry report no. 66, 25 October 2013, p. 103.

That said, Part 5 does provide controls on the QCA's approval of access undertakings and requires it to have regard to a range of factors that essentially seek to balance the rights of the regulated entity, access holders and access seekers. In particular, the QCA Act imposes obligations on the QCA, when approving access undertakings, including to:

- consult on any draft access undertaking (s. 138(3)(c))[171]
- consider any submissions received within the timeframe for submissions (s. 138(3)(d))
- have regard to the legitimate business interests of Aurizon Network (s. 138(2)(b))
- have regard to the pricing principles, namely that the price should generate expected revenue for the service that is at least enough to meet the efficient costs for providing access to the service and include a return on investment commensurate with the regulatory and commercial risks involved (s. 138(2)(g); s. 168A(a)).

Moreover, the regulated entity is able to seek an amendment of an approved access undertaking at any time. As such, the QCA does not consider Part 5 of the QCA Act would impact on Aurizon Network's incentives to invest in the CQCN.

Standardised user funding

Aurizon Network said reducing a service provider's incentives to invest increases the likelihood of the regulator being required to direct an extension of the network. It said the protracted and costly regulatory process to develop a user funding framework is evidence of increased transaction costs and uncertainty. Aurizon Network said that an excessive focus on precision, to get a hypothetical perfectly competitive outcome rather than a reasonable one, results in regulatory prescription with limited prospect of promoting efficiency. Aurizon Network also submitted that '[t]he prescriptiveness of the standardised user funding arrangement also restricts the ability for financial and commercial innovation which might produce more efficient approaches to investing in the facility'.[172]

The QCA does not view the standard user funding agreement (SUFA) as evidence that the access framework has failed, or that it would be likely to do so in future if the service was declared.

While there is no QCA-approved SUFA in place, potential user funders have access to the QCA's preferred SUFA as well as Aurizon Network's reference user funding agreement (RUFA). These documents can serve as a basis for negotiations.

Along with the user funding arrangements, the current access regime also provides for Aurizon Network to receive returns in excess of the regulated return in order to mitigate its exposure to additional costs or risks not covered under the approved access regime. The access regime can also provide options to facilitate expansions, upgrades or extensions of the existing network.

Having regard to the above, it is not evident that declaration would impact Aurizon Network's incentives to efficiently invest in the CQCN.

[171] Moreover, the QCA's general practice to date has been to prepare and release for public comment, draft decisions on draft access undertakings, which is a step in the consultation process not required by the QCA Act.

[172] Aurizon Network, sub. 6, p. 25.

Delays to expansions

Aurizon Network submitted that there are costly delays to expansions due to declaration and the existing regulatory framework:

> Prescriptive and poorly designed regulatory frameworks increase the risk of substantial delays to expansions of a facility with consequential costs to the community of lost economic output and state income.[173]
>
> Aurizon Network considers that the expansion process currently embedded in the approved access undertaking will substantially contribute to delays in expanding the network. The expansion pricing arrangements and the extensive consultation requirements provide opportunities for parties to hinder an expansion to the network.[174]

Aurizon Network accepted such delays would still arise without declaration, but submitted that declaration provides mechanisms that allow parties to game the regulatory process and increase delays. Aurizon Network cited an example of concluding negotiations on WIRP in September 2011 but, due to the process of third party consultation, it was not approved by the QCA until May 2012. The parties proceeded prior to obtaining regulatory approval, with customers underwriting the regulatory risk of the works.[175]

Aurizon Network submitted a principles-based approach to regulation is likely to involve less risk of delays to expansions than the inflexible prescriptive rules-based process.[176]

Again, the QCA does not regard this as evidence the access framework has failed, or that it would be likely to do so in future if the service was declared. There are often a number of factors that can and do influence approval timeframes. The approval processes outlined under the access regime provide for third party consultation to ensure the interests of potentially affected parties not involved in direct negotiations are taken into account. In addition, other factors may impact approval timing– such as project complexity, divergent stakeholder views or other factors.

The time taken for WIRP approval was not unreasonable given the magnitude of the investment and its potential consequences for direct and indirect parties. In the case of WIRP, some months were dedicated to dealing with legal proceedings Aurizon Network commenced (and later withdrew), during which time the WIRP approval process was paused.

The QCA recognises that negotiating expansion terms and conditions is complex and will inevitably take time whether a service is declared or not. The QCA does not consider that such delays would necessarily be longer if the service is declared. The QCA notes that service providers can propose amendments to access undertakings for declared services to improve the timeliness of the negotiation process.

The QCA is not satisfied that declaration is a factor causing delays in expansions which would impact on incentives to efficiently invest in the CQCN or otherwise impact the promotion of the public interest.

[173] Aurizon Network, sub. 6, p. 30.
[174] Aurizon Network, sub. 6, p. 31.
[175] Aurizon Network, sub. 6, pp. 30–31.
[176] Aurizon Network, sub. 6, p. 31.

Investment in other facilities

In an integrated supply chain it is essential that investment in capacity is aligned. In the past, the rail network has been expanded to support the development of coal export terminals – such as GAPE infrastructure (to support AAPT) and WIRP infrastructure (to support WICET).

Stakeholders did not comment directly on this matter, but many agreed declaration would lead to increased investment in the coal industry and the related upstream and downstream markets. Several stakeholders said declaration, and subsequent undertakings, provide protections and greater certainty over infrastructure costs, including via standard terms, efficient pricing and ring-fencing, which generates certainty for investors.[177]

Demand for the CQCN service derives from demand for above-rail haulage services, chiefly driven by requirements of users to transport coal by rail to port facilities. To the extent declaring the service would promote efficient investment in the above-rail market (see section 3.4), the QCA considers it may impact on investments in related supply chain facilities.

5.3 Investment in markets that depend on access to the service

Stakeholder submissions

Aurizon Network acknowledged third party entry into the rail haulage market has coincided with substantial productivity improvements in that market. However, it said those improvements have come with significant costs of regulation and associated efficiency loss from coordinating multiple users of rail infrastructure and the significant transactions costs associated with vertical unbundling.[178]

Aurizon Network submitted:

> In the case of a vertically-integrated below-rail network provider and above-rail service provider, it is possible that freely-negotiated access prices may foreclose entry to above-rail providers and lead to monopoly pricing of rail transport services. Evidence to support that this does not occur, is clear through producers being able to hold their own access rights and subsequently select their haulage provider. There is no incentive for Aurizon Network to deny access or the potential for monopoly based pricing.[179]

The QRC considered that 're-declaration' would promote investment in the above-rail market and the continuation of current competitive dynamics would encourage more efficient costs and productivity improvements. The QRC also submitted declaration would lead to increased investment in the coal industry and related upstream and downstream markets. The QRC noted that the existing declaration and access undertaking provide protections (such as standard terms, efficient pricing and ring-fencing) increase certainty for investors. Certainty from declaring the service would in turn provide a strong incentive to invest in the Queensland coal industry. There is far less incentive to invest in a coal mine if the price of transporting coal is uncertain and potentially volatile.[180]

177 QRC, sub. 7, pp. 25–26; Anglo American, sub. 14, p. 6; Peabody, sub. 2, p. 4.
178 Aurizon Network, sub. 6, p. 13.
179 Aurizon Network, sub. 6, p. 15.
180 QRC, sub. 7, pp. 25–26.

Anglo American supported the views of the QRC and said, absent declaration, there would be significant uncertainty over infrastructure costs and this would disincentivise investment in coal projects and mines in Queensland.[181]

Peabody also supported the submissions and evidence of the QRC, which, it said:

> demonstrate the economic significance of the CQCN and the strong public benefit in redeclaration, including because of the continued regulatory and investment certainty it provides for miners that have substantial fixed investments in the Queensland coal sector, such as Peabody.[182]

Pacific National viewed regulation as critical:

> Put simply, PN's ability to grow its business in Queensland has been critically dependent on the stable operation of Queensland's regulatory framework under Part 5 of the QCA Act.[183]

> [The benefits of declaration] extend well beyond simply constraining the exercise of market power and ensuring that a balanced risk profile underpins the setting of terms and conditions for access. Declaration has facilitated the introduction of important structural and behavioural constraints … and has underpinned the growth of competition in related upstream and downstream markets.[184]

> … continued declaration is critical to promoting competition and freight transport supply chain investment moving forward.[185]

Pacific National said regulated access has supported its strong investment in the above-rail haulage market, including increased innovation in above-rail rollingstock, which 'would not have been justified, absent a stable regulatory environment'.[186] Pacific National said declaration and effective regulatory oversight will deliver a range of economic benefits including:

> facilitating and promoting efficient investment in the provision of rail freight services, including in new rollingstock fleet, freight terminals and associated maintenance facilities;

> facilitating and promoting efficient investment in the coal supply chain by coal companies, export coal terminals, commodity exporters, domestic users of the products being transported, rail design, engineering and construction services, transport logistic services and the monopoly infrastructure providers themselves.[187]

QCA analysis

The impact of declaration on investment in dependent markets depends, in part, on the extent to which declaration impacts on competition in those markets, as the perceived ability to effectively compete in the dependent market will underpin investment incentives and investor confidence.

The QCA's conclusion on criterion (a), as set out in section 3.5, is that declaration of the service will promote a material increase in competition in the above-rail haulage market. This reflects the QCA's assessment that in the absence of declaration (whether or not with the potential framework suggested by Aurizon Network (section 3.3)):

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181 Anglo American, sub. 14, p. 6.
182 Peabody, sub. 2, p. 4.
183 Pacific National, sub.9, p. 6.
184 Pacific National, sub. 9, p. 4.
185 Pacific National, sub .9, p. 3.
186 Pacific National, sub. 9, p. 6.
187 Pacific National, sub. 9, pp. 13–14.

- Aurizon Network is unlikely to be effectively constrained in terms of its ability and incentive to exercise market power
- Aurizon Network, as a vertically integrated business of Aurizon Holdings Limited, would have incentive to discriminate to favour its related above-rail haulage operations.

The QCA considers that such risk and uncertainty may negatively impact potential new entry and hinder existing above-rail competitors, which would likely have a material and adverse impact on efficient investment in the above-rail haulage market.

Declaration is likely to provide long-term certainty of access, and access on reasonable terms and conditions, and this environment is likely to promote efficient entry and efficient investment in the above-rail haulage market as above-rail operators can be more certain as to the return on their investments (e.g. into rollingstock efficiency) into the future. The benefits of declaration include transparent and consistent pricing principles, non-discrimination principles and access to independent and transparent dispute resolution processes.

The benefits of regulatory certainty on investment are particularly pronounced for investment in long-life assets such as rollingstock and maintenance facilities, which require long planning and construction timeframes and large sunk costs. The QCA considers the experience of Pacific National supports these views.

The size of the above-rail market in Queensland is not determined precisely, however, in providing rail haulage services for coal export and other sectors of the Queensland economy, it directly supports Australia's largest coal export rail network, which is significant having regard to its size and importance to the Queensland economy (see section 4.2).

The market for above-rail haulage is likely to be of sufficient size and importance to support the conclusion that incentivising efficient investment in this market would promote the public interest. The QCA considers that declaring the CQCN service would promote efficient investment in the above-rail haulage market.

In relation to coal tenements as an upstream dependent market, the QCA's conclusion on criterion (a), as set out in section 3.5, is that declaration of the service may impact on competition in that market, although there is no evidence to support materiality. The QCA notes stakeholders pointed to the potential for declaration of the service to provide certainty for miners and, in turn, strong incentives to invest in the Queensland coal industry. The QCA agrees that declaring the service could positively impact investment incentives in the upstream market however there is no evidence to assess the promotion of the public interest on this basis.

5.4 Administrative and compliance costs incurred by the provider of the service

5.4.1 Stakeholder submissions

Aurizon Network submitted it incurs substantial costs arising from declaration under the current framework:

> Aurizon Network incurs substantial costs associated with preparing, submitting and administering an access undertaking arising from declaration under the QCA Act. A significant number of internal business activities would otherwise be unnecessary. The activities that would otherwise be reduced or avoided in the absence of declaration include:
>
> - regulatory and legal resources and costs;
> - train scheduling and path conflict management;

- compliance and auditing including financial and operational reporting;
- QCA levy;
- Asset condition reporting; and
- Development of a user funding agreement.[188]

Aurizon Network said the QCA's own levy charged to Aurizon Network has increased significantly since 2012 (from $2 million per annum to just under $8 million in 2017/18[189]) and its total costs for administration and compliance with the regulatory process are estimated to be at least $15 million per year (excluding third party costs).[190] Aurizon Network submitted that administration and compliance costs could be significantly reduced under 'alternate forms of regulation'.[191]

The QRC acknowledged the process imposes compliance and administration costs, particularly on Aurizon Network. However, the QRC also noted those costs are 'somewhat mitigated' for the following reasons:

- Aurizon Network and its customers do not have to individually negotiate all terms of access because the undertaking will govern many aspects of access. This means the costs of negotiating individual access and settling disputes process are likely to be minimised.
- The QCA is required to approve the undertaking and is involved in other aspects governing the relationship with Aurizon Network, providing certainty to potential users.
- UT4 provides Aurizon Network with an allowance for reasonable compliance costs (that is, the industry covers these costs).[192]

The QRC submitted the costs of regulation (whether the QCA's, Aurizon Network's or the industry's) are borne by industry and '[i]ndustry is willing to incur these costs because of the collective public interest in regulated access. These costs are also marginal when compared with the significant costs that would be borne by the industry outside of a regulated access regime'.[193] As an example, the QRC cited the difficulty in reaching agreement between Aurizon Network and individual users on the WIRP Deeds that were finalised outside the access regime and which are the subject of 'constant dispute' and ongoing cost.[194]

In response to the QRC, Aurizon Network said without declaration it would have internal incentives to reduce administration costs and would likely retain a level of standardisation of terms of access.[195] Aurizon Network also said:

> Given the need for consistency to ensure the effective operation of the agreement on various pricing and operational matters there is limited real prospect that the costs of negotiation would substantially increase without declaration.[196]

ARTC (which operates in an environment regulated under Part IIIA of the *Competition and Consumer Act 2010* (Cth) with two approved voluntary access undertakings in place) said the cost

[188] Aurizon Network, sub. 6, p. 22.
[189] Aurizon Network, sub. 6, p. 4.
[190] Aurizon Network, sub. 6, p. 22.
[191] Aurizon Network, sub. 6, pp. 23.
[192] QRC, sub. 7, p. 26.
[193] QRC, sub. 20, p. 3.
[194] QRC, sub. 20, p. 3.
[195] Aurizon Network, sub. 19, p. 20.
[196] Aurizon Network, sub. 19, p. 20.

of the regulatory process from its perspective is significant and includes resources to develop undertakings, respond to data requests and provide annual compliance reviews, as well as independent expert advice and legal expertise.[197]

5.4.2 QCA analysis

The QCA considers the administrative and compliance costs that would be incurred by Aurizon Network as a result of declaration would generally not be sufficiently material to have an impact on promotion of the public interest.

The QCA's analysis addresses two main areas:

- the regulatory costs incurred by the QCA in administering the regulatory regime and passed onto the service provider (the QCA levy)
- costs incurred by Aurizon Network in complying with the regulatory regime.

The QCA's analysis proceeds on the basis that if the service were declared an approved access undertaking could be put in place.

QCA levy

Aurizon Network recovers the QCA levy from users under a straight pass-through arrangement in the pricing arrangements of the access undertaking. As the full amount of this levy is passed through to users, the incidence of this cost is borne by users, rather than by Aurizon Network. It is therefore not a cost incurred by the service provider.

The QCA notes the submission of the QRC that industry is willing to pay the costs of regulation, particularly in light of the higher costs it submits will exist without declaration.

Costs incurred by Aurizon Network in complying with the regulatory regime

Aurizon Network did not provide a forecast of its future administrative and compliance costs if the service was declared but said its costs currently are at least $15 million per annum.[198]

The QRC submitted that Aurizon Network has had a primary role in the increase in costs in the undertaking process—Aurizon Network proposes access undertakings and it could streamline the process at the outset rather than use the process to make ambit claims.[199]

Under declaration, the current access undertaking provides for reasonable costs of compliance to be included in the regulated revenues and recovered via access charges from users. In the past, this has included cost allocations for network regulation tasks (e.g. finance, legal and other costs), full costs for efficient network related compliance activities and recovery of the cost of particular projects (e.g. the condition based assessment) undertaken under the access regime.

The QCA considers there are administrative and compliance costs associated with regulation of a declared service. Aurizon Network's estimated costs of $15 million per year equate to 1.5 per cent of the current total approved maximum allowable revenue, and the efficient costs incurred by Aurizon Network for compliance and administration are passed through to access holders. In a future with declaration seeking approval of an access undertaking, it is also open to Aurizon Network to reduce compliance costs by improving its regulatory performance and submitting proposals which include measures to reduce compliance costs.

[197] ARTC, sub. 22, pp. 3–4.
[198] Aurizon Network, sub. 6, p. 4.
[199] QRC, sub. 20, pp. 2–3.

Aurizon Network has not provided any indication of the costs that would be incurred under its alternative regulatory environment. The QCA has not been provided with compelling evidence to suggest the process of negotiating individual contracts and resolving disputes would result in administration and compliance costs less than $15 million per year.

The QCA is not satisfied that, in the absence of declaration, Aurizon Network would have the internal incentive to minimise its administrative costs (i.e. the costs of administering an alternative mechanism). Rather, the QCA considers in the absence of effective constraint it has the ability and incentive to pass higher costs through to customers.

There are compliance requirements under the 2016 access undertaking (and previous undertakings) that could be streamlined in order to reduce compliance costs ultimately passed on to users. The QCA is prepared to consider reasonable proposals from Aurizon Network on how to simplify compliance requirements, subject as always to balancing the interests of industry participants under s. 138(2) of the QCA Act.

In conclusion, the QCA does not consider, on balance, the administrative and compliance costs that would be incurred by Aurizon Network as a result of declaration are likely to be excessive such as to impact on the promotion of public interest. These costs are taken into account in weighing costs and benefits in determining if the QCA is satisfied as to criterion (d).

5.5 Other relevant matters

5.5.1 Counterfactual for criterion (d) assessment

Stakeholder submissions

In the context of assessing criterion (d), and specifically the relative costs and benefits of declaration, Aurizon Network submitted a future without declaration which it described as a 'less intrusive form of regulation'.[200] Specifically, Aurizon Network submitted a counterfactual where access would be provided under a regulatory framework with the following features:

- a right to negotiate access on reasonable terms, with recourse to arbitration, if the service was declared under Part IIIA of the CCA
- ring-fencing (including compliance and audit arrangements) and functional separation, with access being provided on an arm's length basis between the network operator and the upstream users of the service (i.e. above-rail haulage providers and coal producers)
- redress for conduct which substantially lessens competition under Part IV of the CCA
- a price oversight regime.[201]

Aurizon Network further stated:

> For avoidance of doubt this does not represent the regulatory framework Aurizon Network believes should apply to the provision of access to services comprising the CQCN. However, it represents a suitable baseline model for determining whether the benefits from declaration are sufficiently material to support the costs they impose. Where the incremental benefits from declaration are not significant relative to the counterfactual, it provides a clear and compelling

[200] Aurizon Network, sub. 19, p. 4.
[201] Aurizon Network, sub. 19, p. 10; Aurizon Network, sub. 19 (Att 1), p. 2.

> demonstration that the costs associated with the current regulatory framework do not support a conclusion that declaration is in the public interest.'[202]

Aurizon Network also identified other means available to ensure that access could be provided on reasonable terms in the absence of declaration, including a voluntary access undertaking under Part IIIA, and private access frameworks via deed poll as proposed by Queensland Rail and DBCT Management.[203]

In response, the QRC said Aurizon Network has considered only the benefits of its alternative regime and not the costs.[204] The QRC submitted that Aurizon Network's proposed negotiate–arbitrate model has its own inefficiencies, with significant transaction costs arising from individual miners having to negotiate full terms and conditions of access with Aurizon Network.

QCA analysis

The counterfactual outlined by Aurizon Network assumes that some form of regulation would be applicable, or that competition laws would be sufficient to ensure that access is provided on reasonable terms and conditions.

For example, Aurizon Network pointed to the possibility that services might be declared under Part IIIA of the CCA. This is possible, in a scenario in which the services are not already subject to an effective state access regime. However, the criteria for declaring services under Part IIIA are very similar to the access criteria under Part 5 of the QCA Act. This is, in effect, an argument that there is no public benefit in declaring the service because it can be declared, on similar grounds, at a later date. If a service otherwise satisfies the access criteria, the QCA does not consider that the public interest would be promoted by refraining from declaration now, on the assumption that the service could be declared at a later date, under either Part IIIA or Part 5.

Aurizon Network also points to the access regime for ARTC's Hunter Valley services, based on a voluntary access undertaking under s 44ZZA of the CCA.[205] Voluntary access undertakings can also be submitted to the QCA under Part 5. However, a voluntary access undertaking would be submitted only at Aurizon Network's discretion, with the QCA being unable to require compulsory amendment of the draft access undertaking under s. 136A of the QCA Act. As such, the QCA is not satisfied the ability to submit a voluntary access undertaking would as a realistic constraint on any market power that might be exercised by the operator of a service.

Various forms of price oversight can be imposed under Part VIIA of the CCA or Part 3 of the QCA Act. Again, however, this would require a decision to impose the relevant regime. Further, the Australian Competition Tribunal, in the Sydney Airport decision, observed that price monitoring may not be an effective constraint on a service provider. That said, the Productivity Commission formed the contrary view from extensive public inquires in relation to airports more generally in

[202] Aurizon Network, sub. 19, p. 10.
[203] Aurizon Network, sub. 19, pp. 14–15.
[204] QRC, sub. 20, p. 10.
[205] In section 3.3, the QCA noted ARTC is obliged to submit voluntary access undertakings under state agreements. The Commonwealth, NSW and ARTC, Memorandum between the Commonwealth of Australia, NSW and ARTC in relation to the lease of NSW interstate and Hunter Valley rail assets to ARTC and associated arrangements, cl. 12, p. 8, https://www.artc.com.au/uploads/Final_Tripartite_Agreement.pdf

2002, 2006 and 2011–these views were accepted by the Commonwealth Government of the day on each occasion.[206]

The QCA also notes Aurizon Network's comments in relation to a private access regime supported by a deed poll, and the operation of general competition laws (in particular s. 46 of the CCA). These issues are addressed in the DBCT review[207] and in Chapter 2 of this report.[208]

In short, the QCA considers that the counterfactual outlined by Aurizon Network is based on a number of assumptions about the application of various forms of regulation which will not necessarily be realised, even in the absence of declaration. The possibility of regulation (or price oversight) through other means, as outlined by Aurizon Network, does not mean that declaration under Part 5 of the QCA Act would not promote the public interest.

5.5.2 Coordination costs from dealing with multiple users

Stakeholder submissions

Aurizon Network submitted that there are two sources of coordination losses associated with the operation of a railway:

- losses associated with coordinating a multi-user railway, which would be incurred whether the service is declared or not
- losses associated with multiple train operators on the railway.[209]

Aurizon Network said that while above- and below-rail services are complementary, the elasticity of substitution of the inputs is not zero and the efficient mix is not static. Aurizon Network said additional below-rail infrastructure can increase capacity and reduce congestion. Alternatively, throughput can be increased by increasing above-rail inputs but with increased congestion.[210]

Aurizon Network submitted that competition in the rail haulage market produces a Cournot equilibrium where rail operators choose above-rail capacities such that each maximises its own profits. However, this is suboptimal in terms of the overall efficiency of the rail system. Aurizon Network cited BHP[211] in regard to the Pilbara rail network declaration investigations, who said that attempts to coordinate multiple users are estimated to reduce system capacity by 10 to 20 per cent. This inefficiency arises from the more pronounced effects of congestion and disruption in a multi-operators supply chain. Aurizon Network cited a study by Mizutani and Uranishi[212] that found the efficiency impacts from vertical unbundling are more pronounced as traffic density increases.[213]

[206] Productivity Commission, *Price Regulation of Airport Services*, inquiry report no. 19, January 2002; Productivity Commission; *Review of Price Regulation of Airport Services*, inquiry report no. 40, December 2006; Productivity Commission, *Economic Regulation of Airport Services*, inquiry report no. 57, December 2011.
[207] In particular, section 3.3 of Part B (DBCT review).
[208] Chapter 2 outlines the QCA's views on s. 46 of the CCA in the context of this review.
[209] Aurizon Network, sub. 6, p. 25.
[210] Aurizon Network, sub. 6, pp. 25–26.
[211] BHP, *Regulation for the future of Australia's natural resources sector*, white paper, April 2008, submitted to NCC.
[212] F Mizutani & S Uranishi, 'Does vertical separation reduce cost? An empirical analysis of the rail industry in European and East Asian OECD countries', *Journal of Regulatory Economics,* vol. 43, no. 1, 2013, pp. 33–37.
[213] Aurizon Network, sub. 6, pp. 26–27.

Aurizon Network concluded that, given the competitiveness of the rail haulage market, it has become increasingly necessary to incur increased costs to manage the operational variability. This requires a far more flexible approach to maintenance and service delivery than is afforded by typical industry regulation where costs are stable, predictable and independent of supply chain dynamics.[214]

Aurizon Network also said that contract and regulatory obligations limit its ability to optimise scheduling and maximise throughput as the compliance framework emphasises and prioritises the interests of individual users as opposed to system performance. Aurizon Network considered that a less prescriptive and more commercial approach to regulation would likely reduce system losses and optimise system throughput.[215]

Aurizon Network submitted that the economic value of a 2 per cent improvement in performance and corresponding increase in system throughput at an average coal price of $120 per tonne would be in the order of $500 million per annum. Aurizon Network's view was that these costs would require an efficiency gain from competition in excess of $2 per tonne, which is highly improbable given the current cost structure of above-rail operators and existing and prospective technologies.[216]

Aurizon Network gave another example, of the GAPE project. In order to reduce the below-rail expenditure for the project, the above-rail operator and end users agreed to increase the section running times from 118 to 160 per cent. This required additional rollingstock and crewing. Aurizon Network considered such an arrangement is unlikely to be implemented within the current regulatory environment where there are multiple rail operators and the effect of the change in operating practices requires regulatory approval.[217]

RBB Economics, consultants for the QRC, responded to Aurizon Network's claims, noting that Aurizon Network has not quantified the costs of having multiple users on the network compared to a bundled single provider. RBB Economics said these costs are typically worth incurring in order to secure the dynamic benefits of rivalry in downstream markets. The costs incurred by Aurizon Network would be incurred to deliver benefits in the form of lower prices to third party rail haulers and to miners using rail haulage services.[218]

RBB Economics expressed some doubt about the citations in industrial organisation literature. They noted that the study by Mizutani and Uranishi was not definitively in support of Aurizon Network's view and that it is not clear whether vertical separation or integration is desirable. RBB Economics said that the main finding of the Mizutani and Uranishi study appears to be that vertical separation is more cost-effective than vertical integration when train density is low.[219]

QCA analysis

The QCA recognises the main justification for the vertical-integration model is operational efficiencies that it offers in coordinating above- and below-rail elements in providing coal haulage services. At the same time, the QCA notes multi-user access to the below-rail infrastructure is a feature of the CQCN and that this is expected to continue in the future. Hence, with or without

[214] Aurizon Network, sub. 6, p. 27.
[215] Aurizon Network, sub. 6, p. 28.
[216] Aurizon Network, sub. 6, pp. 27–28.
[217] Aurizon Network, sub. 6, p. 30.
[218] QRC, sub. 20, Att. 2, pp. 3–4, 16–17.
[219] QRC, sub. 20, Att. 2, pp. 16–17.

declaration, Aurizon Network will not avoid having to address the problems of coordinating third party as well as related party above-rail operators on its below-rail infrastructure.

It is not clear to the QCA that the access framework is preventing Aurizon Network from achieving performance improvements of the type described. The current access regime, for example, specifically addresses coordination matters by allowing for operational improvements and whole-of-chain issues, including provisions for supply chain coordination to allow for efficient coordination of not only above- and below-rail inputs, but also port- and mine-related activities (cl. 7A.3). It is unclear that that outcomes would be different whether or not the infrastructure was declared.

For this reason, the QCA considers declaration is more likely to provide an environment where rail performance improvements can be transparently introduced and measured.

5.5.3 Inefficiencies due to standardisation of terms

Stakeholder submissions

As set out above, Aurizon Network submitted the costs of declaration are likely to be of three principal kinds, namely productive inefficiency, allocative inefficiency and dynamic inefficiency. As to allocative inefficiency, Aurizon Network submitted:

> Allocative inefficiency is likely to take the form of mines that fail to be viable because declaration imposes uniform pricing on Aurizon Network and its customers. Mines vary greatly in their ability to bear fixed costs associated with the provision of rail lines or networks. There may be mines that would only be viable if they were to bear only the incremental costs of servicing their needs. Allocative efficiency requires that these mines be commercially viable. However, that cannot occur if declaration imposes uniform prices on all users of the facility.[220]

Aurizon Network further submitted that standardisation of terms and service design hinders Aurizon Network's ability to provide services, with the effect of producing sub-optimal economic outcomes and losses of allocative efficiency. Aurizon Network (referencing the Frontier Economics report prepared for it) said:

- Reference tariffs do not allow for differentiation between end users—which is much less likely to maximise throughput than in a situation where tariffs would be negotiated with a general right of access and fall-back arbitration.
- The current approach of segregating systems with separate asset bases does not offer the flexibility to set efficient prices to optimise the use of existing capacity.
- Mine-based discrimination can increase economic efficiency, but this is quite different from discrimination in favour of affiliated operators—it is difficult to see how declaration offers additional benefits in preventing anti-competitive discrimination.[221]

The QRC did not agree, and said the argument for price discrimination for bringing new mines online is unlikely to be correct in practice.[222] The QRC also said Aurizon Network's claim that increased costs and standardised pricing will reduce its incentive to invest in rail infrastructure, fails to recognise Aurizon Network will earn a regulated rate of return.[223]

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[220] Aurizon Network, sub. 6, p. 16.
[221] Aurizon Network, sub. 6, pp. 16, 24 and sub. 19, p. 19.
[222] QRC, sub. 20, p. 14.
[223] QRC, sub. 20, p. 14.

QCA analysis

The QCA does not accept Aurizon Network's example of allocative inefficiency in relation to mine viability and uniform pricing would necessarily arise as a result of declaration. The regulatory framework does not prevent Aurizon Network proposing an alternate efficient pricing regime, in fact Aurizon Network has opportunities to amend arrangements within the terms of an access undertaking and in proposing replacement undertakings. There is also no evidence that in the absence of declaration, Aurizon Network would price to assist marginal mine development, particularly where all costs can be recovered from existing users.

The QCA notes that system-based reference tariffs apply in the CQCN, providing cost reflectivity while still allowing for some differentiation. For instance, miners' charges are differentiated to account for allocation of mine specific infrastructure cost recovery and also in respect of expansion pricing to reflect a user pays framework.

5.5.4 Other inefficiencies of the current access framework

Stakeholder submissions

As set out above, Aurizon Network submitted that the costs of declaration are likely to be of three principal kinds—productive inefficiency, allocative inefficiency and dynamic inefficiency.[224]

Aurizon Network submitted that these are 'substantial costs' and they materially exceed the expected benefits from increased allocative efficiency. 'These costs are largely associated with the design and performance of the current regulatory framework.'

Aurizon Network submitted that overly prescriptive regulation, such as mandatory access undertakings and information requests, risks becoming a rules-based framework which involves an excessive focus on process rather than outcomes. Within this framework Aurizon Network said a range of costs arise including:

- excessively prescriptive regulatory process and delays in regulatory determinations
- excessive administration and compliance costs
- reduced incentives to invest in network capacity
- coordination losses hindering optimisation and maximisation of supply chain throughput
- delays to expansions. [225]

QRC submitted that '[g]iven the Facility is a natural monopoly asset, operating the Facility on open access terms will increase overall supply chain efficiency and allow resources to be dedicated to other areas (rather than being used to unnecessarily duplicate existing resources)'.[226]

QRC also submitted that the CQCN provides a vital link for mines and that declaration would sustain increased efficiency for coal mines operating globally.[227]

QCA analysis

The QCA's analysis of the environment for productive inefficiency, allocative efficiency and dynamic efficiency is discussed above.

[224] Aurizon Network, sub. 6, p. 16.
[225] Aurizon Network, sub. 6, pp. 18, 22-31.
[226] QRC, sub. 7, p. 26.
[227] QRC, sub. 7, p. 26.

To the extent that the effectiveness of the existing regime informs the future with declaration, the QCA has had regard to the costs/inefficiencies submitted in weighing all costs and benefits.

5.5.5 Other benefits

Stakeholder submissions

Aurizon Network submitted that benefits arising as a result of declaration must be considered against the benefits from providing access to the CQCN service under its proposed counterfactual, and 'to the extent to which incremental benefits from declaration are marginal then the material costs associated with the costly, complex, restrictive and uncertain regulation that currently applies cannot support a conclusion that declaration is in the public interest'.[228] The benefits assessed included:

- certainty and predictability in relation to price
- reasonable and relatively certain terms and conditions for access, which is likely to be a factor affecting investment in the rail haulage market
- facilitating and promoting a more efficient use of rail infrastructure
- incentives to invest in network expansions to expand capacity, asset improvement or reliability which improve the efficiency of above-rail operation, and innovation which improves dynamic efficiency and lowers costs for users of the service in the long run
- reduced costs of negotiation
- benefits to the state economy, as well as social and environmental benefits
- a nationally consistent approach to regulation. [229]

based on its assessment, Aurizon Network said there were no, or minimal, benefits arising as a result of declaration.[230]

Aurizon Network also submitted that the 'principal benefit of declaration must derive from increased allocative efficiency. This is increased efficiency with which the relevant facility is utilised'.[231] Aurizon Network said that while it 'notes that it is not practical for consideration of the public interest to quantify the costs and benefits of declaration, the assessment does require a rigorous evaluation of the likely orders of magnitude to make a qualitative judgement of whether criterion (d) is satisfied'.[232]

QRC submitted that declaration of the service:

- would provide a 'strong incentive to invest in new mines or keep open mines that might otherwise be closed in and around the Bowen Basin coal region (absent declaration). This will directly contribute to employment opportunities and investment into the region'[233]

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[228] Aurizon Network, sub. 19, pp. 15–16.
[229] Aurizon Network, sub. 19, pp. 15–21.
[230] Aurizon Network, sub. 19, pp. 15–21.
[231] Aurizon Network, sub. 6, p. 15.
[232] Aurizon Network, sub. 19, p. 9.
[233] QRC, sub. 7, p. 26.

- will increase investment certainty and provide a greater incentive for investment in coal production. 'This will promote increased output, which (through increased royalty payments) will enhance the State's ability to provide public and community services'.[234]

Pacific National submitted, in relation to each service the subject of the declaration review, that declaration will deliver a range of economic benefits, including:

> - by providing certainty and predictability in relation to the terms and conditions for access to critical natural monopoly infrastructure;
> - facilitating and promoting efficient investment in the provision of rail freight services, including in new rollingstock fleet, freight terminals and associated maintenance facilities;
> - facilitating and promoting efficient investment in the coal supply chain by coal companies, export coal terminals, commodity exporters, domestic users of the products being transported, rail design, engineering and construction services, transport logistic services and the monopoly infrastructure providers themselves;
> - facilitating and promoting efficient operation of the relevant supply chains will support ongoing growth in economic output and employment (including regional economic output and employment); and
> - the state of Queensland and its taxpayers will benefit from increased tax and royalty revenue.[235]

QCA analysis

In light of the QCA's analysis of Aurizon Network's proposed counterfactual (section 5.5.1), the QCA has attributed limited weight to Aurizon Network's assessment of incremental benefits of declaration compared to its baseline counterfactual.

The QCA is satisfied the economic benefits as a result of declaration, identified by Pacific National, include providing certainty and predictability of the terms and conditions of access and facilitating and promoting efficient investment in rail freight services, along with coal supply chain infrastructure.

While there is a lack of quantitative evidence on the magnitude of the benefits which the QCA acknowledges, and it is not practical to produce a quantitative cost-benefit analysis, the QCA is of the view those benefits are likely to be of a sufficient magnitude having regard to the size and importance of the CQCN to materially exceed the costs of access (or increased access) as a result of declaration, compared to the counterfactual.

5.6 Conclusion on criterion (d)

The QCA has weighed the costs and benefits in the evidence submitted by Aurizon Network and all stakeholders in relation to assessing that access (or increased access) to the CQCN service, on reasonable terms and conditions, as a result of declaration would promote the public interest.

There is no evidence to suggest that declaration would impact Aurizon Network's incentives to invest in the CQCN. On balance, the QCA is of the view that declaration is likely to have a positive impact on incentives to efficiently invest in the above-rail market which depends on access to the service and may impact on investment in related supply chain infrastructure.

[234] QRC, sub. 7, p. 27.
[235] Pacific National, sub. 9, p. 14.

The administrative and compliance costs incurred by Aurizon Network are not considered excessive such as to have an impact on the public interest.

Accordingly, the QCA is satisfied that access (or increased access) to the CQCN service on reasonable terms and conditions as a result of declaration, would promote the public interest.

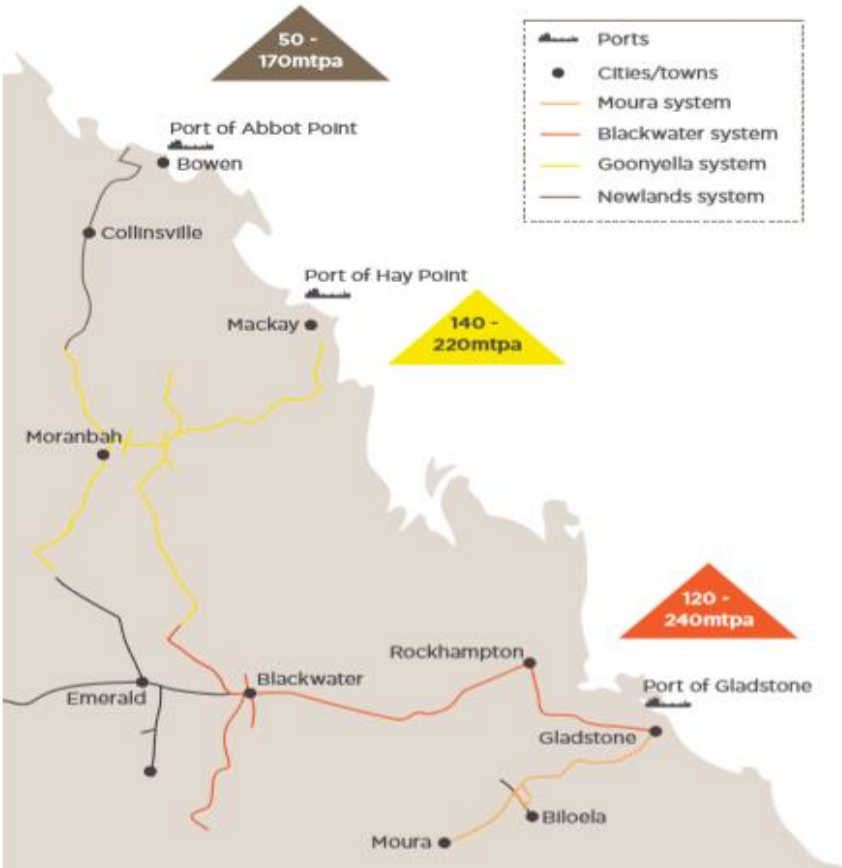
APPENDIX A: SUMMARY OF AURIZON NETWORK'S NETWORK DEVELOPMENT PLAN

Summary of Aurizon Network's Network Development Plan

Aurizon Network's Network Development Plan (NDP)[236] identifies and evaluates options to meet future demand scenarios on the CQCN. Aurizon Network states that it provides a cost effective solution using a holistic integrated approach engaging all parts of the supply chain.[237]

The NDP assumes the potential tonnages at future capacities that form the basis for CQCN expansion options covered in the plan. Collectively, starting capacities shown are 310 mt, with future CQCN capacity scenarios for up to 630 mt (see figure below).

Figure 1: Future capacities scenarios



[236] Aurizon Network, Network Development Plan 2016–17, https://www.aurizon.com.au/~/media/aurizon/files/what%20we%20do/network/network%20development%20plans/ndp/networkdevelopmentplan_2016-17.pdf . This plan is updated by Network Development Plan 2018 (contents update pages of previous plan) at https://www.aurizon.com.au/~/media/aurizon/files/what%20we%20do/network/network%20development%20plans/ndp/2018%20network%20development%20plan.pdf.

[237] Aurizon Network, Network Development Plan 2016–17, p. 2.

To achieve these future tonnages, the NDP identifies various medium to long-term corridor expansion options. The options are suggested for each system and vary 'as a result of their capacity, condition and varying levels of current development'.[238] It also provides the net present cost associated with the development options, using various planning tools to enable comparison of the different options.[239]

For the Newlands system, the NDP assesses options for expanding from 50 mt to 170 mt. Key projects identified in this CQCN expansion scenario include development of the Galilee, North Goonyella and Blair Athol branches. The net present cost of the particular expansion options suggested by Aurizon range from around:

- $1.8 billion to $2.2 billion in 2020
- $6.6 billion to $7.9 billion in 2029
- $9.2 billion to $11.5 billion in 2039.

Aurizon's comparison shows the suggested 3-loco and 4-loco configuration options achieve lower cost bases over this timeframe.[240]

For the Goonyella system, the NDP identifies options for expanding from 140 mt to 220 mt. To provide this capacity, Aurizon Network suggests projects relating to the North Goonyella, South Goonyella and Blair Athol branches. The net present cost of the expansion options to provide capacity range from around:

- $1.1 billion to $1.9 billion in 2020
- $4.5 billion to $5.2 billion in 2029
- $6.3 billion to $7.4 billion in 2039.

A 3-loco improved headway or 4-loco configuration option appear the lowest cost options.[241]

For the Blackwater and Moura systems, the NDP assesses options for expanding from 120 mt to 240 mt. Aurizon Network provided combined expansion options relating to both systems collectively, securing capacity from the Blackwater trunk, as well as the South Goonyella, Rolleston and Moura branches. When comparing the various options, the net present cost ranges from around:

- $1.7 billion to $2 billion in 2020
- $6.6 billion to $8 billion in 2029
- $9.1 billion to $10.3 billion in 2039.[242]

In the longer-term, a 4-loco configuration appears to involve the lowest net present cost.[243]

While the NDP identifies these expansion options and undertakes comparisons to determine those with the lowest cost base, it notes the outcomes presented are not determinative and the plans act as a guide for further, detailed studies where it occurs that capacity is insufficient to meet demand.[244] In addition, the NDP does not attempt to prioritise any of the corridors when considering growth instead considering various potential future tonnages that could be realised at each of the major ports. Aurizon Network notes

[238] Aurizon Network, Network Development Plan 2016–17, p. 3.
[239] Aurizon Network, Network Development Plan 2016–17, p. 6.
[240] Aurizon Network, Network Development Plan 2016–17, p. 40, figure 30.
[241] Aurizon Network, Network Development Plan 2016–17, p. 52, figure 38.
[242] Aurizon Network, Network Development Plan 2016–17, p. 64, figure 46.
[243] Aurizon Network, Network Development Plan 2016–17, p. 64, figure 46.
[244] Aurizon Network, Network Development Plan 2016–17, p. 24.

that it does not expect all of these demand increases to occur simultaneously, evidencing the hypothetical approach taken. However, the NDP can assist in identifying Aurizon Network's preferred expansion approaches in response to future increased demand for each of the relevant rail systems.[245]

[245] Aurizon Network, Network Development Plan 2016–17, p. 4.