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AURIZON

7 December 2012

Mr Martin Jones
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Dear Martin

Aurizon (formerly QR National) is pleased to respond to the Australian Rail Track Corporation (ARTC) Hunter Valley Access Undertaking (HVAU) Capacity Loss Review Discussion Paper with the attached submission.

Aurizon believes the requirement for ARTC to conduct the Capacity Loss Review raises fundamental questions about the appropriate balance between regulatory mechanisms aimed at achieving coordination across the coal chain and the efficiency gains available from competition in the contestable elements of the coal chain.

Aurizon considers that efforts to minimize Capacity losses are better directed at promoting competition between Operators in a less prescriptive and potentially less distorting form than in contemplated by the capacity loss review.

Currently, the incentive to reduce Capacity losses is based on cancellations through clause 11.6 of the Access Holder Agreements (AHA). Aurizon notes that this has never been applied, and believes that cancellations are not a good measure of Capacity loss given cancellations can be caused by a range of events and a cancellation may in fact be beneficial for managing Capacity. Aurizon recommends that clause 11.6 be amended to remove the current penalty by deleting clauses 11.6 (c) to 11.6 (f).

Nonetheless, the treatment of cancellations is important given a train cancellation potentially represents an increase in costs. In addition, information about the events leading to a cancellation can serve to inform the market about the performance of service providers within the system. The treatment of cancellations should support competition through providing accurate and timely information about performance, rather than be subject to a coercive regulatory mechanism involving sanctions.

Aurizon's submission discusses these issues in more detail with reference to the specific economic and commercial context and the operational context of the Hunter Valley Coal Chain. It also discusses the potential options for an incentive mechanism and it addresses the specific questions raised in ARTC's Discussion Paper.

Should you have any queries, please contact Robin Laver on (07) 3019 9516 or email on Robin.Laver@aurizon.com.au.

Yours sincerely

Natalie Rose
A/Senior Vice President Commercial and Planning

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7 December 2012

Response to ARTC Capacity Loss Review Discussion Paper

Contents

1. Executive Summary

This submission presents Aurizon's response to the Australian Rail Track Corporation (ARTC) Capacity Loss Review Discussion Paper of October 2012.

Aurizon, formerly QR National, believes ARTC's capacity loss review raises the fundamental issue about how best to achieve a balance between regulated coordination across the Coal Chain and the efficiency gains available from competition in the contestable elements of the Coal Chain.

While the current capacity loss mechanism focuses on the treatment of cancellations, Aurizon believes that cancellations, while an important issue, are separate to the question of capacity loss. Consequently, this submission deals separately with both the issue of capacity loss as well as the treatment of cancellations.

Economic and Commercial Context

Where possible, the regulatory arrangements should facilitate commercially negotiated outcomes in the first instance, with regulatory intervention limited to circumstances where there is evidence of market failure. This implies that regulatory interventions to limit the flexibility of supply-chain participants to negotiate for services that suit their requirements should generally be limited. At the same time however, coordination of a supply chain is fundamental to efficient service delivery and it is the role of the regulator to achieve the right balance between the efficiency benefits available from coordination through an integrated approach, and the efficiency benefits derived from competition within the supply chain.

In this regard, Aurizon believes the regulatory arrangements in the Hunter Valley have progressively imposed more prescriptive conditions on the type and nature of supply chain services with the objective of promoting further coordination, potentially at the expense of competition. The trend to narrow the scope within which Operators can compete for haulage services has meant convergence towards price competition, at the cost of limiting the prospect of Operators differentiating their service across non-price elements of service provision.

The risk that this presents is that, should the balance be tilted too far towards coordination, competition will cease to be the mechanism for efficient allocation of value across the supply-chain, with the regulatory arrangements instead functioning as a control mechanism that simply redistributes value amongst supply chain participants according to administrative judgment. Aurizon believes that such an outcome would be inefficient, particularly given the recognised scope for regulatory error in the administrative control of supply chains.

This is a risk in the context of the Capacity Loss Review required under clause 5.8 of the Hunter Valley Access Undertaking (HVAU). Specifically, the complexity of contractual and operational interdependencies in the Hunter Valley Coal Chain makes designing an effective incentive mechanism to minimise capacity losses prone to error. Moreover, Aurizon considers that even absent the possibility of error, it is unclear that an administrative mechanism for assigning capacity losses would be more efficient and effective than the mechanism that already exists in the form of competition.

Operational Context

Capacity, and Coal Chain Capacity, is lost when planned tonnage throughput is not achieved. While the capacity loss will manifest at the system constraint, or bottleneck, it will not necessarily be caused by the service provider of the bottleneck infrastructure, but rather will likely be a result of the cumulative actions of other supply chain participants. Clearly, there is a separation between measuring capacity loss and measuring behaviour that may, in certain circumstances, cause a loss of capacity to manifest at the bottleneck.

Measures of capacity loss and of behaviours of various parties to the supply chain that can cause a loss of capacity should be developed based on empirical evidence that demonstrates that a particular action or omission by a party has the potential to actually result in a loss of capacity. Given the multiple competing and commercially driven parties to the system, it is important that such a regime be managed by an independent party with access to a sufficient range of information to enable a comprehensive analysis, such as the Hunter Valley Coal Chain Coordinator (HVCCC). It is also

important that any such regime is transparent and agreed by all coal chain participants, prior to its inception.

The capacity loss review is required to consider the processes outlined in clause 11.6 of the Access Holder Agreement (AHA), which deals with the treatment of cancellations. Aurizon considers that, though related to capacity loss, the treatment of cancellations is an important but separate issue.

Cancellations

Cancellation data is not a good measure of capacity loss given cancellations can be caused by a range of events and a cancellation may in fact be beneficial for 'capacity'. Nevertheless, the treatment of cancellations is important to the industry given the cancellation of a train potentially represents an increase in costs and information about the cancellation can serve to inform the market about the relative performance of service providers within the system.

Aurizon believes the treatment of cancellations should support competition through providing accurate and timely information about Operator performance, rather than be subject to a coercive regulatory mechanism involving sanctions.

The current procedure for identifying and allocating responsibility for cancellations is based on the parties voluntarily accepting responsibility. Clause 11.6 of the AHA allows an Access Holder to be penalised in certain circumstances, where cancellations are assigned to that Access Holder. Aside from the difficulty in determining whether or not a cancellation has 'caused' a loss of capacity, this mechanism is potentially unworkable given it relies on an Access Holder's voluntary acceptance of responsibility for the cancellation.

In any case, a punitive sanction potentially distorts behaviour that would otherwise assist with optimising system capacity. Consequently, Aurizon believes clause 11.6 of the AHA should be amended to remove the current penalty by deleting clauses 11.6(c) to 11.6(f).

While cancellation data may be useful in providing information about behaviour that may cause a loss of capacity, there are potentially superior alternative incentive mechanisms for minimising capacity losses.

Potential Options for an Incentive Mechanism

Mechanisms to minimise capacity loss should not single out Access Holders and their Operators given the actions of all parties in a supply chain are interrelated. One such potential option may be to develop a range of targeted key performance indicators (KPIs). If KPIs were to be considered, they should be directed at potential bottleneck constraints in the system as well as behaviour that may, in certain circumstances, cause a loss of capacity.

The main performance indictor for Operators is the level of competitive success including the ability to win market share and attract new customers. In this respect, Aurizon has demonstrated superior performance, growing market share and attracting new customers. Transparent performance indicators would benefit Aurizon, given its relatively new rolling stock and up-to-date locomotive technology, high levels of reliability and responsiveness to customer demand.

Despite this, Aurizon would be concerned about potential risks associated with introducing a KPI regime, most notably the regulatory risk of 'getting it wrong'. Prior to introducing such a mechanism it is essential that an assessment be undertaken of whether the benefits of introducing KPIs are likely to outweigh the costs.

In any case, Aurizon considers that efforts to promote efficient operations in the supply chain are better directed at promoting competition and commercial flexibility, rather than further prescription and potentially distorting regulatory mechanisms.

2. Introduction

Aurizon, formerly QR National, appreciates the opportunity to respond to the Australian Rail Track Corporation (ARTC) Capacity Loss Review Discussion Paper of October 2012. This submission presents Aurizon's view as a privately owned, competitive above-rail operator in the Hunter Valley coal haulage market.

Aurizon is the world's largest rail transporter of coal from mine to port for export markets, and the second largest coal haulage provider in the Hunter Valley having secured almost 30 per cent market share since entering the Hunter Valley coal haulage market in 2005.

Aurizon is a strong advocate for the benefits of competition, and believes that where possible, the regulatory arrangements should facilitate commercially negotiated outcomes in the first instance, with regulatory intervention limited to a safety net function in the event of market failure.

Having said this, Aurizon recognises the need to balance the competing commercial drivers of the various parties that make up the interrelated functional layers of the coal supply chain, with a disciplined approach to their coordination.

These considerations have shaped Aurizon's response to the issues raised in ARTC's Discussion Paper on the options for managing capacity losses in the Hunter Valley Coal Chain, including the issues around the treatment of train cancellations.

Background

The Hunter Valley Access Undertaking (HVAU) requires ARTC to review the policy and processes for identifying and allocating losses of network capacity caused by Access Holders and their Operators. It also requires ARTC to review potential incentive mechanisms to minimise such losses where they have a material impact on network capacity, coal chain capacity or the capacity entitlements of Access Holders. This requirement includes a review of those processes outlined in clause 11.6 of the Indicative Access Holder Agreement (IAHA).[1]

ARTC must invite comment from the Hunter Valley Coal Chain Coordinator (HVCCC), Access Holders and other coal chain service providers on whether particular actions or omission of Access Holders or the Operators (such as the cancellation of scheduled services) have a material impact on network Capacity, Coal Chain Capacity or the Capacity entitlement of Access Holders. Stakeholders have been invited to submit proposals for a suitable framework to address any adverse impact on Capacity caused by such actions or omissions and to include in the proposal any rules for the allocation of Capacity losses to the responsible Access Holder.

ARTC will then determine, in consultation with the HVCCC, if any of the proposals would be likely to have a demonstrably positive benefit in increasing Available Capacity and whether they would assist in allocating the impact of an event that causes a Capacity shortfall to the relevant Access Holder. ARTC is also required to assess whether the anticipated benefits of any such proposal outweigh the costs of implementing and monitoring the proposal including the additional costs of disputes over assigning the Capacity losses.

If any such proposal has the support of the HVCCC and the broad support of the Hunter Valley Coal Chain participants, Access Holders and service providers, ARTC will apply to the ACCC to amend the HVAU to include the proposal. If approved by the ACCC, the amendments to the HVAU will automatically be included in the Indicative Access Holder Agreement and all existing executed Access Holder Agreements (AHA).

Currently, the allocation of cancellations is used as a proxy for capacity loss. The AHAs include a provision at clause 11.6 that allows ARTC to remove a Base Path Usage entitlement from an Access Holder in a subsequent period, where the Access Holder is the cause of a cancellation. ARTC has not actually applied this mechanism since the AHAs were executed in February 2012.

ARTC has released a Discussion Paper on the issues it sees as relevant in the capacity loss review. The paper does not propose any particular incentive mechanism but includes background information and a series of questions on potential incentive mechanisms, which stakeholders are invited to comment on by **7 December 2012.**

[1] HVAU clause 5.8

Submission Outline

This submission is structured as follows:

1. Section 3 examines the economic and commercial context, including the importance of supply chain coordination, the role of the regulator in achieving a balance between competition and coordination and the risks and costs of negative externalities;
2. Section 4 outlines the operational context, including a detailed analysis of the issues around measuring capacity losses and a discussion around the role and causes of cancellations and delays;
3. Section 5 explores potential options for developing a mechanism for identifying and allocating losses of network Capacity caused by Access Holders and their Operators; and
4. Finally Appendix A addresses each of the relevant questions from ARTC's Discussion Paper.

3. Economic and Commercial Context

Aurizon supports initiatives that strengthen supply chain efficiency, which in turns provides opportunities for all supply chain participants to increase activity in the market. Aurizon competes vigorously in the Hunter Valley haulage market, growing market share to almost 30% since entering the market in 2005.

Economic regulation has driven significant improvements in productivity as well as supply chain and operating efficiency across the coal supply chain. The associated economic reforms have allowed competing above rail operators, including Aurizon to enter the market.

Aurizon believes that coordination of a supply chain is fundamental to efficient service delivery. The competitiveness of coal supply chains is becoming increasingly important as low cost producers in developing countries enter the supply market.

In seeking to optimise the competitiveness of Australian coal supply chains, it is essential to achieve the right balance between the efficiency benefits available from coordination through an integrated approach, and the efficiency benefits derived from competition within the supply chain.

At one extreme of the coordination model, full integration across the supply chain, such as exists in some Pilbara iron ore railways, provides for optimal efficiency in terms of internal trade-offs that can be made between different elements of the supply chain to minimise transaction costs between different functional layers.

At the other extreme, a purely competitive market structure provides an environment where efficiency, innovation and investment are driven through competition in as many elements of the supply chain as possible. The transaction costs of the competitive market model (such as costs of contracting, imposition of margins and costs associated with strategic competitive behaviour) are balanced against efficiency gains from competition.

In the Hunter Valley, supply chain coordination is managed through a hybrid model balancing the 'command and control' approach of the integrated model and the less prescriptive competitive market model. This hybrid model is administered through a combination of the operations of the HVCCC that seeks to centralise control, and the regulatory arrangements that facilitate and promote competition, which is administered by the ACCC.

Aurizon considers it is important to maintain the appropriate balance between centralised planning and competitive operations to ensure that externalities in the form of various transaction costs do not erode the considerable efficiencies already achieved in the Hunter Valley coal chain. The tension between operational efficiency and competition driven efficiency can result in a range of transaction costs that outweigh the benefits expected by either vertical separation along with the introduction of competition, or centralised coordination through a supply chain coordination body.[2]

[2] OECD, January 2012, Experiences with Structural Separation, p. 12-13 *"it is generally accepted that structural separation may involve a trade-off between efficiency and competition" but that nonetheless ".....it is clear the economic benefits (of competition) have been observed*".

In the context of the capacity loss review, Aurizon considers it is important to ensure the benefit of any incentive mechanism to promote coordination across the supply chain outweighs the cost of any negative externalities, including the practical costs of implementing and administering the incentive mechanism and the cost of any reduction in the competitive and commercial incentives for efficiency. One of the main areas where competition can drive efficiency is through competitive pressures that stimulate innovation and efficiency in the above rail services. The role of competition is to provide choice to customers with the result that competition encourages efficiency as suppliers seek to offer improved service standards and prices. This will, in effect protect customers from the high prices and poor services typically observed in the absence of competition.[3]

Competition and Coordination

Competition in the Hunter Valley coal haulage market has delivered significant benefits to the market, including improved services at lower rates.[4] It is also acknowledged however that vertical separation that allows for competition brings with it greater ongoing transaction and coordination costs than under integration[5] and the potential for conflicting priorities between infrastructure companies and service providers.[6]

The HVAU sets out the conditions of third party access aimed at promoting competition and enhancing the efficiency and flexibility of the coal supply chain though provisions that apply to ARTC. In addition, the operations of the HVCCC have improved coordination across the supply chain, which may otherwise be prone to inefficiencies as a result of transaction costs between multiple parties each with differing commercial interests.

In seeking to simulate the coordination benefits of a vertically integrated system through ever more detailed and intrusive incentive mechanisms applied to lower and lower levels of the operations of service providers, there is a risk that the associated monitoring, reporting and analysis required will increase transaction costs to the point where they are higher than the potential benefits they seek to achieve. Rather than delivering a net benefit to the system, such initiatives may simply represent a transfer of value between participants in the supply chain.

Aurizon understands the importance of balancing the efficiency benefits of competition within contestable elements of the supply chain, against the efficiency losses associated with the disaggregation of the supply chain which would otherwise be able to coordinated decision making and make the internal value trade-offs in order to optimise efficiency and minimise cost. The role of the regulator is to ensure that an appropriate balance is achieved having regard to the impact of coercive mechanisms on the competitive environment for those contestable markets.

However Aurizon has observed a regulatory trend to narrow the scope within which Operators can compete, converging towards the single dimension of price. While price incorporates a large amount of important information about the efficiency of an Operator's service, Operators also seek to horizontally differentiate to compete on a range of other elements of service, including reliability, surge capacity, flexibility and responsiveness, risk sharing and efficient contract management. To the extent that the service offering is differentiated between Operators, the standard of service will improve with customers able to select the optimal mix of price and non-price value. In the event that customers value price over other elements of the service offering, competition will automatically drive a focus on costs and price.

Aurizon believes the regulatory arrangements have progressively imposed more prescriptive conditions on the type and nature of supply chain services with the objective of promoting further coordination. However, should the balance be tilted too far there is risk of limiting the scope of competition in the contestable elements of the supply chain and of merely altering the allocation of value across the supply chain participants.

While regulation aims to promote efficiency, a balance must be struck between regulatory arrangements that promote competition, including for example, the open access regime, and the system-wide mandated assumptions that provide for coordination of multiple parties each with differing commercial interests.

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[3] Pittman, R. 2003, Structural Separation to Create Competition? The Case of Freight Railways, p.8

[4] Fagan, M, 2008, Introducing Competition into Natural Monopoly Industries: An Evaluation of Mandated Access to Australian Freight Railroads, Harvard University, p 34-35

[5] Ibid, p 37 quoting Productivity Commission,2006, "Road and Rail Freight Infrastructure Pricing." p. 309

[6] Ibid, p 37

Efficient regulation requires a judgement as to how far away the market in question is from the perfect, but unrealistic, ideal of being perfectly competitive and how much closer any form of regulatory intervention can bring it towards that ideal. In the context of the already highly complex contracting and regulatory mechanisms applying to Hunter Valley Coal Chain and given the extensive coordination powers of the HVCCC, the task of designing an effective incentive mechanism such as envisaged in clause 5.8 is even more difficult. With this level of complexity the risk of regulatory error in introducing yet another level of intervention in the operation of market transactions between Operators, Access Holders and ARTC is extremely high.

In this context regulatory error would stem from being unable to accurately predict the costs or likelihood of unintended consequences. There is a prospect that the mechanism distorts behaviour thereby risking the opportunity costs of lost efficiency that would otherwise have existed, or that the mechanism imposes transaction costs associated with developing, testing and implementation.

Aurizon considers that the capacity loss review required under clause 5.8 of the HVAU is an example of where regulatory intervention is in danger tilting too far towards prescription to promote coordination at the expense of more efficient and effective mechanisms that already exist in the form of competition. This issue is explored in the context of the specific requirements of clause 5.8 in the following sections. These sections discuss the inappropriateness of clause 5.8 applying to just Access Holders and their Operators and the potential for unintended consequences in the form of negative externalities, including the distorting effects of misaligning incentives with the ability to control.

Clause 5.8 of the HVAU

The HVAU is very specific in limiting the scope of the capacity loss review to the potential actions or omissions of Access Holders and their Operators. This effectively limits the application of any incentive mechanism designed to minimise capacity losses to Access Holders, given Operators have no direct contracting arrangements with ARTC, except through the purely operational Operator Sub-agreements (OSA) that are merely attachments to the AHA.

The coal haulage market is highly competitive, providing strong commercial incentives for Operators to optimise efficiency and maximise delivered tonnes. The current access contracting arrangements allow Access Holders to switch Operators that do not meet their needs or where the performance of a competing Operator is superior.

Consequently, Aurizon considers that any proposed incentive mechanism that seeks to indirectly pressure Access Holders to force their Operators to avoid behaviour that will cause a loss of capacity will be unnecessary and inefficient. Such a mechanism already exists with the nature of the competitive pressures in the Hunter Valley. In general, regulatory mechanisms that seek to control the behaviour of competitive entities directly or indirectly, such as through imposing sanctions on an Access Holder for the behaviour of its Operator, are likely to result in negative externalities.

Cost of Externalities

Negative externalities include the transaction costs that arise from developing, assessing and approving any rules or regulations, the costs of amending the AHAs, potential costs associated with administration of the mechanism, including collecting and reporting the required information, enforcement of the provisions and the costs and time associated with dispute resolution.

Potential negative externalities also include the impact on dynamic efficiency where competitive suppliers are constrained in their ability to innovate and adapt. Sustained and robust competition is the least cost way to promote efficiency. Preserving competition through regulatory parameters that set a level playing field for competitive Operators is essential to continued improvements in efficiency. Examples of where regulation can enhance competition include through facilitating improved transparency and access to information, limiting impediments for market entry and reducing switching costs between competing Operators. These are areas in which regulation of the monopoly elements of the supply chain can support competition in the contestable elements of the supply chain.

In the context of the capacity loss review and options for potential incentive mechanisms to minimise such losses, the HVAU provides for automatic inclusion of such an indirect incentive mechanism in

the commercial and legally binding contracts such as the AHA,[7] if such a proposal is accepted by the ACCC. Aurizon believes that regulatory efforts are better directed at supporting competition through less costly mechanisms.

Aligning Incentives and Control

Whether in a competitive or regulatory environment, an effective incentive mechanism must match the risk to the party that has the ability to control that risk. As the HVAU applies only to ARTC and cannot bind other participants in the coal supply chain, the regulatory application of any incentive mechanism to reduce capacity losses can only be implemented through the regulatory arrangements that apply to ARTC and cannot be imposed directly on other supply chain participants.

However the issue of capacity loss is broader than the actions and omissions of Access Holders and their Operators. It is not appropriate to focus only on Access Holders and Operators, which are only part of the supply chain, when losses of both Capacity and Coal Chain Capacity, particularly in the day of operation environment, are caused by the cumulative impact of actions or omissions of multiple supply chain participants. It is essential that the party responsible for the action or omission, which is the party best able to control the risk of an 'avoidable event' that results in a loss of capacity, should be the party that bears the cost.

To the extent that Access Holders bear the costs of actions or omission of their Operators, it is therefore desirable that the costs reflect events over which an Access Holder has control. Clause 11.6 the IAHA, as it currently applies, allows ARTC to remove Base Path Usages from the Access Holder's contractual entitlement in the following month or quarter, in certain circumstances[8] including where the HVCCC has formed the opinion that the cancellations have had an impact on capacity.

The actions and omissions of the Access Holder's Operator are not currently caught by this provision because current AHAs are held by end users. However clause 5.8 brings Operators into the scope of any potential incentive mechanisms to minimise capacity losses. The extension of clause 11.6 of the AHA to apply in the case of cancellations caused by an Operator would require an Access Holder to bear the consequences of the actions of its Operator, regardless of whether the Access Holder has control over the particular action or omission of its Operator. Access Holders would be forced to indirectly channel responsibility for the impacts of Operators on capacity, through the above-rail haulage agreements. This would be a cumbersome and inefficient method. A more efficient approach is to allow the existing flexibility for Access Holders to switch Operators and competition to deliver performance incentives.

In any event, Aurizon considers the accuracy of analysis of the 'cause' of cancellations and capacity losses requires refinement before it is appropriate to attribute a cause to any party unless the action has a direct causal impact. This and related issues are discussed in the following section.

4. Operational Context

This section outlines the Aurizon perspective on the operational context of Capacity losses and Coal Chain Capacity losses. As noted above, Aurizon believes that the issue of capacity loss is broader than the actions and omissions of Access Holders and their Operators. In considering how best to deal with capacity losses it is essential to take account of the complexity of the interrelationships between different elements of the supply chain, not just from a commercial and contractual perspective, but also from an operational perspective.

Before any potential incentive mechanism can be developed to reduce capacity losses, the cause of capacity loss must be identified. Before the cause can be identified, capacity loss must be identified and measured. In addition, the party best placed to carry out these functions must be identified. This section sets out the matters that should be considered in addressing these issues.

[7] HVAU , cl 5.8(d) provides that if the ACCC accepts a proposal by ARTC on this matter, the provisions will automatically be included as mandatory in the existing Access Holder Agreements.

[8] IAHA clause 11.6 requires that the HVCCC to report weekly on the number of cancellations and whether it believes the cancellations have had an impact network Capacity, Supply Chain Capacity or the Access entitlement of another Access Holder.

Capacity loss - what is it?

The capacity of railway infrastructure can be expressed in terms of paths or, more fundamentally for freight trains, in terms of net tonnes transported.[9] Capacity, and Coal Chain Capacity, is lost when planned tonnage throughput is not achieved, either on a short term basis, where actual throughput deviates from that planned in the daily operating schedule, or on a long term basis where future throughput is reduced because of circumstances such as speed restrictions or increased maintenance closures.

Capacity loss is a result of the interaction between the actions (or omissions) or series of actions (or omissions) of parties within the supply chain. For example, overloaded wagons have the potential to increase short term throughput, but decrease the throughput that can be planned in the longer term. Depending on how many and how often wagons are overloaded, the longer term impact to the standard of the rail track may result in speed restrictions or higher than planned maintenance in the future.

Alternatively, where a train with overloaded wagons is stopped to reduce the load, this may cause a delay, impacting on the train path availability for other scheduled hauls and resulting in a cancellation or other form of short term capacity loss. Because of the interrelated nature of the actions of each of the parties on the operation and capacity of the supply chain as a whole, Aurizon considers the measure of capacity loss should be separated from identification of the actions that may cause a loss of capacity.

From a system perspective, capacity loss is the difference between planned throughput and actual throughput. Reduced throughput manifests at that part of the system that limits capacity, i.e. the constraint or bottleneck. If the bottleneck has been fully utilised, the actions of supply chain participants either side of the constraint have no impact on system capacity (throughput). For example, slow loading of a train at the load out, that results in a late train that causes another train to be delayed and eventually leads to a cancelled train service, in order to restore the schedule to 'plan', does not represent a loss of capacity if the number of tonnes that were planned for the period is achieved.

Such an incident will involve costs to various parties including increased operating costs for train operators (such as increased crewing costs, capital costs associated with reduced cycle time, or loss of revenue where a cancellation results reduced haulage revenue) which reduce system efficiency, but may not necessarily result in a net loss of system capacity.

It is well acknowledged that given the interactive nature of a supply chain, the bottleneck will shift within the system depending on demand growth and the investment and expansion path of ARTC and the coal terminals. For example, 2012 track utilisation statistics demonstrate that achievable utilisation of timetabled paths from Maitland to Sandgate is constrained due to paths lost as a result of congestion from passenger, freight and slow and stationary trains. Aurizon understands that a range of measures, including, for example, enhancements being undertaken by ARTC to provide additional roads at Hexham and changes to the train control onto Kooragang Island, will relieve this track congestion. The system capacity constraint may then shift to other parts of the network or to the ports.

Measuring capacity loss at the bottleneck

Given the system bottleneck constraint is likely to move around as system augmentation occurs it will be necessary to design measures of capacity loss for a range of potential bottlenecks including, for example, network availability compared to schedule, dump slot utilisation rates and stockpile capacity availability. Measures of capacity loss are likely to be concentrated on the terminals and track.

It is unlikely that bottlenecks will occur in the parties of the supply chain where competition and substitutability occur. That is, rolling stock availability is unlikely to be a bottleneck constraint where competing train operators are able to substitute for each other in the event of a shortfall by one Operator. Similarly, lack of coal availability at a producer load-out is able to be substituted by production from an alternative producer.

Assuming the bottleneck can be accurately identified, the question then arises about how to measure the loss of capacity, including as the bottleneck moves around the supply chain. Aurizon does not consider cancellations to be an effective measure of capacity loss because cancellations apply only

[9] QCA, December 2000, Working Paper 3: Incremental Cost of Capacity, p.7

to trains which are not generally the bottleneck, being substitutable by other trains. In addition, cancellations do not provide useful information about the operation of the bottleneck. Cancellations are discussed in more detail below.

Appropriate measures of capacity loss will depend on the nature of the bottleneck constraint. Where dump slots are the system constraint, an appropriate measure would target the tonnage throughput loss at the dump station. Where port stockpile availability is the constraint, the measure would need to reflect impact of stockpile management on the planned throughput.

The objective of measuring capacity loss is to identify the behaviour that has caused the loss of capacity and to apply incentives or penalties to minimise such behaviour. While the capacity loss will manifest at the bottleneck, it will not necessarily be caused by the service provider of the bottleneck infrastructure, but rather will likely be a result of the cumulative actions of other supply chain participants.

In any case, it would be counter productive to impose incentives or penalties at the point at which a loss of capacity is manifest unless the bottleneck owner is directly in control of the reason for the lost capacity and is able to change behaviour in way that reduces future capacity losses. Clearly, there is a separation between measuring capacity loss and measuring behaviour that may, in certain circumstances, cause a loss of capacity to manifest at the bottleneck.

Measuring the causes of capacity loss

Measures of behaviours of various parties to the supply chain that can lead to a loss of capacity should be developed based on empirical evidence that demonstrates that a particular action or omission by a party has the potential to flow on to a loss of capacity, particularly when combined with the behaviour of other supply chain actors.

For example, where a mine load-out rate is slower than planned, a train may be delayed, with the result that a dump slot at the port is missed. If the system constraint is the dump slots, the loss of capacity will manifest as an unused dump slot unless another train service is able to use that slot, in which case there will be no loss of capacity as a result of that particular slow load-out. Nonetheless a slower than scheduled loading rate is behaviour that can be identified as potentially causing a loss of capacity. Consequently, measures of load-out rate may be appropriate as a 'potential' cause of capacity loss. However, actual capacity loss will only occur if this particular action results in under utilisation at the bottleneck constraint.

One way to identify and measure behaviour that can contribute to a loss of capacity would be through a range of measures targeting behaviours that have a potential consumption impact on Capacity and Coal Chain Capacity. While the measure of lost capacity will be at the bottleneck, any incentive or penalty must apply to the causative behaviour of the parties which have contributed to the loss. Where causation is cumulative, the causative behaviour of all parties could be subject to an incentive mechanism.

Who should measure capacity loss?

In a system consisting of multiple competing and commercially driven parties, it is important for Capacity and Coal Chain Capacity loss to be measured by an independent party. It is also necessary for that party to have access to a sufficient range of information to enable a comprehensive analysis of losses of capacity.

In the context of the Hunter Valley coal chain, the HVCCC seems the obvious party to administer such mechanism, if only on an advisory basis, with implementation to be undertaken through mechanisms agreed by the supply chain participants.

While the HVCCC is an independent body, it is reasonable to assume that it will, nonetheless, have an interest in maintaining its reputation and relevance in the market in which it operates. Consequently, any process undertaken by the HVCCC to measure capacity loss should be transparent and agreed by all coal chain participants, prior to its inception.

As noted, capacity loss is realised only where the system under delivers throughput compared to planned throughput for the period. Consequently, planned throughput is critical to whether or not capacity is lost. In periods of high demand where the system is operating at, or near, full capacity, there will be an increased risk of capacity losses where Day or Operations activity deviates from the planned schedule.

The HVCCC currently develops a schedule to deliver planned throughput, optimising the available resources in the supply chain to ensure demand is satisfied in the most effective and efficient way. The assumption is that the planned schedule is optimal and that resources could not have been scheduled in any better way given the demand and system constraints in place at the time.

Consequently, should the schedule be sub-optimal in terms of robustness for variations in the Day of Operations environment, this will not be obvious to supply chain participants. Yet any consequent loss of capacity will come at a cost to service providers and Access Holders within the system, for example, because of lost tonnage throughput, lost haulage revenue, additional operating costs or added demurrage costs.

Consequently, in designing a measure of capacity loss, it is important to include a measure of the performance of the scheduler in the regime. For example, the time taken to recover any deviations from the planned schedule and the number of days where the schedule was unable to operate without deviation, could be measured and reported to all members of the supply chain at the time other measures of capacity loss are reported.

Cancellations

Aurizon believes cancellation data is not a good measure of capacity loss, as cancellations can be caused by a range of events and a cancellation may in fact be beneficial for capacity. Cancellations can be a useful tool to manage system capacity by restoring the schedule to plan.[10] In addition, while cancellations may be a result of actions or a series of actions that result in a loss of capacity, cancellations themselves do not cause a loss of capacity.

Nonetheless the treatment of cancellations is important to the industry given the cancellation of a train potentially represents an increase in costs. Information regarding the cause of a cancellation is also important in understanding the performance of all members of the supply chain. As noted previously, determining the cause of a cancellation is often not straightforward and may be subject to a degree of subjectivity. Consequently, Aurizon considers that the attribution of cause of a cancellation should not be associated with any type of punitive sanction, but rather should serve to inform the market about the relative performance of service providers within the system.

Aurizon understands the importance of optimising Coal Chain and network Capacity and considers that Operator capacity should also be used efficiently where possible. Consequently, Aurizon considers the interests of all producers are best served where a cancellation can be rescheduled to operate an alternative haul, subject to not impacting negatively on the Capacity entitlements of another Access Holder.

The agreed procedure for the treatment of cancellations should include flexibility to allow for Operators to best match various needs of producers in the process of returning to the delivery of the planned system throughput, regardless of whether this returns to the planned schedule as originally developed by the HVCCC. For example, NCIG operates in a build-to-stockpile mode and is therefore less sensitive than PWCS to the delivery date for coal to be loaded onto the ship. This provides opportunities for Operators servicing producers shipping from NCIG to divert cancelled trains to NCIG (subject to coal availability and train paths). This maximises coal throughput by ensuring coal that is available can be delivered to port.

Attributing Responsibility

ARTC's Discussion Paper outlines the current procedure for identifying and allocating responsibility for cancellations.[11] In essence, the process involves the HVCCC identifying cancellations on a daily basis and representatives of the service providers, through the Live Run Superintendant Group (LRSG) agreeing and then accepting responsibility.

Access Holders are not represented in this process. However, the current provisions in clause 11.6 of the AHA mean an Access Holder may be penalised if the HVCCC advises that cancellations assigned to that Access Holders have had an impact on Capacity, Coal Chain Capacity or the Capacity entitlement of another Access Holder.[12] ARTC has indicated this mechanism has not been applied since the commencement of the AHAs in early 2012.

[10] ARTC, October 2012, HV Coal Chain Capacity Loss Discussion Paper, p. 15
[11] Ibid, p. 17
[12] Clause 11.6 of the Indicative Access Holder Agreement

Aside from the difficulty in determining whether or not a cancellation has 'caused' a loss of capacity, this mechanism is potentially unworkable under the current arrangement for assigning the cause of cancellations, which relies the on voluntary acceptance by the Access Holder of responsibility for the cancellation.[13] An Access Holder is unlikely to voluntarily accept responsibility for a cancellation where it bears the risk of ARTC removing Path Usages from its contracted Base Path Usages in the period immediately following.

While this mechanism does not currently apply to Operators, the HVAU requires ARTC to review the policy and processes for identifying and allocating losses of Capacity caused by Access Holders *and their Operators* and potential incentive mechanisms to minimise such losses where they have a material impact on Capacity or Coal Chain Capacity or the Capacity entitlements of Access Holders[14]. Aurizon considers it unlikely that Access Holders will consent to take responsibility for the actions or omissions of their Operators, particularly when there is no recognition of this in the Access Holder's rail haulage contracts.

In addition, it is possible for Operators to hold AHAs, where an end user agrees. Consequently, Operators may, in future be subject to clause 11.6 of the AHA, in which case an end user would in effect be indirectly penalised for the action or omission of its Operator. Aurizon believes the imposition of any type of punitive sanction potentially distorts behaviour that would otherwise assist with optimising system capacity. This is particularly so where responsibility for causing a cancellation must be voluntarily accepted. Consequently, clause 11.6 should be amended to remove the ability for ARTC to remove the Access Holder's Base Path Usages in a subsequent period.

Future Treatment of Cancellations

Aurizon considers the key features of the treatment of cancellations are that:

- the cause(s) of cancellations should be clearly and accurately identified and reported to stakeholders to provide information about the performance of the parties involved;
- where possible cancelled train services should be rescheduled to return the system to planned throughput subject to not impacting negatively on the capacity entitlements of another Access Holder;
- disputes over the cause of cancellation should be dealt with through a cost effective, timely and equitable dispute mechanism;
- cancellations should be excluded from an potential measure of Capacity loss or Coal Chain Capacity loss, except to the extent that cancellations data may provide useful information to members of the supply chain about their collective or relative performance; and
- there should be no punitive sanctions to distort behaviour in a way that may be detrimental to the system.

The process for determining the cause of, and attributing responsibility for, cancellations is important because if dealt with appropriately this information can provide a basis for continuous improvement in the coal chain.

ARTC has argued that cancellations made on a voluntary basis might not result in the optimal outcome for Capacity or Coal Chain Capacity where, for example, in the event of a deviation from plan, an optimal return to plan would involve a voluntary cancellation, but the Operator concerned prefers not to cancel but divert the train to a different origin or destination. Similarly, commercial pressures may mean that the optimal train to cancel from a capacity perspective may not be cancelled, forcing a different train belonging to a different Operator to cancel.[15]

In this context, Aurizon considers that the attribution of cause of a cancellation should not be associated with any type of punitive sanction, but should serve to inform the market about the relative performance of service providers within the system. For the data to be useful, it must be accurate and available in a form that provides sufficient information to show the cause of the cancellation, regardless of which party is assigned responsibility for the cancellation and it must be made available to stakeholders.

[13] ARTC, October 2012, HV Coal Chain Capacity Loss Discussion Paper, p. 17
[14] HVAU Clause 5.8
[15] ARTC, October 2012, HV Coal Chain Capacity Loss Discussion Paper, p. 15

In a case where the cause of a cancellation is simple to determine, for example where a cancellation is directly related to an identifiable event that results in a severe delay of planned train services such that the schedule would have suffered if a cancellation had not been made[16] the cancellation can be assigned to the responsible party. If that party refuses to accept responsibility, there must be a process in place for resolving disputes (discussed below). However if agreed, the cancellation, its cause and the responsible party to which the cancellation has been assigned can be recorded.

Where the cause of a cancellation is not simple to determine, for example where cancellation of a train arises through a complex series of interactions that cause a cumulative degradation of the train program over a period without any one event being identifiable as the clear trigger[17], then a root cause identification process must be agreed. Root cause analysis should be undertaken by an independent body or group outside those parties directly involved and must accurately record the chain of events that led to the cancellation. Where the cause can be determined and agreed, the cancellation can be assigned to the responsible party or parties. Where the cause cannot be determined and agreed there must be a process for resolving disputes.

In the event of a dispute over the cause of a cancellation there must be a cost effective, timely and equitable dispute mechanism. This could be undertaken by a subset of the LRSG or some other impartial group agreed by the relevant parties that would investigate the cause at a deeper level. In the event that no resolution is possible even through this process, then the cancellation could be assigned to all parties with the full record of the chain of events that led to the cancellation. This information would also be made available to stakeholders.

As noted, clause 11.6 of the AHA should be amended to remove 11.6 (c) to 11.6 (f) which is the provision allowing ARTC to remove Path Usages from an Access Holders entitlement in the event that its assigned cancellations have impacted on Capacity and Coal Chain Capacity.

This is consistent with Aurizon's view that the treatment of cancellations should support competition through providing accurate and timely information about Operator performance, rather than be subject to a coercive regulatory mechanism involving sanctions. Incentives for Operator performance should be left to competitive market forces that reward Operators for performance valued by Access Holders.

5. Potential Options for an Incentive Mechanism

ARTC's discussion paper invited submissions as to whether particular actions or omissions of Access Holders or their Operators have a material impact on capacity of the Network or Coal Chain Capacity.[18] Stakeholders are also invited to propose potential options for developing an incentive mechanism, including any rules for identifying and allocating losses of network capacity caused by Access Holders and their Operators.

Aurizon reiterates that the actions of all parties in a supply chain are interrelated and that singling out the behaviour of just Access Holders and their Operators does not adequately meet the goal of minimising capacity losses. Consequently, Aurizon's response takes a more comprehensive, supply-chain approach in assessing options that may be considered, commencing with the principles required for a potentially effective incentive mechanism to discourage behaviour that results in capacity loss.

The main principles include that:

- Any incentive mechanism to reduce capacity losses should apply to all elements of the supply chain that may potentially contribute to Capacity loss or Coal Chain Capacity loss;
- Any incentive mechanism must be agreed by all parities who are likely to be affected;
- Any sanctions (if considered) should only apply where capacity has actually been lost, not where it could merely have potentially been lost;

[16] ARTC, October 2012, HV Coal Chain Capacity Loss Discussion Paper, p. 14
[17] Ibid, p. 14-15
[18] Ibid, p. 1

- Any incentive mechanisms should be cost effective with consideration given to whether the benefits outweigh the costs;
- Any incentive mechanism should give consideration to materiality, including whether or not a materiality threshold should apply;
- The strength of any incentives or sanctions should match the materiality of the behaviour they seek to influence;
- Any measures or sanctions should apply to those actions, or omissions that are within the control of the party to whom they apply; and
- Any incentive mechanism should result in a beneficial change in behaviour without unintended negative consequences.

These principles are discussed in more detail below.

Measures of capacity loss should take into consideration losses to both Capacity and Coal Chain Capacity, should apply to all parties that could potentially contribute to such capacity losses, and must be agreed by those parities. Although Aurizon is aware that the HVAU and other elements of the ACCC administered regulatory mechanism only apply to ARTC, the benefits of system coordination, by definition, require all parties in the supply chain to be considered. Omitting one part of the supply chain has the potential to distort operational behaviour in that part of the coal delivery process where individual parties can avoid any cost associated with their actions, while other parts of the supply chain are negatively impacted.

For example, if the performance of the mine load out was excluded from any mechanism, there would be no incentive for those parties to ensure their own performance does not contribute to late running of trains. Or if the performance of the terminal load-out was excluded, reduced throughput may be attributed to track congestion, slow running trains or unavailability of coal, where in fact, the congestion and delay was a result the terminal.

In addition, where such an incentive mechanism is developed and implemented, it should only apply in circumstances where capacity has actually been lost, not where it could merely have potentially been lost. This principle is recognised in the process outlined in Clause 11.6 of the IAHA that requires the HVCCC to report whether, in its view, the total number of cancellations assigned to an Access Holder had an impact on Capacity, Coal Chain Capacity or the Capacity entitlement of another Access Holder. There will be instances where delayed trains or poor track conditions, though potentially causing a loss of capacity, do not actual result in a loss of planned throughput because excess capacity existed in the system.

Further, any potential incentive mechanism must be cost-effective. Prior to acceptance and implementation, ARTC must undertake an assessment to determine whether the benefits available from the proposed mechanism outweigh the costs associated with its implementation and monitoring. This principle is articulated in the HVAU which states the anticipated benefits of the proposal must "*outweigh the potential detriments of the proposal including the costs associated with implementation and monitoring of the proposal and an increase in the likelihood of disputes ...*" [19]

The HVAU requirement for ARTC to undertake the capacity loss review applies to where losses have a 'material' impact on Capacity or Coal Chain Capacity or the Capacity entitlements of Access Holders. In designing any incentive mechanism, consideration should be given to the definition of materiality in this context and whether or not a materiality threshold should apply.

In a similar vein it is essential that the strength of any potential incentives or sanctions applied to a party as a result of poor performance or 'bad' behaviour is commensurate with the impact that behaviour has on capacity, subject to it resulting in a net benefit. That is, a sanction should not be so large as to send a party out of business, thereby reducing system output.

As noted previously, it is essential to the effectiveness of any potential incentive mechanism that measures or sanctions should apply only to actions or omissions that a party is able to control. For example, it would not be efficient for Access Holders to be indirectly responsible for the actions or omissions of their Operators where there is no clear mechanism for Access Holders to control the actions of their Operators. A more efficient mechanism is through that of above-rail competition that allows an Access Holder to switch Operators based on a commercial assessment of the value of the

[19] HVAU Clause 5.8(c)(ii)(B)

services offered. Such mechanisms already exist under the arrangements detailed in clauses 4.2 and 4.4 of the IAHA.[20]

And finally, any potential incentive mechanism must have the effect of altering behaviour to discourage that which would be likely to result in a loss of capacity. There is little point in incurring the costs of introducing a mechanism if it fails to alter the behaviour, either because the incentives are poorly targeted, for example at the wrong behaviour or because the incentives result in unintended negative consequences. For example, targeting cancellations may not only discourage Operators from cancelling train services where this would have benefited the system, but may also result in increased congestion, delays and queues into unloading slots or provisioning facilities.

As noted, although the current mechanism focuses on cancellations, Aurizon does not consider train cancellation data are an adequate measure of capacity loss for the network or coal supply chain. Potential alternative options that conform with the key principles above include a range of targeted key performance indicators (KPIs).

Key Performance Indicators (KPIs

If KPIs are to be considered, they will need to target potential bottleneck constraints in the system. By applying a range of KPIs to different potential constraints, it would be possible to continue to measure performance at the bottleneck as it shifts around the system.

ARTC is already required to report on KPIs that provide information about its performance over a range of network and system indicators. Section 13.1 of the HVAU requires ARTC to provide quarterly reports against the Network KPIs set out in Schedule D, which include measures of planned versus actual average speeds for each of the pricing zones, the number paths cancelled,[21] actual versus planned coal throughput and track quality.[22] ARTC is also required to report annually on per unit costs of maintenance, network control and operating costs, and capital costs. In addition, the HVAU requires ARTC to negotiate KPIs with Access Holders for inclusion in the individual access agreements.

While these reports provide information about ARTC's performance, they are not aimed at providing information about the performance of other participants in the supply chain. The HVCCC does however currently report monthly to its members on the performance and throughput of the coal chain.

These reports are covered by confidentiality agreements but essentially provide a suit of information including actual versus planned terminal throughput, terminal performance, vessel queues and elements of Operator activity at the terminals, such as compliance to plan train departures and Operator provisioning/ refuelling performance against target at Kooragang Island Terminal. The reports also include general aggregate information about producer demand and coal availability and information around congestion resulting from unloading time and blocked terminal departure roads.

As well as the limited information about Operator performance in the HVCCC reports, cancellations data recorded under the current LRSG provides some information on Operator performance, but only to the extent that a cancellation is accurately identified as being caused directly by an avoidable behaviour of an Operator. This level of detail is not currently described and reported in any detail. The main performance indictor for Operators is the level of competitive success including the ability to win market share and attract new customers.

In this respect, Aurizon has demonstrated superior performance, growing market share and attracting new customers. Transparent performance indicators would benefit Aurizon, given its relatively new rolling stock and up-to-date locomotive technology, high levels of reliability and responsiveness to customer demand. This trend is set to improve further with the commissioning of new provisioning facilities at Hexham in 2014.

[20] IAHA cl. 4.2 (b) allows an Access Holder to switch between Operators that are already approved by ARTC under the AHA, with 48 hours notice. Cl 4.4 allows an Access Holder to nominate a new Accredited Operator with 10 business days notice, subject to the Operator holding an Access Holder endorsed Operator Sub-Agreement with ARTC.

[21] By ARTC and non-ARTC cause.

[22] Track quality is measured against the Track Quality Index which includes geometric data on position, curvature, alignment, smoothness and the cross level of the rail tracks.

Risks with KPIs

However while there are potential competitive benefits in highlighting performance, there are also significant risks associated with introducing a KPI regime, most notably regulatory risk. The risk of 'getting it wrong' in setting up a KPI regime is made more difficult given the complexity of the Hunter Valley Coal Chain contracting arrangements, the highly interdependent nature of the activities of each of the supply chain participants and the additional overlay of the coordinating activities of the HVCCC.

KPIs would need to not only measure and incentivise individual service provider performance, but would also need to align with the objectives of the HVCCC's planning. Given the complexity and risk that poorly developed KPIs could distort behaviour or produce unintended consequences, it is essential that an assessment be undertaken of whether the benefits of introducing KPIs are likely to outweigh the costs.

The cost of lost capacity includes the opportunity cost of tonnes not delivered, including the cost of lost or delayed revenue both for coal producers and service providers, the costs of demurrage, train stowage and ongoing overheads. Ultimately, the opportunity cost of lost capacity will vary depending on the coal price, which is also likely to impact service providers' asset utilisation rates.

In a high coal price environment, the opportunity cost of a one tonne loss of capacity will be high and asset utilisation rates across the system will be high. And in a high asset utilisation environment the cost of behaviour that results in lost capacity will be amplified because of the lack of 'surge' or spare capacity in the system that would have allowed more flexibility to return to schedule.

This highlights the link between the short term capacity management and the longer term infrastructure investment strategy. Where Access Holders have collectively agreed to invest in surge capacity in the system, Access Holders have the opportunity to capture the value of higher volumes when required, whereas where the system is operating at close to full utilisation or is constrained, Access Holders bear the risk of lost volumes during peak periods. Consequently, any assessment of whether the benefits of introducing KPIs are likely to outweigh the costs must include consideration of the cyclical nature of the coal market.

As noted previously the risk of regulatory error in developing a targeted and effective KPI mechanism that is agreed by the relevant parties is particularly high in such a complex commercial and regulatory environment. In the context of clause 5.8 which applies only to losses of Capacity caused by Access Holders and their Operators, Aurizon considers that a potential incentive mechanism to minimise such losses is better directed at promoting competition between Operators in a less prescriptive and potentially less distorting form than any regulatory mechanisms.

Potential KPIs

A more effective approach may be simply to collect and publish the results of the KPI measures across the supply chain. The advantages of this approach include that it would:

- provide transparent performance information to system participants;
- exert an element of competitive and peer pressure on performance;
- avoid the distorting behaviour from punitive sanctions that could also lead to attempts to disguise poor performance; and
- allow Operators to compete on the basis of performance.

With such information, Customers would be able to select an Operator based on its relative performance. In terms of both allocative and dynamic efficiency, such an arrangement would encourage improved performance, reliability, flexibility and efficiency, as envisaged by vertical separation of the supply chain that facilitated above-rail competition. There would be nothing to stop an Operator and a Customer agreeing specific and appropriately priced performance incentives in the above rail contract.

In developing potential KPIs that encourage a reduction in losses of Capacity and Coal Chain Capacity, it would be necessary identify avoidable behaviours and events that are within the control of the party being measured. As noted, potential KPIs would need to be agreed by the relevant parties and consideration should be given to the costs associated with collecting and reporting on the relevant information. Potential concerns over the treatment and availability of commercial sensitive information would also need to be considered.

Potential KPI measures may include:

- loading times by load out;
- train availability, including through cancellations (under the revised procedure above) with information about equipment reliability and other causal factors while acknowledging a category of unallocated causes will remain;
- departure and run times from specified locations;
- track availability (train paths not used) by specified section;
- unloading times by unloader;
- terminal dump slot losses, by terminal dump station.

In order to limit the costs, a potential cost-effective option may be for some KPIs to be self reported. For example, Aurizon understands that the HVCCC does not have real time visibility over all sections of ARTC track so that ARTC may need to self report the relevant train path availability. Consideration would also need to be given to managing incentives for over exaggerating good performance by parties that agree to self report. In this respect, it is especially important that no type of punitive sanction is applied. As noted, sanctions risk encouraging behaviour aimed a disguising poor performance and can result in higher implementation and enforcement costs, including the need for a potentially costly dispute resolution mechanism.

In the context of the capacity loss review that ARTC is required to undertake under clause 5.8 the range of KPIs above exceeds the scope, which is limited to a potential incentive mechanism that would apply to losses of capacity caused by Access Holders and their Operators.

Aurizon does not consider any such regulated incentive mechanism is an effective way to discourage capacity losses by Access Holders and their Operators. A superior regulatory model is to ensure that the conditions for competition are maintained and promoted.

Appendix A provides Aurizon's response to the specific issues and questions set out in ARTC's Discussion Paper.

6. Appendix A - Aurizon's response to Discussion Paper Questions

This section provides Aurizon's response to the specific issues and questions set out in ARTC's Discussion Paper. The responses reflect the views outlined in the previous sections and follow the order in which they appear in the Discussion Paper. Due to overlap in the questions posed in the Discussion Paper, many of the responses below include repetition.

Issues for consideration (Section 4)

What is lost?

The Discussion Paper focuses almost exclusively on cancellations as a mechanism for dealing with Capacity losses. This reflects the scope of the Capacity Loss Review which includes reviewing clause 11.6 in the IAHA that deals with cancellations. The clause is intended to address stakeholders concern about Access Holders inappropriately consuming capacity, it its broadest sense. Before explaining why cancellations are not an appropriate focus for managing capacity losses, it is important to describe capacity loss in order to better understand the factors that affect it and how it may be minimised.

Capacity loss is the reduction in the ability of the system to deliver the required output. In the case of the coal supply chain, the output is 'delivered coal', or tonnages transported from the mine to the ship in a particular period. The way the system is managed, in terms of the coordination of the various elements of the supply chain, determines how much 'output' can be achieved given the resources available to the system. In the coal supply system, capacity depends on combination of:

- the overall system infrastructure and its structure;
- the efficient use of assets and resources; and
- the efficient management of flow and operations.

In one sense, the determination of capacity loss in the Hunter Valley Coal Chain is from the starting point of the planned operating schedule developed by the HVCCC. This operating schedule is assumed to be optimal, in that it represents the best combination of the available resources and processes based on known demand.

A loss of capacity occurs when a disruption occurs to the planned schedule, causing a deviation from the optimal combination of these elements. Disruptions can be caused by a myriad of factors from natural events such as weather, equipment malfunction, personnel issues, third party interventions (such as impacts from non-coal trains) or accidents.

The daily train schedule that is developed by HVCCC represents and optimal plan for the consumption of coal chain capacity given the requirements of Access Holders and the system constraints (including planned possessions, speed restrictions, system configuration and the particular shipping stem)

However, capacity can be also be lost in ways other than through a deviation from the planned schedule. For example, throughput that is not planned will not be measured as a loss of capacity. The assumption that the planned schedule is optimal relies on both the technical ability to create the optimal combination of available resources and processes, as well as the accuracy of inputs such as the level and timing of demand and the availability of the required infrastructure and resources.

Are cancellations an appropriate measure?

The Discussion Paper notes that clause 11.6 in the IAHA is intended to discourage Access Holders from consuming capacity inappropriately. It says the that the choice of cancellations as the measure of capacity loss and the application of a forfeiture of Train Paths as the penalty for Access Holders causing a cancellation was more for ease and convenience at the time the IAHA was developed, than as a result of an in depth analysis of capacity loss.

Consequently, the HVAU included the requirement at clause 5.8 of the HVAU for a capacity loss review within the 12 months of its commencement.

The Discussion Paper highlights the potential shortfalls of focusing on train cancellations as a measure capacity loss, particularly as a cancellation may, in some instances, *restore capacity* that would otherwise be lost where the system deviates enough from the schedule. Cancellations do not cause capacity losses[23] and can in fact be useful in the management of the system where various supply chain elements must be coordinated to successfully assemble and load a cargo at the terminal. [24]

ARTC's Discussion Paper explains that cancelling a train is voluntary on the part of the Operator so that discouraging cancellations through inappropriately targeted sanctions could be counter productive, especially where the root cause of the event leading to the cancellation is difficult to attribute. This can occur where a cancellation is the result of a cumulative degradation of the train program over a period, without any one identifiable cause.

Diverting a train may also cause capacity losses but in many cases will salvage some capacity that may otherwise be lost had the service been cancelled. The extent of the capacity loss will depend on the impact of the diversion on other elements of the supply chain, including how much replanning is possible around train paths, port dump stations, trains and personnel.

Consequently, it is unlikely that a sanction related to cancellations or diversions will necessarily result in a reduction in capacity losses. While a penalty such as the forfeiture of Train Paths, such as provided for in clause 11.6, may result in a reduction in cancellations, it may not reduce capacity losses.

With this in mind, Aurizon's responses to the specific questions in ARTC's Discussion Paper on this issue are as follows:

1. Should the incentive mechanism be based on train cancellations or some other measure (Some possible measures are discussed in section 5)? Should an event that leads to some other remedial action (eg a diversion) also be taken into account – if so how?

Aurizon does not consider the incentive mechanism should be based on train cancellations, which is not adequate for assessing capacity loss, particularly where a sanction is to be applied. Applying any type of sanction is likely to discourage a cancellation, even where a cancellation would improve the ability of the network and supply chain to deliver.

2. If cancellations are an appropriate measure, does the current approach for Train Operators to volunteer cancellations work effectively? If not, what alternative method for generating cancellations should apply?

Aurizon does not consider cancellations are an appropriate measure. However, as noted in Section 4 of this submission, Aurizon confirms that *voluntary* cancellation of train services by Operators should be retained.

3. Is it appropriate that Train Operators choose which train to cancel? If not, how should cancellations be chosen?

Train Operators are best placed to choose which train to cancel. The competitive and commercial above-rail contracts should maintain the flexibility for coal producers to negotiate performance incentives with Operators to endure resources are allocated to the highest value. That is, the coal producer which attributes the highest value to a train service will be willing to provide a commercial incentive to the Operator to prioritise its train service.

Current Cancellation Allocation Process

Aside from the issue of whether or not cancellations represent an effective measure of capacity loss, the method for determining and allocating responsibility for a cancellation is complex. The cause of cancellations is currently determined cooperatively by the LRSG which also allocates the responsibility based on a documented procedure. The procedure relies primarily on the responsible party accepting responsibility for the cancellation and depends on the voluntary cooperation of members of the LRSG. Decisions for the LRSG are non-binding and the allocation of responsibility its

[23] ARTC, October 2012,HV Coal Chain Capacity Loss Discussion Paper, p. 6

[24] Ibid, p. 15

limited to the party found to be directly responsible, for example in the case of an Access Holder, because of load point failure, or unavailability of coal.

4. Is the membership of the Live Run Superintendant Group (LRSG) appropriate? If not, who should be represented and how?

The LRSG members include representatives from each of the four train Operators, both terminal operators, ARTC and the HVCCC. Access Holders and domestic unloading terminals are not represented. While the LRSG deals with indentifying the cause of, and assigning responsibility for cancellations the principle role of the LRSG is live run issues. Clause 11.6 of the AHA currently allows ARTC to remove an Access Holder's Base Path Usages where ARTC is informed by the HVCCC that a cancellation assigned as being caused by the Access Holder has had an impact on capacity.

To the extent that any party, including an Access Holder that is subject to clause 11.6, is likely to be impacted by the decisions of the LRSG, it will be in that party's interests to either be directly involved in the decision making process, or for it to have confidence that a fair and transparent procedure is followed in making decisions which may affect it. It is essential that the process for cancellations be fair and transparent and that there be no sanctions applied that may distort behaviour.

5. Is the process for the assignment of responsibility for cancellations appropriate? Is there a better way?

ARTC's Discussion Paper outlines the current procedure for identifying and allocating responsibility for cancellations.[25] In essence, the process involves the HVCCC identifying cancellations on a daily basis and representatives of the service providers, through the LRSG, agreeing and then accepting responsibility.

As noted, Access Holders are not represented in this process. However, the current provisions in clause 11.6 of the AHA mean an Access Holder may be penalised if the HVCCC advises that cancellations assigned to that Access Holders have had an impact on Capacity, Coal Chain Capacity or the Capacity entitlement of another Access Holder.[26] ARTC has indicated this mechanism has not been applied since the commencement of the AHAs in early 2012.

Aside from the difficulty in determining whether or not a cancellation has 'caused' a loss of capacity, this mechanism is potentially unworkable under the current arrangement for assigning the cause of cancellations, which relies the on voluntary acceptance by the Access Holder of responsibility for the cancellation.[27] An Access Holder is unlikely to voluntarily accept responsibility for a cancellation where it bears the risk of ARTC removing Path Usages from its contracted Base Path Usages in the period immediately following.

Aurizon considers the assignment of responsibility for cancellations should not be associated with any type of punitive sanction, but should serve to inform the market about the relative performance of service providers within the system.

In a case where the cause of a cancellation is simple to determine the cancellation should be assigned to the responsible party. If that party agrees, the cancellation, its cause and the responsible party to which the cancellation has been assigned can be recorded.

Where the cause of a cancellation is not simple to determine, for example where cancellation of a train arises through a complex series of interactions, then a root cause identification process must be undertaken by an independent body or group and must accurately record the chain of events that lead to the cancellation. Where the cause can be determined and agreed, the cancellation can be assigned to the responsible party or parties. Where the cause cannot be determined and agreed there must be a process for resolving disputes.

In the event of a dispute this could be undertaken by a subset of the LRSG or some other impartial group agreed by the relevant parties that would investigate the cause at a deeper level. In the event that no resolution is possible even through this process, then the cancellation could be assigned to all parties with the full record of the chain of events that lead to the cancellation. This information should also be made available to stakeholders.

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[25] ARTC, October 2012, HV Coal Chain Capacity Loss Discussion Paper, p. 17

[26] Clause 11.6 of the Indicative Access Holder Agreement

[27] ARTC, October 2012, HV Coal Chain Capacity Loss Discussion Paper, p. 17

6. Is the current informal approach appropriate, either under a continuation of the existing process or some new process appropriate? If not, what alternative should be adopted?

Cancellation data provide useful information about performance of various parties in the Coal Supply Chain and should therefore be made available to all relevant parties. The current relatively informal approach could be firmed up to the extent that all parties agreed to a process such as that outlined in the previous section.

In response to the suggestions in the Discussion Paper around formalising the process through the appointment of a single body to determine the cause of each cancellation and whether or not a sanction should apply, Aurizon believes this risks being unfair and prone to error given the complexity of the contracting and operational interdependencies. The process must exclude any type of sanction other than providing stakeholders with the relevant information that lead up to the cancellation.

Similarly, a formal contractual structure for assigning cancellations potentially introduces rigidity and inefficiency that would subvert the necessary discretion required in investigating and attributing cancellations. This could also involve higher costs for example in that a more formal system would require an appeals process with costs associated with investigations and reasons for decisions.

Resolution of Assignment of Responsibility

The current process in clause 11.6 of the AHA requires the HVCCC to report to ARTC weekly on Access Holders' cancellations and to advise whether or not in its opinion, the cancellations have had an impact on Capacity or Coal Chain Capacity. If ARTC is to remove Base Path Usages from an Access Holder's entitlement in the following month, the report for the final week in the month would be required prior to the end of that month.

7. Is the current process sufficiently timely to be effective both from the perspective of the sanction being sufficiently proximate to the cause and also not so quick as to cause the Access Holder unintended consequences?

Aurizon considers the cancellations process should not include punitive sanctions and recommends that clause 11.6 of the AHA should be amended to remove 11.6 (c) to 11.6 (f) that allows ARTC to remove Path Usages from an Access Holders entitlement in the event that its assigned cancellations have impacted on Capacity and Coal Chain Capacity.

ARTC has indicated that the sanction provided for in clause 11.6 has not ever been applied. It seems unlikely that sufficient time would exist for HVCCC to compile and deliver the cancellations report at the end of the month and for ARTC to then remove Base Path Usages, if necessary, for the following month. The tightness of the timing would mean assumptions and estimates may be required, potentially leading to disputes and /or planning inefficiencies.

8. Is it appropriate that a Train Operator must seek consent from an Access Holder for the assignment of responsibility to that Access Holder? If not, is some other mechanism suggested?

Aurizon believes the Operator is best placed to communicate with the Access Holder, given the Access Holder is the Operator's Customer. However, as noted, cancellations process should not include punitive sanctions. Clause 11.6 of the AHA should be amended to remove 11.6 (c) to 11.6 (f) that allow ARTC to remove Path Usages from an Access Holders entitlement in the event that its assigned cancellations have impacted on Capacity and Coal Chain Capacity.

9. Is it appropriate that an Access Holder can unilaterally refuse to accept the assignment of responsibility? If not, what alternative mechanism should apply, noting the issue of representation or lack thereof?

The attribution of cause of a cancellation should not be associated with any type of punitive sanction, but should serve to inform the market about the relative performance of service providers within the system. Where there is no punitive sanction, Access Holders will have less incentive to refuse to

accept the assignment of responsibility for a cancellation. This would also be the case where cancellations are treated as a source of information about the performance of the parties within the system, rather than as evidence of having caused a loss of capacity.

Access Holders are not currently represented on the LRSG which is responsible for determining the cause and assignment of responsibility for a cancellation. Where an Access Holder (or any other party) refuses to accept responsibility for a cancellation, there must be a cost effective, timely and equitable dispute mechanism. This could be undertaken by a subset of the LRSG or some other impartial group agreed by the relevant parties that would investigate the cause at a deeper level. In the event that no resolution is possible even through this process, then the cancellation could be assigned to all parties with the full record of the chain of events that lead to the cancellation. This information should be made available to stakeholders.

10. If an alternative mechanism is proposed, what will be the consequences on the timing to provide an outcome?

The timing of a process for allocating cancellations which are disputed should be consistent with the objective of providing useful performance information to system participants. Aurizon recommends that no punitive sanction should apply as a result of cancellations consequently the timing around HVCCC reporting on cancellations and the application of the sanction such as that currently included at clause 11.6 of the AHA would not be relevant.

11. Is there value in retaining a mechanism that applies to less than 20% of the cancellations.

The proportion of cancellations to which the current mechanism applies is not the relevant consideration. Rather, it is the inappropriateness of the mechanism itself that is the relevant issue. Aurizon believes cancellation data is not a good measure of capacity loss, as cancellations can be caused by a range of events and a cancellation may in fact be beneficial for capacity. Cancellations can be a useful tool to manage system capacity by restoring the schedule to plan.[28] In addition, while cancellations may be the result of actions or a series of actions that then result in a loss of capacity, cancellations themselves do not cause a loss of capacity.

ARTC's Discussion Paper indicates that only 19% of 2012 cancellations up to 24 August 2012 were attributed to Access Holders[29]. While the Discussion paper suggests that this figure probably understates the number of cancellations attributable to Access Holders it is still the case that Access Holders are not solely responsible for cancellations. The actions of all parties in a supply chain are interrelated and singling out the behaviour of just Access Holders and/or their Operators does not adequately meet the goal of minimising capacity losses, particularly through a mechanism that is based on cancellations.

12. Is it desirable that the mechanism should apply responsibility to the Access Holder even where the Access Holder is not directly responsible for the loss of capacity?

The actions of all parties in a supply chain are interrelated and singling out the behaviour of just Access Holders does not adequately meet the goal of minimising capacity losses, particularly through a mechanism that is based on cancellations.

The actions and omissions of the Access Holder's Operator are not currently caught by clause 11.6 of the AHA. However clause 5.8 of the HVAU brings Operators into the scope of any potential incentive mechanisms to minimise capacity losses. The extension of clause 11.6 to apply in the case of cancellations caused by an Operator would require an Access Holder to bear the consequences of the actions of its Operator, regardless of whether the Access Holder has control over the particular action or omission of its Operator. Access Holders would be forced to indirectly channel responsibility for the impacts of Operators on capacity, through the above-rail haulage agreements. This would be a cumbersome and inefficient method.

[28] ARTC, October 2012, HV Coal Chain Capacity Loss Discussion Paper, p. 15
[29] ARTC, October 2012, HV Coal Chain Capacity Loss Discussion Paper, p. 8

Regulatory mechanisms that seek to control the behaviour of competitive entities directly or indirectly, such as through imposing sanctions on an Access Holder for the behaviour of its Operator, are likely to result in negative externalities. For example, distortions over which train is the most appropriate to cancel for the sake of the system may occur where above rail contracts include differing incentives and risk for Operators. It is also likely that voluntary and good faith cooperation within the supply chain could be negatively impacted and Operators and Access Holders would be discouraged from cancelling a train even where this would enhance system capacity.

A more efficient approach is to allow competition and the existing flexibility for Access Holders to switch Operators to deliver performance incentives. This is currently supported by the nature of the competitive pressures in the Hunter Valley.

In addition, it is possible for Operators to hold AHAs where an end user agrees. Consequently, Operators may, in future be subject to clause 11.6 of the AHA, in which case an end user would, in effect, be indirectly penalised for the action or omission of its Operator. Aurizon believes the imposition of any type of punitive sanction potentially distorts behaviour that would otherwise assist with optimising system capacity. As noted earlier in this submission, it is essential to the effectiveness of any potential incentive mechanism that it should apply only to actions or omissions that a party is able to control.

13. If a broader assignment is made to Access Holders, what sort of mechanism should apply, noting that the current mechanism is unlikely to be effective and the issues raised about the unilateral assignment of responsibility earlier? Who should make the decision as to which Access Holder should bear the sanction? Should there be an appeal mechanism?

ARTC's Discussion Paper canvasses the idea of assigning all cancellations to Access Holders, citing some stakeholders' view that cancellations assigned to an Access Holder would reinforce the commercial relationship between Access Holders and Operators and assist the Access Holder to impose discipline on the Operator through the commercial linkages.

As noted above, it is essential to the effectiveness of any potential incentive mechanism that it should apply only to actions or omissions that a party is able to control. Cancellations are made by Operators and as noted in ARTC's Discussion Paper, "*for the majority of events, the linkage between the event causing the cancellation and the Access Holder would appear arbitrary*". [30]

Aurizon does not consider that capacity loss minimisation will be achieved effectively with a broader assignment made to Access Holders. The unilateral assignment of responsibility for a cancellation is prone to error given the complexity in determining the cause in many cases. In addition, as noted in Section 4 above, in the event of a dispute over the cause of a cancellation there must be a cost effective, timely and equitable dispute mechanism. This could be undertaken by a subset of the LRSG or some other impartial group agreed by the relevant parties that would investigate the cause at a deeper level. In the event that no resolution is possible even through this process, then the cancellation could be assigned to all parties with the full record of the chain of events that lead to the cancellation. This information would also be made available to stakeholders.

14. If a mechanism that allocates all losses to Access Holders is desirable, are there any Access Holder or Train Operator losses that should be excluded?

Aurizon does not consider that capacity loss minimisation will be achieved effectively with a broader assignment made to Access Holders. That is, a mechanism that allocates all losses to Access Holders is not desirable for the reasons explained above, including that any potential incentive mechanism should apply only to actions or omissions that a party is able to control. It is unlikely that Access Holders will be able to control all events that result in a loss of capacity.

15. Is the AHA the most appropriate vehicle for dealing with the loss of coal chain capacity in light of Terminal loss allocation mechanisms? If not, what alternative vehicle should be used (if any)?

[30] ARTC, October 2012, HV Coal Chain Capacity Loss Discussion Paper, p. 21

As noted, Clause 5.8 of the HVAU is very specific in limiting the scope of the capacity loss review to the potential actions or omissions of Access Holders and their Operators. This effectively limits the application of any incentive mechanism designed to minimise capacity losses to Access Holders, given Operators have no direct contracting arrangements with ARTC, except through the purely operational Operator Sub-agreements (OSA) that are merely attachments to the AHA.

Aurizon understands that a Terminal loss allocation mechanism at PWCS effectively seeks to sanctions Access Holders who cause a loss of throughput against the plan. In proposing an incentive mechanism through the AHA, it is essential that there is no over reach in any mechanism for minimising Capacity loss (e.g. no double sanction inadvertently applied for losses in Capacity and at the Terminal) or that such a mechanism does not conflict with the Terminal loss allocation mechanisms.

The competitive nature of the coal haulage market provides strong commercial incentives for Operators to optimise efficiency and performance and to maximise delivered tonnes. The current AHAs contracting arrangements allow Access Holders to switch Operators that do not meet their needs or where the performance of a competing Operator is superior. This is a more effective way to encourage Operator efficiency, including encouragement to minimise behaviour that is contrary to Access Holder's interests.

16. What role should ARTC play in identifying the responsible parties, determining the sanction and implementing the sanction? If ARTC is not to play one or more of these roles, who should perform the role?

As noted, Aurizon believes the imposition of any type of punitive sanction potentially distorts behaviour that would otherwise assist with optimising system capacity. It is also essential to the effectiveness of any potential incentive mechanism that it should apply only to actions or omissions that a party is able to control.

In a system consisting of multiple competing and commercially driven parties, it is important for Capacity and Coal Chain Capacity loss to be measured by an independent party. It is also necessary for that party to have access to a sufficient range of information to enable a comprehensive analysis of losses of capacity.

In the context of the Hunter Valley coal chain, the HVCCC seems the obvious party to administer such mechanism, if only on an advisory basis, with implementation to be undertaken through a mechanism agreed by the supply chain participants. Any process undertaken by the HVCCC to measure capacity loss should be transparent and agreed by all coal chain participants, prior to its inception.

17. If the AHA is used for an enhanced mechanism:

i) Who should allocate responsibility for capacity losses and how?

Measures of behaviours of various parties to the supply chain that can lead to a loss of capacity should be developed based on empirical evidence that demonstrates that a particular action or omission by a party has the potential to flow on to a loss of capacity, particularly when combined with the behaviour of other supply chain actors.

As noted, in the context of the Hunter Valley coal chain, the HVCCC seems the obvious party to administer such mechanism, if only on an advisory basis, with implementation to be undertaken through a mechanism agreed by the supply chain participants. Any process undertaken by the HVCCC to measure capacity loss should be transparent and agreed by all coal chain participants, prior to its inception.

ii) What level of discretion should ARTC have to apply the recommendation of another body?

The HVAU Schedule F sets out the principles to guide ARTC/HVCCC consultation. While the principles are based on reasonableness and good faith interactions, ultimately ARTC is not obliged to follow the HVCCC's recommendations.[31]

ARTC's discretion in relation to Access Holders is limited to that outlined in the AHA, which currently includes clause 11.6 allowing ARTC to remove Base Path Usages from an Access Holder in the event that the Access Holder is assigned cancellations by the LRSG and where the HVCCC considers these cancellations have had an impact on Capacity, Coal Chain Capacity or the Capacity entitlement of another Access Holder in the relevant week.

ARTC's discretion in relation to an Operator is governed by the OSA under which the Operator is essentially the agent of the Access Holder for the purposes of scheduling and using the Access Holders contracted Path Usages and the day to day operation of the Network for Path Usages.[32] ARTC's discretion in relation to the Operator will therefore be circumscribed by the AHA.

iii) What mechanism should be in place to resolve disputes, noting that ARTC may have limited ability to resolve the initial assignment of responsibility?

As noted previously, disputes over the cause of capacity loss must be dealt with via a cost effective, timely and equitable dispute mechanism. This could be undertaken by a subset of the LRSG or some other impartial group agreed by the relevant parties that would investigate the cause of a loss of capacity at a deeper level (noting that Aurizon does not support the existing sanction provided for in relation to cancellations in clause 11.6 of the AHA). In the event that no resolution is possible even through this process, then the capacity loss could be assigned to all parties with the full record of the chain of events that lead to the loss of capacity. Behaviour could be influenced simply through the process of transparency in making the information about the events that lead to the capacity loss available to stakeholders.

18. What other arrangements are required to give effect to the proposed mechanism apart from the AHA and how would this be achieved?

The proposed dispute mechanism above would require that clause 11.6 of the AHA be amended to remove 11.6 (c) to 11.6 (f) that allows ARTC to remove Path Usages from an Access Holders entitlement in the event that its assigned cancellations have impacted on Capacity and Coal Chain Capacity.

[31] HVAU Schedule F p,112

[32] Operator Sub Agreement clause 3.2

19. Is the removal of Train Paths from an Access Holder's Capacity Entitlement the most appropriate sanction, or is there some better incentive, bearing in mind that it would need to be applied through the AHA if it is to apply to the Access Holder?

As noted in the body of this submission, Aurizon does not believe the removal of Train Paths from an Access Holder's Capacity Entitlement is the most appropriate sanction. Aurizon believes the imposition of any type of punitive sanction potentially distorts behaviour that would otherwise assist with optimising system capacity.

20. Would it be appropriate to attempt to make any removed Train Paths available to parties negatively affected by the event? If so, how might this be achieved in practice?

As noted, Aurizon does not believe the removal of Train Paths from an Access Holder's Capacity Entitlement is an appropriate sanction. Where a sanction results in an Access Holder's Capacity to the network being affected, there will be inevitable consequential impacts on the utilisation of other elements of the supply chain, including the loading facility, Operator and terminal assets. In addition, the imposition of a temporary sanction adds a further layer of complexity to the already complex task of coordinating the highly inter-dependant activities of the different functional layers of the supply chain. Access Holders already have an option to temporarily trade access rights subject to logistical viability.

21. Is the current cap on the number of Train Paths to remove appropriate? If not, what cap, if any, should apply, and why?

As noted, Aurizon does not believe the removal of Train Paths from an Access Holder's Capacity Entitlement an appropriate sanction. Consequently a materiality threshold related to the current cap is not applicable.

22. How should the concept of materiality be applied? For example, should it apply only to a certain measure of losses from each event, or should losses be considered cumulatively over a period (eg a week or a month). If so, what level should be considered sufficiently material to trigger the imposition of a sanction?

Materiality is inherent in the existing commercial incentives given the cost of undertaking any activity must be lower than the potential commercial benefit, including over the longer term. In a competitive market with relatively few participants such as exists with the coal producers in the Hunter Valley, any short term attempts to capture value at the expense of other Coal Chain participants would be likely to result in longer term costs associated with either retaliatory behaviour from competitors or resistance from producers. Consequently, regulatory arrangements that promote competition are superior to regulatory attempts to intervene in an otherwise competitive market.

23. In proposing any mechanism, respondents should identify any benefits or disadvantages in relation to consistency with the mechanisms of the Terminal Operators in terms of timing and alignment of the change in capacity that results.

Aurizon understands that the Terminal sanctions relate to allocating loss of terminal capacity to a producer that has failed to arrange for coal to be assembled and loaded onto the ship as planned. Where terminal capacity is impaired because of the part-load occupying the terminal stockpile space pending delivery of the remainder, all system participants are incentivised to prioritise the delivery of the remaining load from that particular producer (in order to clear terminal stockyard space). Given the interdependent nature of the transport logistics, a penalty applied at the terminal will impact on other parts of the supply chain.

Having two different processes under different contractual arrangements, each applying sanctions that temporarily remove capacity from an Access Holder, is prone to mismatches that violate the principle of contractual alignment. This may also risk sanctions being imposed twice in different periods for the same event.

Should port slots be determined to be an appropriate measure of capacity loss, there would still need to be a mechanism for identifying cause and assigning responsibility which would raise similar issues as exist with the current cancellations process, particularly if a sanctions were to apply that could distort behaviour in order to avoid penalty.

24. Respondents are encouraged to develop their own alternatives, or if they endorse one of the options in this section, to provide such additional input as they feel appropriate to develop the concept into a scheme that could be practically implemented.

Aurizon discusses the potential for an alternative mechanism at Section 5 above, including the main principles that should apply, discussion around some form of targeted KPI regime, risk around such mechanisms and some specific examples of KPIs that could be considered.

25. Who should allocate UFs to Access Holders?

The Discussion Paper canvasses a measure of train lateness or 'deviation from plan' captured at different points in the system as a potential alternative to cancellations as a measure of capacity loss. Potential measurement points include time of departure from terminal, arrival/departure from load point, arrival at terminal arrival roads, unloading and availability for next departure.

Each increment of lateness or deviation from plan would be translated into a 'unit of forfeit' (UF) that, when added up could be converted into Train Paths and attributed to Operators and/or the relevant Access Holders. ARTC has indicated that the analysis to confirm the correlation between lost time for trains and overall system capacity loss has not been undertaken.

While worth considering, Aurizon considers this proposal potentially suffers from the same problems associated with the current treatment of cancellations. That is, while ARTC notes that it collects data that would allow for in-depth analysis of train performance and therefore that it is well placed to indentify losses, "*there is no obvious relationship between a cause related to an Operator and an Access Holder other than that an Access Holder has contracted with an Operator to provide haulage services*".[33] Consequently, any decision to allocate UFs would be "*arbitrary*".[34]

This mechanism would still require a root cause analysis to be undertaken by some appropriate body and would also require a dispute resolution mechanism. To the extent that a sanction is to be applied in the event of an Access Holder being 'assigned' the capacity loss, this could distort behaviour in order to avoid the sanction.

26. Should a cap apply to the mechanism? If so, what value should the cap have, or how should it be determined?

The Discussion Paper suggests two potentially competing issues in relation to the impact of an incentive and whether or not a cap should apply:

- the first is that any incentive should be proportional to the cost imposed on other coal chain participants; and
- the second is that, given the aim of the incentive is to encourage desired behaviour, it should not be so large as to imperil the business's viability.

In relation to the first, it will depend on whether the effectiveness of a proposed incentive will increase as the capacity loss increases, such a sliding scale of 'penalty' that increases as the tonnage of capacity loss increases, or whether some threshold exists above which an Access Holder would always be discouraged from the targeted behaviour.

In addition, it is essential that the Access Holder is able to control the risk associated with having the incentive or penalty applied to it. Given that clause 5.8 limits the scope of the capacity loss review to Access Holders and their Operators, the application of an incentive to an Access Holder would make it responsible for the actions or omissions of their Operators even where there was no direct causal relationship. The current competitive drivers in the rail haulage market already discourage Operator

[33] ARTC, October 2012,HV Coal Chain Capacity Loss Discussion Paper, p. 35
[34] Ibid

behaviour that is likely to result in capacity losses, including late departures, equipment failure and other operational malfunctions.

In relation to the second regarding whether the incentive could be so large as to imperil the Access Holder's business viability, it could be argued that the accumulated cost to the system is not relevant unless the proceeds are to be redistributed to affected parties, as some form of compensation. The aim is to encourage desired behaviour.

Aurizon does not consider any type of punitive sanction will be effective, but rather would potentially distort behaviour in order to avoid the sanction. The relative size of the sanction is merely a matter of how value is redistributed among coal chain participants.

27. Should the mechanism be subject to an appeals process? If so, is a different appeals mechanism required from the current dispute resolution process in the AHA, who would be the adjudicator and how would the process work?

The current mechanism set out in clause 11.6 of the AHA excludes access to the dispute mechanism in the AHA. That is any determination by ARTC in relation to the removal of Base Path Usages from and Access Holder is not subject to the dispute resolution process in the AHA.35 Presumably this is because clause 11.6 applies to cancellations which are currently assigned to Access Holders on the basis of voluntary acceptance of responsibility.

Should the voluntary acceptance element be eliminated, a dispute mechanism would be necessary, particularly given the subjective nature of the root cause analysis in a complex and interrelated system. As consistently expressed throughout this submission, Aurizon believes that sanctions risk encouraging behaviour aimed a disguising poor performance and can result in higher implementation and enforcement costs, including the need for a potentially costly dispute resolution mechanism.

In the event that sanctions were to be introduced, a potential dispute over the cause of capacity loss there must be a cost effective, timely and equitable dispute mechanism. There may be no alternative to that included currently included in the AHA. This is likely to involve significant costs and take time that may delay the application of any sanctions.

28. In formulating their proposal, respondents are encouraged to consider how their proposal might be tailored to expedite acceptance by other stakeholders and the ACCC.

Aurizon's views on an alternate incentive mechanism are detailed in Section 5 above. Essentially one potential option that may be considered is to simply collect and publish the results of well developed and targeted KPI measures across the supply chain. As noted, the advantages of this approach include that it would:

- provide transparent performance information to system participants;
- exert an element of competitive and peer pressure on performance;
- avoid the distorting behaviour from punitive sanctions that could also lead to attempts to disguise performance; and
- allow Operators to compete on the basis of performance.

With such information, Access Holders would be able to select an Operator based on its relative performance. In terms of both allocative and dynamic efficiency, such an arrangement would encourage improved performance, reliability, flexibility and efficiency, as envisaged by vertical separation of the supply chain that facilitated above-rail competition. There would be nothing to stop an Operator and a Customer agreeing specific and appropriately priced performance incentives in the above rail contract.

In developing potential KPIs that encourage a reduction in losses of Capacity and Coal Chain Capacity, it would be necessary to identify avoidable behaviours and events that are within the control of the party being measured. As noted, potential KPIs would need to be agreed by the relevant parties and consideration should be given to the costs associated with collecting and

[35] Indicative Access Holder Agreement clause 11.6(g)

reporting on the relevant information. Potential concerns over the treatment and availability of commercial sensitive information would also need to be considered.

Potential KPI measures may include:

- loading times by load out;
- train availability, including through cancellations (under the revised procedure above) with information about equipment reliability and other causal factors while acknowledging a category of unallocated causes will remain;
- departure and run times from specified locations;
- track availability (train paths not used) by specified section;
- unloading times by unloader;
- terminal dump slot losses, by terminal dump station.

An advantage this approach is that it does not favour one group of stakeholders over any others, which may facilitate earlier adoption. This is particularly so given that a range of KPI measures already exist in the form of Schedule D of the HVAU and the existing reporting to members provided by the HVCCC.

It is especially important that no type of punitive sanction is applied. As noted, sanctions risk distorting behaviour and need a potentially costly dispute resolution mechanism.

In the context of the Capacity Loss Review that ARTC is required to undertake under clause 5.8 the range of KPIs above exceeds the scope of the review, which is limited to a potential incentive mechanism that would apply to losses of capacity caused by Access Holders and their Operators.

Aurizon does not consider any regulated incentive mechanism is an effective way to discourage capacity losses by Access Holders and their Operators. A superior regulatory model is to ensure that the conditions for competition are maintained and promoted.