Mt Arthur Coal

29 January 2015

Mr Matthew Schroder
General Manager
Fuel, Transport and Prices Oversight Branch
Australian Competition and Consumer Commission
GPO Box 520
MELBOURNE VIC 3001

Dear Mr Schroder

Hunter Valley Access Undertaking (HVAU)
Submission in response to the ACCC's Position Paper dated 26 November 2014

Hunter Valley Energy Coal Pty Ltd (HVEC) would like to thank you for the opportunity to respond to the ACCC's Position Paper on the ARTC's compliance with the financial model in the HVAU for the period from January to December 2013.

HVEC sets out its response below to the matters raised in the Position Paper.

1 Endorsement of the ACCC's position in relation to cross-subsidies

HVEC endorses the ACCC's preliminary view that the ARTC's approach to revenue reconciliation:

- results in users who commence their trip in Pricing Zone 3, contributing only to the direct costs of their use of the network in Pricing Zone 1 and failing to contribute their share of incremental costs otherwise reflected in the take or pay charges (i.e. capital costs and those operating costs not otherwise captured by variable usage charge), and, consequently.
- overestimates the ceiling revenue limits for Pricing Zones 1 and 2.

As a result of the above, Pricing Zone 3 users are effectively being cross-subsidised by users in Pricing Zones 1 and 2.

In light of the above, HVEC considers that the ARTC needs to reformulate its approach to the application of the financial model and its basis for allocating costs between Pricing Zones. This should be done in a manner that removes cross-subsidies between Pricing Zones 1 and 2 and Pricing Zone 3.

Consistent with the ACCC's Position Paper, HVEC submits that ARTC must, as a first step, quantify the incremental cost of Pricing Zone 3 users using Pricing Zone 1 (this will include the direct costs of Pricing Zone 3 users using Pricing Zone 1 (non-TOP charges) plus any capital expenditure projects that were commissioned to increase capacity of Pricing Zone 1 so as to accommodate the increase in volumes from Pricing Zone 3).

Only after this incremental cost has been calculated, can ARTC correctly determine the appropriate ceiling revenue limits for Pricing Zones 1 and 2.

2 Appropriate revenue reconciliation model

HVEC does not consider that it is in a position to provide the ACCC with necessary capital expenditure data for Pricing Zone 1, so as to allow the ACCC to undertake an analysis of those capital expenditure projects that have occurred in Pricing Zone 1 solely for Pricing Zone 3 users. Rather, this information should be available from ARTC.

Furthermore, while the correct conceptual approach to calculating incremental cost is relatively straightforward, there are a number of methodologies that could ultimately be adopted to achieve such an outcome. As such, HVEC submits that prior to such an exercise being conducted, the ACCC should consult with the ARTC and industry regarding the appropriate methodology that is to be adopted in calculating incremental capital costs.

The methodology that is applied will inform the type of data that the ACCC is require to collect for the purposes of determining the total unders and overs amounts in accordance with the HVAU.

Attached to this submission is a note prepared by Frontier Economics, which discusses a number of options for calculating incremental capital cost, and the data that would be required to undertake the calculation.

3 Transparency

Without HVEC, or its independent advisors, having access to the key cost data in relation to each of Pricing Zones 1, 2 and 3, it is difficult for HVEC to assess the appropriateness of an alternative model.

HVEC endorses the position expressed by others, that the ARTC's historical approach to pricing was not sufficiently transparent so as to make the ARTC's cost allocation evident. Further, it also assumed that the existence of designated pricing zones meant that all of the revenue in a given pricing zone would be applied towards the full recovery of the economic cost of the pricing zone. This assumption was reinforced by the fact that Pricing Zone 3 was subject to a loss capitalisation model (as opposed to an unders and overs model), reflecting the fact that so long as it remained unconstrained, revenue would not allow for the recovery of the relevant economic cost.

This failure to appreciate how costs were actually being allocated is attributable to a lack of transparency, which needs to be addressed in the design and application of a compliant financial model.

4 Next steps

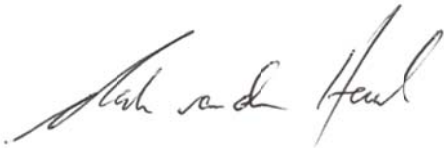HVEC submits that the maintenance of the status quo is not acceptable.

Until such time that the ACCC makes a declaration as to the ARTC's compliance with the financial model under the HVAU, the ARTC will remain non-compliant with its obligations under the HVAU.

While HVEC considers that ARTC bears the primary responsibility for ensuring that the model is compliant with the requirements of the HVAU, HVEC is prepared to work closely with the ARTC and the ACCC in the course of ensuring that the ARTC's revenue reconciliation is conducted in a manner that is consistent with the HVAU.

However, in order to do so effectively, HVEC (and its advisers) will need to have a greater understanding and visibility of both the model and the underlying data which underpins the model.

If you would like to discuss this submission further, please do not hesitate to give me a call.

Yours sincerely

Mark van den Heuvel
General Manager, CHPP and Infrastructure

Calculation of incremental costs

PREPARED FOR HUNTER VALLEY ENERGY COAL PTY LTD

The Australian Competition and Consumer Commission's (ACCC) Position Paper dated 26 November 2014 [1] raises concerns with ARTC's approach to revenue reconciliation used in the HVAU. In this short note, we describe how the approach to revenue reconciliation could be undertaken in a manner which is better aligned with economic principles of efficient cost recovery.

Description of the issue

1   The ACCC's Position Paper expresses the preliminary view that ARTC's existing revenue allocation practices result in Pricing Zone 3 (PZ3) users being cross-subsidised by users in Pricing Zones 1 and 2 (PZ1, PZ2). This occurs as:

- users in PZ3 are not likely to be adequately contributing to the incremental costs of their usage of PZ1, and

- users in PZ1 and PZ2 face an inflated ceiling revenue limit that is above their stand-alone cost.

2   The ACCC's preliminary conclusions are consistent with the view previously expressed by Frontier Economics.[2] The conclusion follows simply from the notion that the incremental or avoidable cost of serving mines located in PZ3 with access to track located in PZ1 is not restricted to the direct operating and maintenance expenses of supplying PZ3 users in PZ1. If there are some capacity constraints in PZ1, then it implies that the avoidable costs of supplying users in PZ3 will include the costs of the capacity used to supply these users. In other words, if their demand did not exist, the network in PZ1 would have lower capital costs in the medium- to long-run.[3]

3   Our understanding is that ARTC *has* been investing in further capacity in PZ1, and intends to continue to invest in further capacity in the future.[4] Further, we understand that this additional investment is being driven (at least in part) by use of PZ1 by users located in PZ3. It is therefore reasonable to infer that at least some investment in capacity in PZ1 could have been (and could be in future)

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[1]   ACCC, *Position Paper on ARTC's compliance with the financial model in the HVAU,* November 2014.

[2]   Frontier Economics submission, *Assessment of ARTC's Revenue Allocation Methodology*, September 2014.

[3]   As we shall explain, in principle it would only be appropriate to ignore the incremental costs of such capacity if there was substantial excess capacity in the network. This would imply the long run costs of suppling users in Zones 1 and 2 would be no different if Zone 3 users were excluded from using Zone 1 in the rail network.

[4]   ARTC, *Revenue Allocation Review Submission*, p. 15.

avoided if there were no mines in PZ3. As a result, the prospect of cross-subsidies is real.

4   If ARTC does not (or cannot) calculate the incremental costs of PZ3 users in PZ1, then it cannot be certain that cross-subsidies will be avoided. In our view, in those circumstances, ARTC should not engage in any revenue re-allocation with the effect of increasing ceiling revenue limits for users in PZ1 and PZ2.

Prospective solutions

5   In our view, the approach that would be more consistent with both economic efficiency and the intent of the HVAU would be to only re-allocate revenue collected from use relating to PZ1 to PZ3 once the incremental costs of users located in PZ3 have been recovered. Expressed in another, but equivalent, way, the ceiling test for the constrained network should exclude the incremental costs associated with users in PZ3. Incremental cost explicitly includes a contribution to costs that are fixed in the short run (i.e. capital costs), but incremental in the medium- to long-run.

6   The issue with the preferred pricing approach is how to calculate incremental cost in a situation where the relevant infrastructure (i.e. lines or train paths in PZ1) is common between different sets of users. In this case, these lines are used by mines in all of pricing zones 1, 2 and 3.

7   Below, we outline our views on:

○ how to conceptually approach the estimation of incremental costs; and

○ the practical options for estimating incremental costs, including the information that is likely to be required to enable that to occur.
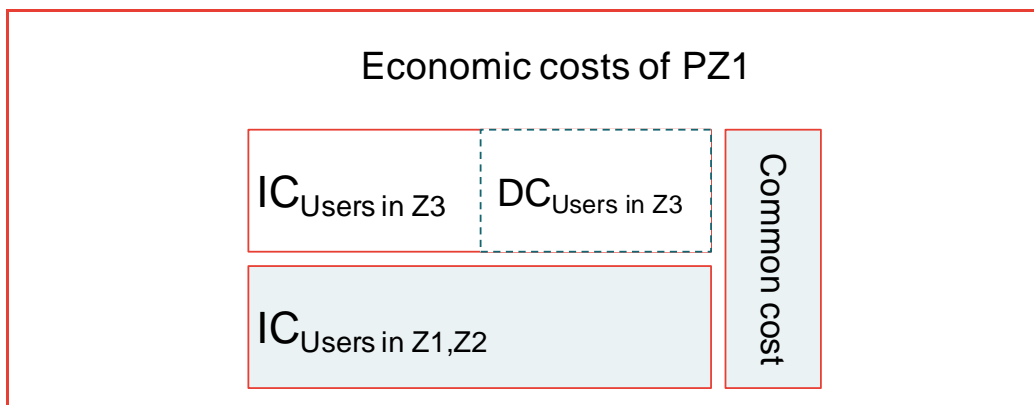
The conceptual approach

8   In a situation where there are existing mines and rail capacity in PZ1 and PZ2, the incremental costs are the additional costs that would need to be incurred to provide services to users in PZ3.[5] Another way to estimate the incremental costs of PZ3 users in PZ1 is to ask: what is the outlay that would never have been incurred if ARTC had decided not to supply users in PZ3 with services in PZ1? Both tests should produce very similar results.

9   The incremental cost of users in a zone includes direct costs (which are shown in Figure 1 as a subset of incremental cost). The incremental cost also includes other costs – the capital costs that would be required to service the capacity required by users in PZ3 when added to the demand of users in PZ1 and PZ2.

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[5]   For completeness, we note that this would include both capital costs relating to increasing capacity, and the direct costs of providing access.

The presence of 'common costs' is simply related to the costs of supplying a base level of capacity that would be required to service any level of demand from any single set of users. These costs could be efficiently recovered in principle from users in any or all of PZ1-PZ3.

Figure 1: Illustration of incremental costs

Source: Frontier Economics

10   The correct conceptual approach is therefore to:

- estimate the capacity required in PZ1 to service users in PZ1 and PZ2 only. (Equivalently, estimate the reduction in capacity if PZ3 users no longer used PZ1)

- estimate the capital costs needed to provide the incremental capacity in PZ1 caused by the demands of PZ3 users (Equivalently, estimate the capital costs saved from not providing capacity for PZ3 users in PZ1)

- annualise the capital costs, and add them to the direct costs for PZ3 users in PZ1.

11   The size of the incremental costs associated with PZ3 users depends a great deal on the cost function and the 'lumpiness' of capacity investment. This is highlighted with the use of numerical examples in Box 1.

Box 1: Examples of incremental cost under different cost conditions

An example of the incremental approach might be as follows: assume that PZ1 supports 100 units of capacity. This capacity is fully utilised, with 20 units used by users in PZ3, and 80 by users located in PZ1 and PZ2. The costs of this 20 units of capacity would then be estimated, by calculating the total capacity cost of 100 units (which should be known), and deducting from this the costs associated with producing 80 units of capacity. If units of capacity cost a uniform $2 over the relevant range of output, then the relevant calculation would be:

IC(PZ3 users)   = C(PZ1,PZ2,PZ3 users) – C(PZ1,PZ2 users)

                 = $200 - $160

Calculation of incremental costs

= $40

If there are substantial modularities associated with train capacity[6] or economies of scale in the cost function, then the incremental costs associated with PZ3 users may be more or less than the example of $40.

Suppose, for example, that capacity comes in 'lumps' of 50 units and costs $100. In that case the usage by users in PZ1 and PZ2 would cause the full 100 units of capacity to be built and the incremental costs of PZ3 users would be zero:

IC(PZ3 users) = C(PZ1,PZ2,PZ3 users) – C(PZ1,PZ2 users)

              = $200 - $200

              = $0

If that lumpiness is combined with excess capacity, so that the usage of users in PZ1 and PZ2 was 50 units rather than 80 we can see that the IC(PZ3 users) would be $100:

IC(PZ3users)   = $200 - $100

              = $100

Economies of scale might be reflected in declining incremental costs as capacity expands. In that example, the units of capacity might cost $2 per unit (on average) over the first 50 units, and $1 per unit over the second 50 units. In that case:

IC(PZ3users)   = $150 – ((50*$2) + (30*1))

              = $150 - $130

              = $20

Practically applying the incremental cost principle

12 While identification of the correct conceptual approach is reasonably straightforward, the practical challenge arises in connection with the actual measurement of the capital costs incurred in PZ1 and identifying the extent to which those costs are truly incremental (and attributable to users originating in PZ3). So how do we estimate this capacity and then cost it?

13 We have considered three possible approaches to costing the incremental capacity required in PZ1 by users originating in PZ3.

  ○ The **first** approach would be to conduct an economic assessment of total capacity and capacity costs in PZ1.[7] The purpose of this assessment would be to estimate the capacity costs of just supplying PZ1 and PZ2 users, which would be deducted from the total capacity costs of supplying all users. The

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6   So that increments of capacity could only be added in large 'lumps'.

7   This could be done on either a 'top down' or 'bottom up' basis. A top down approach relies on the use of existing accounting cost (and volume) data to produce econometric estimates of the cost function, whereas a bottom up approach relies on the development of an economic-engineering model that estimates the cost of producing each service using estimates of required inputs and costs associated. Although in principle incremental costs can be estimated in either a 'top down' or 'bottom up' fashion, arguably the top down approach based on actual capacity data is more compatible with the actual costing methods used in the HVAU more broadly.

advantage of this approach is that it is best aligned with the conceptual approach of incremental costing. Therefore it has the prospective advantage of accuracy and a better chance of promoting efficient prices. Nonetheless, this approach would be costly and likely controversial given the conjectural nature of the exercise and the wide range of outcomes that is possible (as demonstrated by the examples provided above).

○ The **second** approach, which we favour, would be simpler and rely directly on available data. This approach would be to simply divide the total capital costs of PZ1 by the capacity used by users in each zone. So, if PZ3 users are using 30% of available capacity (perhaps say measured by train paths), then we attribute 30% of the economic cost to PZ3 users as incremental (capital) cost. This approach has the advantage of being straightforward and transparent, as well as fair to different sets of users. It is analogous to the 'LRAIC' calculation that is applied in telecommunications, where the LRAIC refers to Long Run Average Incremental Costs across the entire service (which in this case is the service in PZ1). The impact of this averaging is to smooth the cost function (i.e. it removes 'lumpiness' issues) and ensures that all users benefit from the economies of scale of having multiple users in that pricing zone (i.e. this approach assumes a uniform cost to each unit of capacity).

○ The **third** approach to the calculation is to focus the estimate on recent expenditures that have been driven by increasing capacity requirements. This would implicitly be aligning more recent expenditures (e.g. the last $x million spent on capacity) with the demand of PZ3 users, and to assume this is related to their incremental cost. This approach also has the advantage of being computationally easier, as it relies on analysis of existing capital cost data. The disadvantage of this approach is that capacity will rarely be attributable to just PZ3 users – it may also be the demand of PZ1 and PZ2 users means that more capacity is necessary. It is therefore probably not possible to *causally* attribute the new investment solely to zone 3 users (i.e. it is not incremental to PZ3 users). Nonetheless, it may be this approach may be more feasible than other approaches to implement because better information is more likely to be available about more recent investments.

14   We have set out, in the attached annexure, the kinds of data that would need to be analysed in order to determine the relevant costs under each of the three approaches discussed above.

Conclusions

● The correct conceptual approach to the calculation of incremental cost is straightforward, but poses some practical estimation complexities.

- Simple approximations to incremental cost, such as the use of average incremental cost, have been used in other industries and seem feasible and suitable in the current circumstances.

- ARTC should only re-allocate revenue to PZ3 which has been collected from use relating to PZ1 once the incremental costs of users located in PZ3 have been accounted for.

Annexure: Information requirements for the calculation methodologies

Approach	Information requirements
1. Full economic/econometric assessment of incremental cost	• Estimates of existing capacity and capacity costs in PZ1 • Shares of existing allocated capacity (volumes), by users in PZ1 • Information to estimate cost-volume function (e.g. econometric), including: 　□ past cost and volume data 　□ information on other cost variables such as input prices
2. Average incremental cost approach	• Estimates of existing capacity and capacity costs of PZ1 • Shares of existing allocated capacity (volumes), by pricing zone users
3. Recent capital expenditure incremental approach	• Cost data on recent capacity expansions and associated capacity costs • Estimates of share of use for users located in PZ3

Calculation of incremental costs