

Review of the ARTC compliance draft determination

PREPARED FOR HUNTER VALLEY ENERGY COAL (HVEC)

Frontier Economics has been asked by HVEC to comment on the approach taken by the ACCC in its assessment of ARTC's compliance with the Hunter Valley Coal Network Access Undertaking financial model for the 2013 calendar year.¹ This includes an accompanying report prepared for the ACCC by WIK-Consult² (WIK) on the incremental costs of Pricing Zone 3 Users usage of network in Pricing Zone 1.

This short note documents our review of the ACCC's draft determination, and our agreement with the general ACCC approach and the specific approach to implementation proposed by WIK.

The ACCC's draft determination

The ACCC's Draft Determination finds that ARTC's existing revenue reconciliation practices result in Pricing Zone 3 (PZ3) users being cross-subsidised by users in Pricing Zones 1 and 2 (PZ1, PZ2).³ 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 standalone economic cost, as the stand alone costs (should) take into account the incremental costs attributed to PZ3 users' use of PZ1 and PZ2.

WIK was engaged by the ACCC to determine the incremental costs of PZ3 users of PZ1 and PZ2. This is necessary to determine the stand alone costs of PZ1 and PZ2, and so quantify the extent of the cross subsidy.

The ACCC's instructions to WIK were to

1. identify long run relationships between cost and network use;
2. identify the most relevant cost drivers to proxy costs that vary with usage; and

¹ ACCC, *Draft Determination, Australian Rail Track Corporation's compliance with the Hunter Valley Coal Network Access Undertaking financial model for the 2013 calendar year*, 30 October 2015

² WIK-Consult, *Assessment of the Incremental Costs of Pricing Zone 3 Access Holders' Use of Pricing Zone 1 and 2 of the Australian Rail Track Corporation's Hunter Valley Rail Network*, September 2015 (**WIK report**)

³ ACCC Draft Determination, p.39.

3. estimate long run incremental and standalone alone costs for the 2013 year.

Comment

The ACCC's instructions follow 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.⁴ This might also extend to some other costs such as operating and maintenance costs that are fixed in the short run but variable in the longer run.

As we suggested in our January 2015 note on the ACCC's position paper⁵, there are some practical difficulties in estimating incremental and standalone costs.

The primary issue is that there are costs associated with a particular pricing zone. The query is how the costs would be reduced (scaled down) if service was not provided to PZ3 users *in the long run*. Often costs will not be reduced in the short run because augmentation of capacity is lumpy. That said, in the long run costs generally scale because optimisation can be much more precise in the longer run than the short run.

Frontier's suggested approach (for determining incremental capital costs) was to divide the total capital costs of PZ1 by the capacity used by users in each zone. For example, if PZ3 users are using 30% of available capacity, then 30% of the economic cost should be attributed to PZ3 users as incremental (capital) cost. This approach has the advantage of being straightforward and transparent, as well as fair to users (because the costs borne by users are in proportion to their utilisation of the infrastructure). 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 service in PZ1).⁶

⁴ 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 supplying users in Zones 1 and 2 would be no different if Zone 3 users were excluded from using Zone 1 in the rail network.

⁵ Frontier Economics, *Calculation of Incremental Costs*, January 2015, available at: <https://www.accc.gov.au/system/files/HVEC%20-%20Submission%20to%20ACCC%20Position%20Paper%20of%2026%20Nov%202014%20-%20ARTC%202013%20Comp....pdf>

⁶ 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 WIK-Consult report

As we have described above, WIK's proposed approach is consistent with economic theory and the HVAU:

The question whether costs are incremental or not depends crucially on the considered time horizon. To summarize: In economic literature and regulatory practice, incremental costs are often assessed in a long-run perspective. In contrast, ARTC approximates incremental costs by short-run Direct Costs. Our approach estimates incremental costs understood as costs that are avoidable in the long term.⁷

We agree with WIK that ARTC's approach of direct costs is not a good approximation of long-run incremental costs if direct costs represent (as they do in this instance) short-run variable maintenance costs. WIK then goes on to describe the relevant incremental costs as follows:

- Maintenance costs of PZ 3 traffic in PZ1&2
 - Variable maintenance costs
 - Share of maintenance overhead due to PZ 3 traffic in PZ1&2
- Share of network control overhead
 - Network control costs due to PZ 3 traffic in PZ1&2
- Share of renewal / replacement related CAPEX
 - Minor capital expenditures in PZ1&2 (replacement / renewal)
 - Shorter investment cycles due to decreasing life time of assets
- Share of capacity related CAPEX
 - Major capital expenditures in PZ1&2 (capacity expansions)

WIK further notes two reasons why its approach is conservative:

- (a) Corporate overheads are not counted as incremental, due to a lack of information
- (b) Only capital expenditure since 2008 can be considered incremental to PZ3 users, as specific asset data pre-2008 cannot be identified⁸

WIK then appears to have undertaken an assessment of ARTC's costs at a reasonably granular level, referring to many kinds of maintenance activities and capital expenditure projects:

⁷ WIK report, p. 18.

⁸ WIK report, p. 22.

First, we reviewed ARTC's costing methodology and assessed ARTC's operating and capital expenditures. Our analysis included costs related to 116 maintenance activities reported by ARTC and more than 400 capital expenditure projects related to replacement, renewal and capacity enhancements carried out in the Hunter Valley rail network since 2008.⁹

Comments

We have three comments on WIK's analysis.

The **first** comment is that we have been somewhat limited in our review of WIK's approach by the confidential nature of the data held by ARTC and reviewed by WIK. While it is no doubt beneficial that the ACCC has an independent adviser with access to the data, it would be preferable if the ACCC and ARTC could make arrangements for (at least) advisers to interested parties to review ARTC's material and WIK's model on a confidential basis. This would enhance the transparency of the process and allow for more meaningful review.

The **second** comment is that WIK's approach is thorough and does inspire confidence that it investigated the cost variability of services supplied in PZ1 and PZ2. This must also take into account the complexity of the task faced by WIK – estimation of long run relationships is difficult and by and large the approach taken is transparent and reasonable. For example, we believe that it is clear that minor and major capex projects are primarily needed to either maintain existing volumes or enhance the network to take more volume – and hence are volume related rather than fixed to a large or total degree.

The **third** comment is that we agree that WIK's approach is conservative, and is perhaps unduly so. While we are more agnostic about the issue of corporate overheads, as it is very difficult to estimate how these would scale with volumes, the issue of pre-2008 investments is one that deserves further consideration because a full accounting of these costs could have a material impact on the assessment of the extent of any cross-subsidy and, therefore, on the efficient distribution of costs between users.

In effect, as we understand it, the incremental cost of PZ3 users only relates to a share of recent investments in capacity – and that this share is also low because current PZ3 volumes are relatively low and expected to grow over time. However, there is a case that (as we describe in our preferred approach above) that PZ3 users use of PZ1 should bear a direct relationship to usage across the entire asset base for PZ1. Under WIK's approach, we understand that PZ1 and PZ2 users bear all of the pre-2008 capital costs (reflected in the RAB) and a (majority) share of new capital expenditure even though PZ3 users benefit from the existing capacity that was initially provided and the new capacity.

⁹ WIK report, p. 18.

For example, suppose the pre-2008 asset base was incurred to serve PZ1 and PZ2 users. Now investments are made in capacity expansion post-2008 which are not required *except* to serve incremental demand from PZ3 users. In that case, it would seem that the incremental cost of PZ3 users should be all of the additional cost as this is the cost that would be avoided if these users were not served. However, WIK's current approach would only allocate a relatively small share of the new capital expenditure to PZ3 users.

WIK's approach of using volume shares would seem more reasonable if incremental costs of users in PZ3 were estimated using all capital costs – pre- and post-2008 – as the small share of volume is better suited to that larger capital stock. (For example, these users would bear 10% of the total capital charges rather than 10% of the post-2008 capital charges).

As we suggested in our earlier note, one potential 'cross check' on the WIK approach is therefore to consider what the estimated incremental cost would be by apportioning all of the capital costs in PZ1 to users by volume shares – rather than just the post-2008 capital costs. If this number is significantly larger than WIK's estimate, it may suggest that a different estimation approach is warranted.

Again some further transparency would be helpful here as we do not have a sense for the materiality of the pre-2008 capital investments relative to the post-2008 investments.

Conclusion

The ACCC's compliance assessment and the WIK report and analysis are important steps in improving the process of revenue reconciliation and the operation of floor and ceiling tests. WIK's analysis suggests that estimation of incremental costs is difficult, but feasible, and could be improved over time as more information becomes available.

We are largely supportive of the approach taken by WIK, even though it is conservative. The one area which we question relates to how WIK and the ACCC have treated pre-2008 capital costs; the approach taken seems unduly conservative and could well underestimate significantly the scale of the cross subsidy between PZ1/PZ2 and PZ3 users. We recommend that the ACCC explore further whether other calculations using pre-2008 are possible and lead to materially different results.