

1 February 2022

Mr Warwick Anderson
General Manager
Australian Energy Regulator
GPO Box 3131
CANBERRA ACT 2601

By email: AEMO2021@aer.gov.au

Dear Warwick

Subject: submission on the AER's draft decision and AEMO's revised proposal for the revised transmission use of system pricing methodology 2022-2027

Thank you for the opportunity to make submissions on the AER's draft decision concerning AEMO's proposed pricing methodology for the Victorian electricity transmission system. Alcoa's submission covers both the AER's draft decision and AEMO's revised proposal of 14 December 2021.

Summary

Alcoa has the following observations on AEMO's revised proposed pricing proposal.

- AEMO proposes to fix its pricing methodology for a period of five years out to 2027. There are several fundamental flaws with the current methodology, explained in Alcoa's submission, some of which will require modifications to the relevant Rules or other aspects of the regulatory framework in order to correct them. In addition, topics currently under consideration by the ESB and energy ministers as part of the post-2025 NEM redesign are also relevant to transmission pricing. Alcoa therefore recommends that AER determine a pricing methodology only out to June 2025 at this time, so that further improvements to the methodology can be implemented without unnecessary delay
- Transmission charges paid by the Portland smelter are too high and too volatile over time. For example, the last annual increase in Portland's transmission charge was equal to more than half of the total increase in transmission charges across all customers in Victoria. This has adverse impacts on commercial operations and Alcoa's ability to plan its business, and is a strong signal that the current arrangements are not working. None of the changes proposed by AEMO are designed to address these poor outcomes.

- Alcoa understands that the most significant change AEMO is proposing is to move from the “MD-10” to the “365-day” method for allocating costs. Alcoa notes that this change is expected to cause a significant increase in the transmission charge paid by the Portland smelter purely as a result of the methodology change without any change to the smelter’s operations or to the network. Alcoa does not anticipate any improvement in the problems it has identified with the current methodology as a result of this change.
- AEMO allocates 50% of the cost of prescribed transmission use of system services to locational charges. This is not required by the Rules and results in inefficient prices. Alcoa considers that AEMO or the AER should investigate alternative approaches that would result in more efficient outcomes.
- Locational prices across all of the transmission connection points vary by large amounts from one year to the next. This seems incompatible with the objective of providing a price signal for investment. It seems that the Rules intend for such large price changes to be capped, but that AEMO’s proposed methodology does not meet the requirements of the Rules.
- Recovering common and non-locational charges through a postage stamp price further contributes to inefficient price outcomes because sunk costs are being recovered through a charge that is proportional to usage. A fixed charge would be more efficient, and (being fixed) would be predictable and help customers manage the impact of transmission charges on business decisions.

1. Period for which AEMO’s methodology will apply

Alcoa highlights below some fundamental flaws with AEMO’s proposed pricing methodology. These flaws mean that the resulting charges for use of the transmission system are likely to lead to inefficient investment and operating decisions by customers. Some of the flaws are capable of being addressed within the existing framework of Rules and AER Guidelines, while other flaws may signal that the framework itself needs to be changed.

More broadly, the NEM is in a period of significant change as elements of the post 2025 market design are worked out. In addition, substantially all current and planned transmission investment is driven by the need to connect new generation, much of it renewable, in locations remote from existing generation, and by the prospect of increasing congestion. Demand growth is not currently triggering transmission investment, and in some locations if demand were to decrease, transmission congestion could increase.

ESB has put forward suggestions for transmission access reform and new ways of managing transmission congestion as part of the post-2025 NEM design.¹ Some of the reform options may change the way that the network and network congestion is paid for. As a result, Alcoa considers that AEMO’s pricing methodology will need to be revisited in light of decisions on the post 2025 market design, and that this would also be an opportune time to implement Rule changes needed to address flaws identified below that cannot be fixed within the current Rules. In consequence, therefore, Alcoa suggests that the AER’s

¹ ESB, *Post-2025 Market Design, Final advice to Energy Ministers* (27 July 2021).

determination should cover only the period up through June 2025. This would allow sufficient time to develop necessary modifications to the framework without creating unnecessary delay.

2. Portland transmission charges are too high and too volatile

Historically, the transmission charges paid by the Portland smelter have been both a significant cost of doing business and have been highly variable from one year to the next. Because AEMO's transmission charging methodology is essentially a "black box", it has been impossible for Alcoa to predict the charges it will be required to pay in the future before AEMO publishes the charges just before the start of the charging period.

Transmission charges for the Portland smelter have typically represented about [REDACTED] of the delivered cost of electricity. Over the last three years (from 2018/19 to 2021/22) the smelter's transmission charges increased by [REDACTED] while its use of the transmission system remained roughly constant. There is no way for Alcoa either to predict changes in transmission charge or to hedge them. This makes it difficult for Alcoa to plan its operations, and means that the current transmission methodology is not contributing to efficient use of the transmission system.

Between 2020/21 and 2021/22 the total cost of the transmission system in Victoria increased by \$11.4m, and Alcoa's transmission charge increased by [REDACTED]. Thus [REDACTED] across the entire network and all Victorian customers, yet on no measure does the smelter account for [REDACTED] of the network. Furthermore, Alcoa understands that almost all of the increase in transmission system costs between 2020/21 and 2021/22 was due to the Victorian Big Battery (VBB).² The VBB is expected to benefit Victorian consumers in aggregate by a gross amount of \$202m (\$117m net of costs).³ 95% of the gross consumer benefits are in the form of lower electricity prices.⁴ However, in fact the VBB does not benefit the Portland smelter at all, because its power costs are fully hedged, and, by the time the smelter's hedges expire, the impact of the VBB on power prices is forecast to be zero.⁵

Alcoa also notes that a significant amount of the total cost of the transmission network, and thus of Alcoa's transmission charge, results from the Victorian government levying a tax on transmission easements. In its determination of 28 January 2022, the AER has allowed AusNet to recover a total of \$868.1m over five years to pay the easement tax. This is more than 30% of the total cost of the transmission system, and is equivalent to doubling the rate of return on AusNet's investment.⁶

These features of the costs of the transmission system and Alcoa's transmission charges, and how they have changed over time, are nonsensical. They show that the transmission charging methodology has historically delivered very poor outcomes. However, none of the changes proposed in AEMO's revised pricing proposal address these problems.

² AEMO, Shared Transmission Network Services Prices in Victoria 1 July 2021 to 30 June 2022 (3 May 2021), p. 4.

³ PWC, *SIPS 2020, Validation Business Case for a Victorian SIPS Service* (4 November 2020), Table 1.

⁴ PWC, *SIPS 2020, Validation Business Case for a Victorian SIPS Service* (4 November 2020), Figure 1.

⁵ PWC, *SIPS 2020, Validation Business Case for a Victorian SIPS Service* (4 November 2020), pp. 5-7.

⁶ According to the AER's *Final Decision, AusNet Services Transmission Determination 2022-2027* (28 January 2022), the total allowance for easement tax is \$868.1m in 2021-22 dollars (Attachment 6, Table 6.15); the total allowed revenue is \$2,878m and the return on capital \$836.6m (both in nominal dollars – Attachment 1, Table 1.1).

3. Changing to the “365 day” method for calculating locational charges.

Alcoa understands that the most significant change AEMO is proposing (as far as the impact on the resulting transmission charges paid by transmission customers) is to move from a so-called “MD-10” to “365-day” method for allocating the “adjusted locational component” of the maximum allowed transmission revenue⁷ to the locational charge at individual connection points.

Based on discussions with AEMO, Alcoa understands that the impetus for making this change is that peak demand is no longer driving network investment. As a result, the proposal is to allocate transmission costs more broadly: rather than allocating them based on connection point demand at the times of system peak, costs will now be allocated based on connection point average monthly peak demand. This change has the effect of allocating more costs to connection points with flatter load profiles and less costs to connection points with peaky load profiles; and more costs to connection points with demand that is not correlated with system peak demand, and less to connection points with demand that is correlated with system peak demand.

Since the Portland smelter has a relatively flat load profile but is able to curtail demand at times of peak demand if needed, the change from MD-10 to 365-day will cause more transmission costs to be allocated to the smelter. This is confirmed by AEMO analysis which shows that the costs allocated to the locational charge at the Portland smelter connection point would increase by ██████ from ██████ to ██████. This increase is solely the result of changing the methodology, and assumes that the smelter operates and uses the transmission system in exactly the same way, and assumes that the total costs of the transmission system remain constant.

In discussion with AEMO, Alcoa has confirmed that, under the 365-day methodology, the Portland locational charge could change in the future in ways that are difficult (for AEMO) to forecast. Furthermore, those changes could have nothing to do with the way in which the smelter operates or uses the system. Alcoa has also confirmed that the only way in which it could reduce the locational charge at Portland under the 365-day methodology is by reducing the smelter’s output.⁸

Neither the MD-10 method nor the 365-day method can address a fundamental flaw with AEMO’s pricing methodology, which is that it allocates 50% of the total cost of the system to locational charges. Allocating 50% to locational charges does not make sense: it cannot contribute to efficient pricing, and is not required by the Rules.

4. Allocating 50% of costs to locational charges

AEMO’s charging methodology includes a step where the total revenue requirement for “prescribed transmission use of system services” is divided into two components, one to be recovered in locational

⁷ ie, the total costs of the transmission system.

⁸ The locational charge depends on “average monthly maximum” demand, which is the average of the highest demands in each month across the year. Since the smelter tends to run all the time, the only way to make a significant reduction in average monthly maximum demand would be to reduce demand on every day of the year.

charges and one in non-locational charges.⁹ Historically and in AEMO’s proposed methodology, these two components are equal (ie, half of the total cost is recovered in locational charges, and half in non-locational charges). However, the Rules do not require this—the Rules permit “an alternative allocation to each component, that is based on a reasonable estimate of future network utilisation and the likely need for future transmission investment, and that has the objective of providing more efficient locational signals to Market Participants, Intending Participants and end users”.¹⁰

Although AEMO (in both its Independent System Planner role and its planning role in Victoria) is anticipating significant investment in the Victorian transmission network, none of these investments are triggered by demand growth,¹¹ and Alcoa understands that none of the currently planned investments would be avoided or delayed if demand at any transmission connection point were to go down.

Alcoa considers that, since demand growth is not a driver of transmission investment currently, the proposed 50/50 split is very unlikely to be providing efficient locational signals via the locational charge. An alternative allocation, which could, for example, be based on the incremental cost of accommodating additional demand at each connection point, may provide more efficient price signals. Unfortunately, Alcoa is not aware of any public information that would allow it or other customers to investigate this issue. Alcoa considers that it would be a missed opportunity if AEMO and the AER do not investigate whether an alternative division of costs could produce more efficient signals.

Another way of looking at the current methodology is that whatever is the optimal set of locational charges that would give an efficient locational signal, those charges have been scaled and distorted under the proposed methodology so that they a) recover exactly half of the total costs of prescribed transmission use of system services, and b) are in proportion to the historical costs of the network rather than forward-looking incremental costs.

5. Locational prices are too volatile over time

Alcoa understands (for example, from the language of Rule 6A.23.3(a)(2) quoted above) that locational prices are intended to provide signals to transmission customers and prospective customers about where there may be opportunities to connect to and use the system without imposing too much cost. It is difficult to see how a locational price can provide a signal if it varies significantly over time in an unpredictable way.

Alcoa noted above that its locational charge has been volatile over time. The same is true of locational prices in general. The Portland locational price increased by about 12% between 2020/21 and 2021/22. The largest price increase was at Morwell (55%) and the smallest was at Yallourn (a reduction of 1.7%). It is surprising that locational prices vary so much from one year to the next because the Rules require that these prices “must not change by more than 2% on a load weighted average basis for the relevant region

⁹ See, for example, Figure 3 in AEMO, Pricing Methodology for Prescribed Shared Transmission Services (Draft), 1 July 2022 to 30 June 2027.

¹⁰ *National Electricity Rules*, 6A.23.3(a)(2).

¹¹ AEMO, 2021 Victorian Annual Planning Report, Section 5.1.

compared with the previous regulatory year”.¹² It is quite difficult to see how AEMO’s proposed pricing methodology is consistent with this Rule: 35 of 37 locational prices increased by much more than 2%.¹³ It appears that the Rules are seeking to constrain year-over-year fluctuations in locational prices, which makes sense if locational prices are supposed to be sending a long-run signal about where customers should locate. It is not clear that AEMO’s methodology is consistent with this part of the Rules.

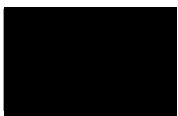
AEMO has provided an illustration of how it applies the 2% constraint, which makes clear that AEMO in fact constrains price changes at individual connection points to be within +/-2% of the weighted average price change across all connection points.¹⁴ It is not clear how this meets the requirements of the Rules, nor what the objective of capping price changes in this way might be.

6. AEMO’s approach to postage stamp charges exacerbates the inefficiency of price signals

Alcoa has noted above at least two ways in which price signals provided by transmission charges are likely to be inefficient: first, the locational charge is scaled to recover 50% of total costs and to match historical rather than forward-looking costs; and second, transmission charges recover a very large easement tax that further distorts price signals.

More than half of the total transmission revenue requirement is recovered in “postage stamp” rather than locational prices. In Alcoa’s case, about [REDACTED] of the total transmission charge comes from postage stamp prices rather than the locational price. The Rules define “postage stamp” as where “the price per unit is the same regardless of how much energy is used by the Network User or the location in the transmission network”.¹⁵ This is unfortunate because by definition a “price per unit of service” means that customers are charged more if they use “more” of the service. Such an arrangement is inefficient: postage stamp charges are being used to recover fixed costs which are sunk—that is, costs which will not increase if customers use “more” of the service and will not decrease if customers use “less”. Therefore this approach distorts price signals. It would be better to recover sunk costs through charges which are independent of network usage, rather than proportional to network usage as now (ie, through a fixed charge).

Sincerely



Nick Eaton
Energy Manager, Alcoa of Australia

¹² *National Electricity Rules*, 6A.23.4(b)(2).

¹³ The changes described here relate to prices in 2020/21 and 2021/22 which were derived under AEMO’s current pricing methodology. However, AEMO does not appear to be proposing to make any changes to this aspect of its methodology.

¹⁴ AEMO, Pricing Methodology for Prescribed Shared Transmission Services (Revised Draft), 1 July 2022 to 30 June, Section 12.3.3.

¹⁵ *National Electricity Rules*, Chapter 10.