grid australia
BACKBONE OF THE NEM

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Mr John Pierce
Chairman
AEMC
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Dear John

Optional Firm Access Supplementary Pricing Report (EPR0039)

Grid Australia is pleased to provide the following comments in response to the Australian Energy Market Commission's (The Commission) Optional Firm Access Supplementary Pricing Report, and in particular the associated prototype pricing model.

Stylised model

The Commission has advocated the use of a stylised Long Run Incremental Cost (LRIC) pricing model for the purposes of pricing firm access for generators. Under this model, costs are based on a simplified set of assumptions driving notional forward augmentation plans for the transmission network rather than seeking to reflect the detailed planning and economic analysis that actually drives network developments.

By assuming away the complexity inherent in transmission planning and investment decision making the stylised model is considered to produce more stable prices over time, which in turn will provide more financial certainty for generators[1]. A stylised model is also potentially an effective mechanism, in the first instance, to deal with uncertainty in assessing the "true" costs of future transmission developments over a long horizon such as 20 years.

However, it is expected that over time, actual transmission costs to deliver and maintain generator access arrangements may diverge from the forecast LRIC pricing model. In particular, in a lower demand growth future, large network augmentation projects are likely to be less frequent. A relatively small number of large transmission developments in the future would tend to increase the magnitude and persistence of any pricing errors that arise due to mismatches between the stylised model and actual transmission development outcomes.

[1] We note this level of certainty, is not afforded to customers under current arrangements

Further, the last ten years has shown a significant change in the technology of the generation fleet; for example centralised large scale wind farms and distributed photovoltaic systems have been the dominant form of new generation in recent years. Both have had new and differing impacts on the grid compared to conventional synchronous generators. The LRIC model is predicated on thermal network limitations driving future expansion of the network, which may or may not be the dominant theme in future grid development.

The consequence of a stylised model looking so far forward into the future is that customers may be required to contribute to the cost of future investments made to maintain the Firm Access Planning Standard (FAPS). This would occur if the stylised model under-prices the network development required to support the generator access request. Likewise, there would be the risk that the price generators pay for the service offered by the FAPS will be greater than the true cost. Customers would benefit from the upside of this outcome.

Grid Australia considers that the current inability of the model to accommodate stability constraints would tend to favour generators over customers. This is because the model does not recognise the need to augment the network to overcome stability limits that occur earlier in time than network thermal limits.

The Commission has acknowledged the problem of pricing model accuracy in its Supplementary Pricing Report noting that it is "not yet confident that the model produces prices whose quantum reflects incremental transmission costs."

Grid Australia supports the use of a stylised model, but expects the tension between providing generator certainty over a long horizon, and the accuracy of the long term price forecast may be significant. Grid Australia recommends, therefore, that the Commission consider developing a method for aligning the prices paid by generators for firm access with the actual costs incurred by a TNSP for providing that access, if material discrepancies arise over time.

Evolution

The stylised model is based on a notional planning arrangement whereby network capacity is expanded as soon as a network limitation is reached. The modelled expansion will duplicate existing network infrastructure. That is, if the thermal limit of a transmission line is reached the solution adopted by the model is to duplicate that transmission line. Whilst this method may deliver a price outcome and signal that can reveal efficient locational decisions, it is not based on the decisions a TNSP would actually make in the future.

In an environment of mature and stable technologies the proposed method of determining a long run incremental cost, being the NPV difference between a base case and an augmented case, means that limitations in the stylised model are common between both cases and so the incremental cost should be relatively accurate. However, where technologies and hence transmission developments are changing, this assessment may not hold true into the future. The Commission should confirm the extent to which the LRIC model would be able to change and evolve over time.

Queuing

The issue of queueing arises from an inability of the model to allow for simultaneous requests, noting that the concept of 'simultaneous' might practically include the concept of requests received within a number of months. A queuing feature may be beneficial in sharing the scale efficiencies of a larger request over a confined area of the network, but extending beyond a single connection point. It may also be an efficient way of determining the price for existing generators that choose to renew transitional allocations that have expired concurrently.

Recent discussions with Commission staff on a method for the treatment of simultaneous requests have raised the idea of effectively allocating a position in the queue at random. Grid Australia considers that a random allocation between simultaneous requests is not likely to be workable and could lead to price volatility and a reduction in sought-after access. This issue has already been acknowledged by the AEMC and further consideration seems necessary.

Grid Australia notes that from testing of the prototype model, we consider the model is capable of determining a price for multiple simultaneous access requests. Grid Australia has not considered how this might affect individual generators that are party to a simultaneous request.

The Commission's design purpose of the LRIC model is to be able to efficiently price the spare capacity of the existing transmission network. Grid Australia notes that the level of spare capacity will change over time as new firm access requests are made and these requests would in turn influence the price of future requests. Generally speaking, connection requests take some time to progress. It is highly likely that over the course of the connection negotiation, prices could change. Alternatively, an access queue would need to be locked into the model for some time.

Stability constraints

The LRIC pricing model currently only considers the thermal expansion of the network. The AEMC has noted that the omission of stability constraints "may lead to incorrect price signalling on those corridors that are dominated by stability constraints". Grid Australia agrees and supports the AEMC's investigation into the treatment of stability constraints in the LRIC model.

Tasmania

The model does not appear to be applicable to the specific requirements of Tasmania. Also it is not clear as to whether the issues complicating any immediate implementation in Tasmania could become more relevant to other transmission networks over time, or if these issues are unique to the Tasmanian network? Grid Australia recommends that the AEMC consider further these issues to determine if they are likely to also impact on other transmission networks in the future.

Forecasts

The model requires a forecast of firm access agreements. It is proposed that AEMO as the National Transmission Planner creates the generator forecasts. AEMO currently publishes a forecast of new entrant generation as part of the annual National Transmission Network Development Plan (NTNDP). Over recent years the forecasts for new capital investment have reduced significantly. This may translate into volatility in firm access assumptions in the LRIC

model and create substantial volatility from one year to the next (let alone over a longer timeframe) in the price offered to generators.

The Commission will also need to consider the extent to which AEMO forecast generator retirements are included in the baseline of the LRIC model.

Non-scheduled generation

The LRIC model currently takes into account existing and forecast firm access agreements. The LRIC model should be expanded to also include non-scheduled generation. Non-scheduled generation is removed from the dispatch process, which has the effect of granting it a form of firm access. Non-scheduled generation would compete with firm scheduled generators for access to available network capacity and would influence the timing of projects required to deliver and maintain access arrangements.

Grid Australia considers that the effects of non-scheduled generators on the timing for transmission upgrades should be considered in determining the applicable LRIC price.

Replacement

Grid Australia supports the inclusion of network replacement in the LRIC model and would consider that, in a stylised model, the use of standard economic asset lives would be suitable for the purpose of long term modelling. However, it is important to note that in practice asset management decisions are not undertaken based on age, but rather based on condition assessment.

If you have any question regarding this submission please contact Brad Harrison of ElectraNet on (08) 8404 7568 or Greg Hesse of Powerlink on (07) 3860 2632 in the first instance. I can also be contacted on (08) 8404 7983.

Yours sincerely

Rainer Korte
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Grid Australia Regulatory Managers Group