19 October 2018

Mr John Pierce
Chairman¸ Australian Energy Market
CommissionAEMC

Lodged via AEMC portal

Friday,19 Otober 2018

Dear Mr Pierce,

RE: EPR0052 “Options paper - Coordination of generation and transmission investment”

ENGIE Australian & New Zealand (ENGIE) appreciates the opportunity to comment on the Options paper - Coordination of generation and transmission investments.

ENGIE’s experiences as an owner and operator of thermal generation and an investor in renewables support the view that the interface between market-based investments in generation and regulated investments has always been challenging and the large influx of intermittent generation is adding to this challenge.

As a general rule, ENGIE supports market based, decentralised decision-making approaches that are administratively simple and that don’t require major regulatory changes.

Likewise, ENGIE considers the coordination of generation and transmission investment as critically important to investors in renewable generation, existing generators since they will be impacted (constraints and marginal loss factors) and customers who ultimately bear the costs. It is imperative that any contemplated arrangement does not unnecessarily increase costs to customers due to regulatory uncertainty and speculative projects in transmission development.

ENGIE strongly supports principles of the NEM which are economic efficiency, market-based approaches and decentralised decision making. Options 1 and 2 as proposed in the ESB paper are closely aligned to market-based solutions and would provide additional information to stakeholders to better understand why a particular investment in transmission is/isn't being implemented.

ENGIE considers that the expansion of AEMOs role to facilitate transmission as outlined in options 3-5 is not in the long-term interests of consumers. This is because analysis requires long term assumptions to be made covering the long life span of transmission asset, making benefits highly uncertain whilst committing large up-front costs. The most likely outcome of this initiative is that customer costs will increase without commensurate customer benefits.

Policy uncertainty presents a major road block to effective planning

The optimisation of transmission and generation is extremely challenging. A mathematical approach requires many parameters to be known in advance to deliver a computational least cost solution. Nothing short of a central planner/common owner possessing perfect foresight would deliver a true least cost solution.

Currently federal climate change policy debates present a wide range of possible outcomes over the forward period. The impacts on the electricity sector of these variable outcomes could be profound.

Policy uncertainty can be addressed to some extent by constructing scenarios (possible futures) to cover the range of policy uncertainty of interest. However, given the current wide range of uncertainty, transmission augmentations could deliver customer benefits in some futures while serving to increase customer costs with little or no benefits in others. Any attempt to assign probabilities to scenarios to determine an "expected benefit" would likely be speculative and the actual future is almost guaranteed to turn out differently to what is planned (or the expected weighted future).

Thus, it is inefficient for customers to underwrite speculative transmission development in anticipation of a federal climate change policy to facilitate renewable energy zones (REZ) in the hope that renewable projects are built. The only certainty for customers are increased transmission costs.

Both transmission AND generation costs must be known

Policy certainty is a necessary, but not sufficient condition, to determine least cost solutions. To optimise transmission and generation development it is necessary for the costs to be accurately known. Costing of projects is complex, difficult to determine, and generator project costs and considerations are not available to the transmission network services provider (TNSP) or AEMO. Financial information is commercially sensitive and will not be disclosed to third parties to assist their planning processes.

The TNSP is best placed to determine the transmission options and costs in a specific sub-region. However, the benefits are less certain when dealing with usable inter-regional transmission capacities. These are a function of the inter-regional network elements, but also generating patterns and intra-regional capacities/constraints within the exporting and importing regions.

Investors in renewable projects consider a multitude of factors such as wind/solar yields and project development costs [which includes costing of equipment and transport to site, local geography and geology (i.e. important cost drivers in solar farm footings), transmission/distribution loss factors, grid connection charges, potential transmission constraints, wind/solar technology penetration in the given region/area, potential storage capability in the region, other market conditions and climate change policy developments]. Since none of these project costs and costing will not be available to AEMO or the TNSP, it is not possible for these entities to optimise the overall transmission/generation solution.

Risk allocation

For a transmission augmentation to proceed under the current regulatory arrangement, it needs to pass the RIT-t. History suggests, TNSP's will not take risks and undertake speculative augmentation (i.e. build it and risk justifying the RIT-t at some later date).

However, the current policy uncertainty regarding emission reductions and renewable generation entry make any form of strategic forward planning and optimisation unattainable. In a world of policy and cost uncertainty any actionable strategic investment plan in transmission is destined to deliver certainty of increased cost to consumers without commensurate benefits. Customers should not be underwriting policy and planning risks of transmission projects. These risks can be more efficiently addressed using transmission bonds to underwrite transmission development (Ref AEMC Options Paper dated 21/9/18, p125, B5).

Scenario development and modelling assumptions

Given the extreme level of uncertainty impacting the electricity sector, a rich set of scenarios is required to cover the range of potential uncertainty. A set of internally consistent detailed modelling assumptions is also needed when quantifying impacts of these scenarios on investment decisions.

The scenario development process is currently "ad-hoc", changes frequently and fails to capture the true range of uncertainty. An effective process for scenario development is needed, such as the "Scenario Learning" process.

A process for developing scenarios needs to be formalised, with clear oversight.

Government involvement in transmission investment

In the event governments were keen for a particular REZ to be developed in their state, they could underwrite the balance of the transmission bonds required to ensure a transmission augmentation project goes ahead.

They could then sell these bonds to subsequent project proponents over time. In the case where they are unable to sell the bonds to project proponents, they would fund part of the augmentation outright.

In summary, given the policy uncertainty and impossibility of determining "least cost" ex-ante, a market-based mechanism where stakeholders manage the risk of stranded investments rather than sheeting the cost back to customers is considered superior to the ESB options 3-5.

ENGIE's key recommendations

1. Maintain the existing ISP and RIT-T arrangements.
2. Consider limited enhancements to the status-quo, Options 1 or 2, to further facilitate timely analysis and information delivery to the market.

3. Implement the transmission bond concept as proposed by ENGIE to coordinate generation investment and to manage risks of underutilised transmission. This is a market-based solution that facilitated decentralised decision making. (Ref AEMC Options Paper dated 21/9/18, p125, B5).
4. Consider the benefit of developing and imposing a prescriptive process in the rules for scenario development for AEMO to follow and AER to enforce.
5. Prescribe these scenarios and associated assumptions to be used in any RIT-t analysis.

ENGIE trusts that the comments provided in this response are of assistance to the AEMC in its deliberations. Should you wish to discuss any aspects of this submission, please do not hesitate to contact me on, telephone, 0417343537.

Yours sincerely,

David Hoch
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