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Submitted via email to regulatory.consultation@transgrid.com.au

Reinforcing the NSW Southern Shared Network to Increase Transfer Capacity to the State's Demand Centers (PSCR)

Delta Electricity welcomes the opportunity to comment on TransGrid's Project Specification Consultation Report for the project "Reinforcing the NSW Southern Shared Network to Increase Transfer Capacity to the State's Demand Centers". Delta owns and operates the 1,320MW Vales Point power station in NSW and has a retail licence to sell electricity to large customers. Delta has operated coal and gas fired generating plant in the National Electricity Market (NEM) since its start in 1998 and is an active participant in both the electricity and gas trading markets.

Regulatory Investment Test – Transmission (RIT-T)

Delta supports the principle underlying the RIT-T that when assessing the market benefits of a transmission asset only previously approved or committed assets in other parts of the network may form part of that analysis. The Inputs and Methodology Consultation Paper (IMCP) says that for all the scenarios being considered (see section 2.1.1, 2.2.2, 2.1.3, 2.1.4):

"Due to the likelihood, significance, and size of the proposed SA to NSW interconnector, VIC to NSW Interconnector Upgrade, Western VIC Renewable Integration RIT-T, SnowyLink South and QNI stages 1 and 2, they are assumed constructed for this scenario."

Such assumptions give rise to the risk of increasing the economic benefits of the project being considered.

Delta supports assessing each transmission project on its own merits. Assuming subsequent transmission projects provide additional benefit, or incorporating benefits only accessible once subsequent projects are constructed, creates risks for consumers who pay for transmission developments. It is crucial to avoid the risk that the economic benefits from different projects are counted multiple times. This could occur if two projects are assessed separately, but with the other assumed to occur under both assessments. It is very difficult to separate the benefits that accrue to each project when this approach is taken and it is highly likely that each assessment will include benefits from the other project. This would make both investments appear more beneficial. However, if each project is assessed in the sequence that they are approved, the potential for double counting of benefits disappears and the risk to consumers is minimised.



The proposal to assume the deployment of projects that have not passed a RIT-T appears to be a serious flaw in the process for this RIT-T if the reading of the IMCP is understood as described above. Delta would appreciate clarification on this issue.

This type of logic has already been applied in the case of the SA-NSW interconnector. The RIT-T for Project EnergyConnect assumed firm transfer to NSW. However, the economics of the options being considered for southern NSW will include the benefits of providing firm capacity from SA to NSW (by having transmission connect through Wagga Wagga). These benefits, which were already included in the Riverlink RIT-T, will now be included in the options that have transmission connecting through Wagga Wagga.

This is observed in the executive summary of the PSCR which states that the project will:

“allow the additional transfer capacity between South Australia (SA) and NSW provided by the proposed SA–NSW interconnector, Project EnergyConnect, to flow to Sydney”

Clarification is required in relation to the economics of Project EnergyConnect and the Southern NSW options being considered.

Snowy 2.0 and Shared Transmission

Snowy 2.0 requires 2,000 MW of transmission to operate at full capacity, and it is understood that this transmission is expected to be provided by the 2,000 MW transmission from Maragle to Bannaby in the absence of any additional transmission being built. This existing transmission line is unable to transfer the power potentially produced by Snowy 2.0. If this is the case, then Snowy 2.0 cannot operate effectively without the additional transmission identified in this PSCR.

This PSCR indicates that Snowy 2.0 will be developed without the additional transmission capacity provided by this project and that because of this, the project to reinforce the southern NSW network provides value to consumers as it unlocks the full capacity of Snowy 2.0. Delta's view is that Snowy 2.0 would not be constructed in the absence of a transmission upgrade in the southern NSW network as proposed by this PSCR. The assumptions around Snowy 2.0 need to be clarified and tested through sensitivity analysis.

In addition to this, if additional renewable generation were to be developed in southern NSW, it would reduce the benefits of the transmission to Snowy 2.0 and the SA-NSW interconnector. It is likely that this scenario would require increased capacity of these transmission lines at additional cost.

Scenarios and Assumptions

A key assumption that is fundamental to the economics of new transmission is the profile of emission reductions. Two of the scenarios described in the IMCP have emissions reducing to 52% below 2005 levels by 2030. The developments to achieve this are very significant in the timeframe. These developments would include coal plant closures outside of the range being considered in AEMO modelling for the ISP and ESOO. All states would need to average over 55% renewables, very significant storage would be required (pumped hydro and batteries) along with significant transmission construction and new firming gas plant. Delta questions the use of this assumption.



The assessment of the viability of such deep emissions cuts within the assumed timeframe would require modelling that properly accounted for the variability of demand, renewable generation, thermal plant cycling and outages. The modelling approach described appears unsuitable to assess the operation of the system under such a rapid transformation. Any modelling that incorporates this level of detailed variation would require full transparency and very careful review by all stakeholders.

Modelling

The quantification of the economic benefits provided by this development requires modelling that properly mimics how the market operates and the investment criteria of new entrants. Marketing modelling that incorporates new entry based on averages and short run marginal cost (SRMC) bidding, as least cost modelling does, is inadequate on its own. The reasons for this include distortions to new entrant economics and the poor reflection of dispatch outcomes for different types of plant.

In a least-cost model, new entrant plant would distort the relationship of renewable generation revenue to average spot prices. The renewable generation discount to average spot price would likely be reduced and renewable generation may appear to add more value to supply than it otherwise would. This could result in additional renewable generation being modelled and less accompanying storage than would be needed if a market model was used to assess new entrants.

An issue with SRMC bidding is that coal generation is forecast to operate at higher capacity factors than would otherwise be expected, and gas at lower capacity factors. This has the effect of coal being assessed as more economic than it would be in practice and the risk of understating the stress on the gas supply system.

The result of overestimating the economics of coal and gas is that transmission projects are assessed to be providing much higher fuel switching benefits than would occur in a market environment. The flows on transmission lines (both inter and intra-regional) would also be incorrect, providing another distortion to the benefits analysis for a transmission project.

Benefit Assessment

The above discussion highlights that market benefits are likely to be assessed incorrectly when non-market modelling is undertaken. This is a result of dispatch cost savings and investment deferrals associated with generation and storage being overestimated in comparison to expected market outcomes.

Further, competition benefits which are noted as a benefit, are associated with bidding changes due to new competition. It is not possible to properly assess this benefit using a model that implements SRMC bidding.



Conclusion

There are significant issues with the proposed modelling assumptions and the methodology for assessing the benefits that may be ascribed to this transmission proposal. These put at risk the validity of the economic assessment of the transmission options being considered. Delta looks forward to working with TransGrid throughout the RIT-T process for this project. For any questions about this submission please contact me via email (peter.wormald@de.com.au) or by telephone (02 4352 6425).

Regards,

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