

ElectraNet
52-55 East Terrace
Adelaide, SA, 5000

Submitted via email: consultation@electranet.com.au.

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South Australian Energy Transformation RIT-T: Project Specification Consultation Report (the Consultation Report)

Delta Electricity concurs with the widely held view that renewable generation in South Australia, combined with the recent early closure of the coal-fired Northern Power station, has increased market prices and led to system security concerns. The South Australia region provides an insight into challenges that the entire National Electricity Market (NEM) will face if the trend in new renewable generation investment continues. Whilst a new large interconnection between SA and NSW or SA and VIC could deliver short term net market benefits under some future market scenarios, the likely transition of the NEM to lower carbon emissions means any benefits of a new interconnector will be short lived. A new interconnector could simply place an unnecessary \$0.5 - \$1.5b burden on electricity consumers.

The Australian Energy Council (AEC) recently commissioned ACIL Allen Consulting to assess options to address power system security concerns and decreasing supply reliability in South Australia. The ACIL Allen report, which can be found on the AEC website, highlights the primary flaws with the new interconnection options:

1. new interconnectors are expensive compared to other options;
2. interconnection options will take 3 to 7 years to deliver, whilst the system security issues need to be dealt with now; and
3. a long value recovery period makes them less flexible and adaptable to changing circumstances which could result in a new interconnector becoming a stranded investment.

Any new interconnection with NSW, VIC or QLD will, through competition, reduce the viability of existing gas plant in South Australia and allow even more new renewable generation investment in the State. The consequence of increased interconnection is likely to be the removal of some SA gas plant from the market, as was seen prior to the retirement of the Northern power station. This plant will be replaced by more wind and solar PV capacity supported by the Renewable Energy Target (RET). The net effect will be diminishing system security and reliability, which will ultimately negate some of the benefits initially delivered by the new interconnector.

The Consultation Report specifically mentions that a new interconnector would enable demand in SA to be met through using surplus low cost generating capacity that currently exists elsewhere in the NEM. Certainly, the major economic benefits that can be derived from increased interconnection is the displacement of high cost generation with lower cost generation. But material amounts of surplus low cost generation capacity no longer exists in the NEM, as evidenced by increasing spot prices in QLD, NSW and VIC. Munmorah, Wallerawang, Northern, Playford and Anglesea closures have removed around 2500MW of capacity in recent years.



Hazelwood in 2017 and Liddell in 2022 will remove a further 3600MW. Expectations that a new interconnector will deliver SA consumers a dramatic decrease in electricity prices are unrealistic as electricity prices in other States are rising towards the levels recently seen in SA.

New interconnection capacity is not required to address system security concerns in SA. Actions are already underway to deal with immediate system security concerns and increasing market prices. Wind farms are implementing improved fault ride-through capability, AEMO has implemented changes to operating practices to limit rate of change of frequency, the COAG Energy Council has commissioned an energy market framework blueprint to deal with a transition to low carbon emissions, the retirement of Torrens Island A has been deferred, Pelican Point power station has returned to service and new gas generation investment in SA is being assessed. The developments taking place within the SA market region will address the immediate system security concerns and likely moderate electricity prices, negating the need for a review of new interconnection.

Should Electranet decide to proceed with a Regulated Investment Test – Transmission (RIT-T) all feasible network and non-network options should be assessed. It is Delta's view that the RIT-T base case must acknowledge the likelihood of a carbon pricing scheme implemented within the medium term, include early retirement of some gas plant in SA and account for the displacement of coal-fired generation in other states. Delta supports the current RIT-T, but the process should be conducted by an independent body that assesses all possible options that could deliver net economic market benefits, not simply potentially lower spot market prices in SA. It is proposed that when conducting the RIT-T:

1. the performance of the Heywood interconnector upgrade should be assessed against the benefits documented in its RIT-T, particularly given AEMO's recent change in market operations that could curtail flows on the interconnector. Such a review will inform decisions on how best to conduct the RIT-T for a new interconnector;
2. all transmission options should be assessed, or a comprehensive justification provided for why a smaller number of options has been selected for assessment. Electranet has only proposed four new interconnector options, yet other interconnection options exist. Electranet has discounted options such as the Krongart-Heywood 500 kV interconnector without due analysis and it is not clear why a parallel transmission line (either Heywood or Murraylink) is not feasible if there is sufficient geographic separation to mitigate bushfire contingencies;
3. the base case must include the likely impacts of the RET and an Emissions Intensity Scheme. According to COAG's Finkel review, the RET requires an estimated 6,000MW of new renewable capacity (more than double the current RET investment) to be built by 2020. Substantially greater investment in abatement will be needed to achieve Australia's Paris Climate Accord commitment to reduce greenhouse gas emission by 26-28% on 2005 levels by 2030. This new investment will be spread across all NEM regions and would be intended to displace low cost baseload coal fired power stations. The RIT-T base case must reflect Federal and State Government carbon policy targets and acknowledge that a price on carbon emissions will be required to achieve national targets. The likely carbon abatement mechanism to be implemented is an Emissions Intensity Scheme as it has the lowest economic cost and the least impact on system security¹;

¹ Independent Review into the Future Security of the National Electricity Market – Preliminary Report December 2016, P.25



4. the cost of any recommended options must include VIC, NSW, or QLD intra-regional transmission upgrades. The four new interconnector options identified all require substantial works beyond the SA border. For example, the SA to NSW interconnector (Roberstown – Buronga) requires substantial upgrade of the Buronga to Wagga network to achieve a capacity of more than 240MW². As any benefits derived from the new interconnection will only flow to SA consumers, it is only equitable that the total cost should be borne by Electranet and SA consumers;
5. a new interconnection will expose existing SA gas fired plant to additional competition from interstate generation. This will affect the viability of SA gas fired generation. Accordingly, a RIT-T must also take account of the adverse effects on system security arising from early closures of conventional generation in SA; and
6. a new interconnection will, in the short term, remove system security constraints on the development of new renewable generation in SA. With no impediment to new wind and solar generation project in SA, the benefits of improved system security could be short lived. A RIT-T must account for the likelihood of new renewable generation in SA that would diminish the initial benefits of increased interconnection.

The COAG Energy Council's review into the future security of the NEM, and the Federal Government's 2017 review of its climate change policy, could result in changes to energy policy that will materially impact NEM design and the future mix of generation technologies. The recommendations of these reviews will directly impact RIT-T assessments. Whilst Delta cannot see merit in considering a long lead time and long lived transmission investment, funded by electricity consumers to deal with pressing issues that may be addressed by other means, at the very least any decision to progress a formal analysis of new interconnectors should be deferred until the COAG and Federal Government reviews are concluded.

Yours faithfully,

Anthony Callan
Executive Manager Marketing

² TransGrid Connection Opportunities Report, March 2016.