South Australian Energy Transformation

RIT-T Project Assessment Draft Report

Submission to ElectraNet

August 2018

South Australian Chamber of Mines & Energy

The leading industry body representing the resources sector in South Australia

Table of Contents

1. Introduction

The South Australian Chamber of Mines and Energy (SACOME) is the peak industry body representing companies with interests in the South Australian minerals, energy, extractive, oil and gas sectors and associated service providers.

SACOME welcomes the opportunity to make this submission to ElectraNet's South Australian Energy Transformation (SAET) Regulatory Investment Test for Transmission (RIT-T) Project Assessment Draft Report (PADR).

The South Australian and national energy markets continue to experience significant change, with this resulting in an unprecedented impact on the generation, transmission and consumption of power across the National Electricity Market (NEM).

Affordable, reliable and secure energy is core to the operational viability of SACOME member companies, many of whom have significant energy requirements. SACOME is broadly supportive of initiatives that will deliver affordable, reliable and secure energy for our members.

SACOME has a diverse membership and their views in relation to the proposed interconnector reflect this diversity. In preparing this submission, SACOME has sought to represent these views in a balanced and constructive fashion.

SACOME notes that the proposed interconnector aims to:

- Coordinate with the Australian Energy Market Operator's (AEMO) Integrated System Plan (ISP) which confirms the interconnector between South Australia and New South Wales as an important element of the "roadmap"; and an immediate priority for the NEM as it will deliver net market benefits upon construction;

- Lower dispatch costs in South Australia through increasing supply options across the region;

- Facilitate the transition to a lower carbon emissions future and the adoption of new technologies through improving access to high quality renewable resources across regions; and

- Enhance the security of electricity supply, including management of inertia, frequency response and system strength in South Australia.

Some SACOME members have raised the following issues for consideration in progressing the SAET RIT-T process:

- The accuracy of modelling assumptions underpinning the RIT-T process;

- The potential negative impact on gas producers, pipeline operators and gas-fired generators in South Australia because of increased volumes of coal-fired electricity entering the South Australian market via the proposed interconnector; and

- State economic development opportunities not considered in the preferred interconnector option.

In raising these matters, SACOME seeks to encourage broader consideration by policy makers of the potential impacts and opportunities arising from the development of this nationally-significant infrastructure.

2. RIT-T Preferred Option - Analysis

ElectraNet's assessment of the four credible options determined that a new 330 kV Interconnector between mid-north South Australia and Wagga Wagga in New South Wales, via Buronga, is the preferred option given it is expected to deliver the highest net market benefits across all scenarios.

The ACIL Allen modelling indicates that over 21 years, the preferred option is estimated to deliver approximately $1 billion in net market benefits, consisting of:

- Approximately $100 million per annum in wholesale market fuel costs savings;
- An overall estimated reduction in the average annual residential customer bill of about $30 in South Australia and $20 in New South Wales; and
- An overall estimated reduction in the annual retail bill of a representative small business customer of about $60 in South Australia and $50 in New South Wales.

The RIT-T assessment has also identified that a new interconnector will lower dispatch costs, through increasing supply options.

SACOME notes that the interconnector will allow for a greater equilibrium of market conditions and improve the capability of supply to meet demand.

A new interconnector provides for the ability to utilise lower-cost generation on the east coast of the NEM to supply South Australia, improving reliability and security of supply.

Subject to approvals, the new interconnector will be completed between 2022 and 2024. This time-frame places completion of the new interconnector after the likely closure of the Liddel power station, but prior to the closure of other coal generators that could leave New South Wales with just one coal generator (Mt Piper) by 2035, if not earlier.

It is not clear what will replace this coal-fired generation capacity at present, particularly given the uncertainty surrounding national energy policy settings as they relate to investment and carbon reduction.

However, as New South Wales coal-fired generators exit the market over the medium to longer-term, the proposition is that greater interconnection unlocks the ability for South Australia to deliver more renewable energy and gas generation to New South Wales and the rest of the NEM.

The ability to deliver renewable energy from existing and new renewable generation sources in South Australia and from existing South Australian gas generators will arguably reduce the

cost of energy throughout the NEM and facilitate the transition to a lower-carbon emissions environment as high-emission coal generators exit the market.

SACOME submits that:

- An interconnector between South Australia and New South Wales can assist in improving the overall efficiency of the NEM and progress the objectives of affordability, reliability and security of supply for South Australian users;

- A more decentralised NEM can benefit from increased levels of interconnection between States;

- Interconnection can improve the security of supply to South Australia and enable greater penetration of intermittent renewable generation by allowing supply shortages to be offset by output from interconnected markets;

- Without greater interconnection between markets, the costs associated with building new flexible capacity to manage the intermittency of renewable generation could be significantly greater than would otherwise be required, a challenge that AEMO seeks to address through their ISP.

- A new interconnector can alleviate the need for a Rate of Change of Frequency (RoCoF) constraint which limits Heywood interconnector transfers under conditions of low power system inertia in South Australia.

- A new interconnector can also remove the constraint on non-synchronous generation output, where AEMO constrains flows through the existing interconnector or directs synchronous generators to meet minimum systems strength.

3. Comment on RIT-T Modelling

SACOME understands that economic analysis like the RIT-T rely upon a series of assumptions with several sensitivities tested, however, if an assumption was not to hold it could potentially have a material impact on whether a new interconnector delivers net market benefits.

ACIL Allen's modelling states:

> *"While wholesale spot price impacts are projected to 2050, annual retail bill impacts are presented only for the first three years on the new interconnector's operation. Beyond this period, they would follow the wholesale price projection if all else remains equal. However, changes in real tariff structures and/or the way customers use energy are quite possible.*
>
> *The former can be expected to flow from ongoing changes to the way distribution network services charge for the service they provide. Further changes in energy use at the residential level which may flow from improvements in energy efficiency ongoing uptake of solar technology and the use of batteries could be expected. Therefore, the indicative longer-term net impact on customer bills is presented in an aggregate form over the balance of the modelling period in both annul average and present value terms."*[1]

Therefore, the estimated reduction in the average annual residential customer bill and the estimated reduction in the average annual retail bill of a representative small business customer identified in the RIT-T assessment is only applicable for three years. The continued reduction in energy prices until 2050 only applies if the assumptions outlined in ACIL Allen's modelling remain accurate.

ElectraNet's Basis of Estimates document states that interconnector costs are based on 4th quarter 2017 costs for labour, materials and equipment and no allowance for future price changes is included in the price estimate.

The risk basis of the Basis of Estimates document states that no allowance has been made for any related cost elements or contingency amounts.

Further, page 6 of the Basis of Estimates document lists all the items that are excluded from the cost estimates, namely:

- GST;
- Future cost escalation;

[1] *South Australia New South Wales Interconnector: Preliminary Analysis of Potential Impact on Electricity Prices, pg.5*

- Deep network augmentation;
- Unexpected poor ground conditions (no geotechnical tests/analysis has been conducted);
- Cost of decommissioning and site rehabilitation at end of life;
- Civil works/trenching through rock;
- Staging costs (assumed each project option carried out in one continuous effort);
- Control schemes;
- Generation support;
- System/critical spares;
- Risk allowance; and
- Maintenance costs (costs are presented are CAPEX only).

SACOME notes the use of 2017 figures for a build estimated for completion between 2022 and 2024, with these costings dependent upon approvals and estimates that still contain a range of unknowns regarding works required for an actual build.

A material increase in costs may not yield the net market benefits outlined in the RIT-T, and impact on whether a new interconnector proceeds to construction; and/or the cost at which it proceeds.

4. Additional Considerations

4.1 Impact on Gas Generation and Transmission

SACOME notes that the RIT-T assumes the ability to utilise lower cost coal-fired generation on the east coast of the NEM as a short-term option once the interconnector is constructed.

This has possible implications for the role of gas in the South Australian market, particularly given that it comprises approximately 50% of all electricity generation in this State.

Access to coal-fired generation has the potential to reduce reliance on gas-fired generation in South Australia, thus affecting the viability of South Australian gas generators and with flow-on effects for gas pipeline operators and producers. In short, it could result in gas generators closing, making South Australia increasingly reliant on interstate generation.

The interconnector also raises questions about the viability of future investment in gas generation and transmission infrastructure in South Australia in the context of greater access to coal-fired electricity.

Reduced investment and competition in generational capacity could result in South Australia not benefiting from the reduction in energy prices anticipated by the RIT-T over the longer term.

4.2 Impact on South Australian Renewable Energy Prices

SACOME members have raised concerns that the interconnector could result in increased renewable energy prices for South Australian users due to the creation of an export market in New South Wales.

"Low cost" South Australian renewable energy would notionally be exported to New South Wales with cost implications for South Australian users due to increased demand.

This proposition is theoretically similar to what occurred in the gas market when the Gladstone terminal was opened in October 2015, exposing domestic users to export pricing levels.

4.3 State Economic Development Opportunities

The proposed interconnector route does not consider opportunities for State economic development provided by alternative routing of electricity infrastructure.

The north and north-east of South Australia are highly prospective with electricity being a key input to project development.

The Braemar province offers the potential for production of 20 – 40 billion tonnes of magnetite across a range of projects.

SACOME recognises that an alternative route results in increased construction costs, however, given the already-significant cost of the interconnector and the stated policy position of the South Australian Government to contribute $200m toward these costs, SACOME submits that consideration should also be given to the broader State economic benefits that could result from the interconnector.

5. Conclusion

SACOME is broadly supportive of aims of the South Australian Energy Transformation RIT-T.

SACOME also appreciates that the RIT-T assessment is being considered during a time of great uncertainty in relation to national energy policy.

This support is qualified by the potential impact of the interconnector on some of SACOME's member companies and we would urge greater consideration of these impacts as the SAET RIT-T process progresses.

SACOME remains committed to involvement in the SAET RIT-T process and looks forward to providing constructive feedback to ElectraNet and other policy makers on development of this nationally-significant infrastructure project.