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CCP Sub-Panel No. 9

21/07/2017

ElectraNet: Att Rainer Korte, Executive Manager Asset Management
By email: consultation@electranet.com.au
Australian Energy Regulator:
AER Board
Mr Adam Petersen, Co-ord Director – ElectraNet
By email: adam.petersen@er.gov.au Cc: ccp@er.gov.au

Dear Rainer,

Re: Eyre Peninsula Electricity Supply Options RIT-T Project Specification Consultation Report feedback

Please find attached our submission in relation to Eyre Peninsula RIT-T PSCR.


Kind Regards,



Eric Groom
Sub-panel Chairperson

B. Hughson

Bev Hughson



Andrew Nance

Submission to ElectraNet

Consumer Challenge Panel Sub-Panel 9

**Eyre Peninsula Electricity Supply Options RIT-T Project
Specification Consultation Report**

Sub-Panel 9

Eric Groom

Bev Hughson

Andrew Nance

21/07/2017

Background

The Project Specification Consultation Report (PSCR) represents the formal commencement of the Regulatory Investment Test for Transmission (RIT-T) process to investigate electricity supply options for the Eyre Peninsula.

The objective of the Consumer Challenge Panel (CCP) is to:

- advise the AER on whether the network businesses' proposals are in the long-term interests of consumers; and,
- advise the AER on the effectiveness of network businesses' engagement activities with their customers and how this is reflected in the development of their proposals.

This submission from CCP sub-panel 9 (CCP9) largely replicates sections of the CCP9 submission to the AER on ElectraNet's 2018-23 Revenue Proposal.

Summary

Eyre Peninsula finds itself as a case-study for many of the issues facing the National Electricity Market (NEM). ElectraNet has established a need to invest in renewal of key parts of the Eyre Peninsula transmission infrastructure. Security and Reliability issues were highlighted in recent events and ESCOSA has recommended more joint planning with SA Power Networks. Opportunities are also emerging to connect significant new loads and new generation. The scale of infrastructure investment is several hundred million dollars.

CCP9 is of the view that, given the dynamic regulatory frameworks and market conditions, the interests of consumers is best served by expanding the scope of the RIT-T. This would include consideration of alternate governance arrangements that would allow for stronger joint planning and consideration of regulatory changes likely to appear during the 2018-23 Regulatory Period.

This submission:

- Discusses ElectraNet's 2018-23 Revenue Proposal for ex-ante regulated expenditure and the contingent project that is the subject of this RIT-T.
- Supports the recent finding of ESCOSA that reliability issues on Eyre Peninsula would benefit from more joint planning between ElectraNet and SA Power Networks
- Recommends ElectraNet respond to the draft findings of the ESCOSA inquiry by creating opportunities for more joint planning and through resetting the timeline for the Eyre Peninsula Supply Options RIT-T.
- Encourages ElectraNet to include a microgrid-based option in the RIT-T
- Notes the potential for expanded wind energy generation and discusses relevant recommendations from the *Independent Review into the Future Security of the National Electricity Market* lead by Dr Alan Finkel, including in relation to Renewable Energy Zones (REZ).
- Notes the recent findings of the AEMC review of the *Drivers of change that impact transmission frameworks* and the relevance of this to the allocation of risk between generators and consumers of transmission investments.
- Notes the recent COAG Energy Council Review of the Regulatory Investment Test for Transmission (RIT-T) and the recommendations for:

- further incorporation of *option value* in the evaluation of alternatives under the RIT-T;
- further exploration of the merits of increasing the AER's level of oversight of the RIT-T process.
- Notes that the AEMC *Final rule on new planning arrangements for replacement assets by electricity network businesses* has been released and that the Eyre Peninsula reconductoring projects in the ex-ante revenue proposal¹ exceed the investment threshold and would be the subject of a RIT-T under the new rule.
- Recommends that, given a closely related RIT-T Process has been initiated, the reconductoring projects should be removed from the ex-ante revenue proposal and assessed as part of the Eyre Peninsula Electricity Supply Options RIT-T.
- Recommends that ElectraNet review the identified need articulated in the Eyre Peninsula PSCR to better capture a more diverse set of drivers.
- Notes ElectraNet's intention to consider a bespoke estimate of the Value of Customer Reliability (VCR).
- Emphasises the need to explain price impacts to consumers

Discussion

ElectraNet's Revenue Proposal 2018-2023 includes two capex projects to refurbish the transmission link on the Eyre Peninsula at a total \$73.8m (2017-18)². A contingent project has also been included to evaluate the options of a full line replacement (and potential circuit duplication). ElectraNet commenced the Regulatory Investment Test (RIT-T) into Supply Options for the Eyre Peninsula with the release of a Project Specification Consultation Report (PSCR) on 28 April 2017. A Draft Report is expected by the end of October 2017:

"The identified need for this RIT-T is to explore electricity supply options for meeting ETC reliability standards at Port Lincoln most efficiently in the future – driven by the need to replace major transmission line components serving the lower Eyre Peninsula in the next few years, and the upcoming expiry of the network support arrangement at Port Lincoln."

In a closely related project, the Essential Services Commission of SA (ESCOSA) publicly released the draft report of the "Inquiry into reliability and quality of electricity supply on the Eyre Peninsula" on 06 July 2017. In relation to regulatory issues, the report includes a finding that [p. 19]:

"There may be insufficient incentive for distribution and transmission businesses to undertake effective joint planning, as required under the NER, which may not be delivering the most efficient network reliability solutions."

Further [p. 21]:

"Under clause 5.14 of the NER, transmission and distribution network businesses must plan jointly. However, networks businesses may not have strong incentives to conduct effective joint planning because joint planning is intended to deliver a more"

¹ ElectraNet Proposal Attachment 6 – Capital Expenditure – Appendix A Forecast Capital Projects: 132kV Line Conductor and Earth Wire Refurbishment Projects EC.14145 and 14137

² Attachment 6 Table 6.9, Attachment 6 Appendix A p7-10.

efficient investment than that proposed by any one party, to the overall benefit of consumers. ... The split responsibilities for the electricity supply chain may not always align to deliver the best possible outcomes for customers, in comparison to a single overall responsibility.

In addition, the electricity supply chain is no longer linear, due to changes in technology (for example, consumers can also be generators). The previously clear distinction between monopoly and contestable services is becoming blurred, with the emergence of distributed generation and mini-grids. This also affects the incentives of the incumbent network businesses. In the case of the Eyre Peninsula, where new technologies and new business models are emerging, effective joint planning, including greater independence in the planning process, may lead to better customer outcomes than the current approach.”

The report recommends [p. 19]:

“There may be benefits in pursuing a change to the NER, to strengthen the requirements for joint planning, including introducing greater independence into the joint planning process.”

A comparison of technical options by ESCOSA (their table 4.5) highlights the relatively low cost of distribution connected generation in improving reliability outcomes for consumers in the region. ESCOSA state (p19), "... the reliability benefits are likely to be very significant for the generation options identified by SA Power Networks".

Table 4.5: Summary of annual reliability improvement (minutes saved) of each option and cost

Proposed by	Option	Minutes saved (p.a.)	Total Cost (p.a.)
SA Power Networks	95 percent Hardening Option 1	122	\$5,300,430
SA Power Networks	48 percent Hardening Option 2	98	\$2,357,500
SA Power Networks	25 percent Hardening Option 3	76	\$1,351,500
SA Power Networks	Generation Option 1 - Pt Lincoln	1,000	\$398,700
SA Power Networks	Generation Option 2 - Wudinna	1,000	\$4,063,500
SA Power Networks	Generation Option 3 - Ceduna, Wudinna, Streaky Bay	1,150	\$5,194,900
SA Power Networks	Feeder SCADA (all) Option 1	23	\$1,136,000
SA Power Networks	Feeder SCADA (partial) Option 2	21	\$757,000
SA Power Networks	Feeder SCADA (worst offenders) Option 3	16	\$379,000
ElectraNet	Replace components of 132kV line	0	\$8,592,000
ElectraNet	Double circuit 132kV line	60	\$15,108,000
ElectraNet	Two single circuit 132kV line	60	\$17,519,000
ElectraNet	Double circuit 275kV line (include lines to Davenport upgrade)	60	\$22,822,000
ElectraNet	Two single circuit 275kV lines (include lines to Davenport)	60	\$36,805,000

Eyre Peninsula has around 24,000 electricity customers, with around 10,000 of those located at Port Lincoln (ESCOSA, p. 4). The annualised cost of ElectraNet’s options from ESCOSA’s Table 5 (the options appear to equate to the options presented in the PSCR)

suggest that the lowest cost network option at around \$15m pa (\$200-300m in the PSCR) is equal to \$625 per customer per annum (or \$8,300-\$12,500 per customer in capital costs).

These are substantial costs per customer that on face-value would suggest that 'non-network' options may provide better value to consumers. The ElectraNet Eyre Peninsula PSCR includes assumptions that some consumers may consider too limiting on the options considered. For example, at Section 4.6.3, ElectraNet dismiss the further consideration of not replacing the Transmission assets:

“ElectraNet has considered decommissioning the existing 132 kV single circuit line and serving Eyre Peninsula load with micro-grids. Based on work undertaken, we do not consider that the ETC reliability standards can be economically met through the use of stand-alone micro-grids.”

Emphasising the point, ElectraNet then state that a microgrid based solution would be precluded by the National Electricity Rules:

“... the existing NER mandates the continuing connection of the existing Eyre Peninsula connection points to South Australia’s electricity transmission network, and does not accommodate the use of stand-alone micro-grids for that purpose. We therefore consider that this option is not economically feasible for this RIT-T.”

In the interests of transparency and completeness, CCP9 encourages ElectraNet to include a microgrid-based option in the RIT-T.

CCP9 also notes the potential consideration of Renewable Energy Zones (REZ) in the NEM following the *Independent Review into the Future Security of the National Electricity Market* by Dr Alan Finkel and the other members of the Expert Panel³. Noting the significant potential to harness wind energy on the Eyre Peninsula, the REZ approach would likely support an expanded role for Transmission rather than a diminished one as suggested by the consideration of microgrid based options. Recommendations 5.1 and 5.2 from the Finkel review have specific relevance:

Recommendation 5.1

By mid-2018, the Australian Energy Market Operator, supported by transmission network service providers and relevant stakeholders, should develop an integrated grid plan to facilitate the efficient development and connection of renewable energy zones across the National Electricity Market.

³ Available from <http://environment.gov.au/energy/publications/electricity-market-final-report> and discussed here: www.energynetworks.com.au/news/energy-insider/zone-finkels-hands-approach-planning-renewables.

Recommendation 5.2

By mid-2019, the Australian Energy Market Operator, in consultation with transmission network service providers and consistent with the integrated grid plan, should develop a list of potential priority projects in each region that governments could support if the market is unable to deliver the investment required to enable the development of renewable energy zones.

The Australian Energy Market Commission should develop a rigorous framework to evaluate the priority projects, including guidance for governments on the combination of circumstances that would warrant a government intervention to facilitate specific transmission investments.

These challenges are recognised by the Australian Energy Markets Commission (AEMC). The AEMC is conducting a Market Review of drivers of change that impact transmission frameworks⁴. The draft Stage 1 Report was released on 11 April 2017 and stated:

“There appears to be a large degree of uncertainty regarding future patterns and drivers of generation and transmission investment.” [Exec Summary, page i]

“While there are processes to review TNSPs’ application of the RIT-T, to the extent that costs and benefits are forecast inaccurately, then these risks are born in full by consumers: the risks between owners of TNSPs and consumers may not be aligned in these processes.” [p10]

“As uncertainty regarding transmission and generation investments increases, in order to have efficient outcomes for consumers, transmission and generation investment needs to be coordinated. Any difference in the process by which generation and transmission investment occurs has the potential to result in development paths that do not minimise the total system cost faced by consumers. The question is how best to achieve this coordination. A key issue is the degree to which the allocation of risks between owners of the TNSPs and consumers are aligned in these processes.” [p11]

“Currently, since consumers pay for all of the TNSP’s maximum allowed revenue, consumers also directly bear most of the costs associated with transmission. This allocation of risk becomes more important in an uncertain or changing environment, as the risks associated with transmission investment increase.” [p12]

The AEMC review is linked to the previous work program “Optional Firm Access Design and Testing Review” that concluded in 2015. This previous work considered the potential for more commercial drivers for generators to fund Transmission Capacity (rather than full cost recovery from consumers under the network regulatory framework). In light of increasing uncertainty, this reallocation of risk back to those best placed to manage it (generators) is likely to be in the consumer interest. The final Stage 1 Report was released on 18 July 2017 and recommended proceeding to stage 2 of the review. Stage 2 will assess a range of

⁴ AEMC 2017, Reporting on drivers of change that impact transmission frameworks, Draft Stage 1 Report, 11 April 2017, Sydney www.aemc.gov.au/Markets-Reviews-Advice/Reporting-on-drivers-of-change-that-impact-transmi.

options that could improve the coordination of transmission and generation investments⁵. An approach paper is due in August 2017. It is understood that the analysis in stage 2 will extend to the recommendations from the Finkel report such as Renewable Energy Zones.

The recent *Review of the Regulatory Investment Test for Transmission (RIT-T)* by COAG Energy Council⁶ found that the RIT-T remained the appropriate mechanism to ensure that new transmission infrastructure is built in the long term interests of consumers. However, the review identified a number of potential areas for improvement including in relation to the use of *option value*⁷ in the assessment of alternatives. The review also recommended the further exploration of the merits of increasing the AER's level of oversight for the RIT-T process.

ElectraNet has highlighted that there are a number of important uncertainties in assessing the investment options and that there are options available for staging the investment and reducing the level of commitment to investment solutions in the short term. In this context, the consideration of the *option value* of deferral/staging strategies becomes more important. ElectraNet has indicated that they will seek to include the option value in the evaluation of the options. This will be a challenging task, but ElectraNet's commitment to the consideration of the option value of alternative investments is welcomed as it can reduce the risk of consumers having to pay for assets that would otherwise be stranded.

Further, CCP9 draws attention to the need to explain the price outcomes for customers under the alternatives considered. The impacts of postage-stamp vs locational pricing should be explained.

In Closing

Clearly there is a complex set of issues related to the Eyre Peninsula region and the regulatory framework for transmission investments is likely to see significant change within the regulatory period in question (2018-23).

In our view, this represents a timely case-study of the issues discussed in the AEMC report and in the recommendations from the Finkel Review. CCP9 is concerned that a fulsome and integrated approach to identifying the options that advance the long-term interests of consumers may be lost in what appears to be a piece-meal approach. It is not clear at this stage that the inclusion of significant capital expenditure in the ex-ante proposal PLUS a separate RIT-T process is going to identify the optimal solution. This is emphasised by the commentary referenced above from the AEMC and ESCOSA.

In our submission to ElectraNet's 2018-23 Revenue Proposal⁸, CCP9 recommended that the AER form a strong view on the most appropriate governance arrangements for the path forward for the Eyre Peninsula's electricity infrastructure, noting the concerns raised by

⁵ AEMC 2017, Reporting on drivers of change that impact transmission frameworks, Final Stage 1 Report, 18 July 2017, Sydney www.aemc.gov.au/Markets-Reviews-Advice/Reporting-on-drivers-of-change-that-impact-transmi.

⁶ 6 February 2017 at www.coagenergycouncil.gov.au/publications/review-regulatory-investment-test-transmission-rit-t

⁷ AER Final RIT-T Guidelines – 29 June 2010 available from www.aer.gov.au/networks-pipelines/guidelines-schemes-models-reviews/regulatory-investment-test-for-transmission-rit-t-and-application-guidelines-2010 p36: "*Option value* refers to a benefit that results from retaining flexibility in a context in which certain actions are irreversible (sunk), and new information may arise in the future as to the payoff from taking a certain action."

⁸ Available from <https://www.aer.gov.au/networks-pipelines/determinations-access-arrangements/electranet-determination-2018-23/proposal>

ESCOSA in relation to joint planning. This could include rejecting the ex-ante proposal for capital expenditure and including this expenditure in the scope of the Eyre Peninsula Contingent Project. Further, the AER should support independent oversight of a specific joint planning and investment test project that involves ElectraNet, SA Power Networks, AEMO, ESCOSA, consumers and proponents of non-network solutions.

Since that submission, the AEMC has released the *Final rule on new planning arrangements for replacement assets by electricity network businesses*⁹. Of immediate relevance to Eyre Peninsula, the new rule extends the application of regulatory investment tests (the RIT-T and RIT-D) to include replacement projects. The Eyre Peninsula reconductoring projects in the ex-ante revenue proposal exceed the investment threshold and would be the subject of a RIT-T under the new rule. Exceptions are those projects that have reached a ‘committed’ stage on or prior to 30 January 2018. CCP9 is of the view that, given a closely related RIT-T Process has been initiated that the reconductoring projects should be removed from the ex-ante revenue proposal and assessed as part of the Eyre Peninsula

Consequently, an opportunity exists to review the ‘identified need’ of the RIT-T. As drafted¹⁰, the identified need appears to be confined to Transmission reliability standards whereas it clear that there are significant other factors to be considered such as total customer minutes off supply and the potential establishment of a Renewable Energy Zone (REZ).

An example of an ‘identified need’ that caters for a complex set of drivers is in ElectraNet’s concurrent RIT-T in process for the SA Electricity Transformation (SAET)¹¹:

As required by the National Electricity Rules (NER), the RIT-T is directed at meeting an identified need, which ElectraNet has determined as:

- *facilitating greater competition in the wholesale electricity market, to lower dispatch costs and consequently wholesale electricity prices, particularly in South Australia (‘market need’);*
- *providing appropriate security of supply, including inertia, frequency response and system strength services in South Australia (‘security need’); and*
- *facilitating the transition to lower carbon emissions and the adoption of new technologies (‘emissions need’).*

CCP9 recommends that ElectraNet review the identified need articulated in the Eyre Peninsula PSCR to better capture a more diverse set of drivers.

CCP9 also notes the PSCR states that AEMO’s Value of Customer Reliability (VCR) estimates are not appropriate in this context given the potential for prolonged outages [PSCR Section 6.2, p. 39]. The use of VCR estimates is an important component of network regulation and a consistent approach is encouraged. CCP9 is concerned that bespoke

⁹ www.aemc.gov.au/News-Center/What-s-New/Announcements/Final-rule-on-new-planning-arrangements-for-replac

¹⁰ “The identified need for this RIT-T is to explore electricity supply options for meeting ETC reliability standards at Port Lincoln most efficiently in the future...”

¹¹ ElectraNet 13 February 2017 South Australian Energy Transformation PSCR Supplementary Information Paper www.electranet.com.au/projects/south-australian-energy-transformation/

applications of VCR estimates can lead to increased capital expenditure (such as the use of a Sydney CBD specific value in TransGrid's Powering Sydney's Future RIT-T¹²).

Recommendations

- a) CCP9 recommended to the AER: The AER should form a strong view on the most appropriate governance arrangements for the path forward for Eyre Peninsula's electricity infrastructure, noting the concerns raised by ESCOSA in relation to joint planning. This could include rejecting the ex-ante proposal for capital expenditure and including this expenditure in the scope of the Eyre Peninsula Contingent Project. Further, the AER could support independent oversight of a specific joint planning and investment test project that involved ElectraNet, SA Power Networks, AEMO, ESCOSA, consumers and proponents of non-network solutions.
- b) CCP9 recommends ElectraNet respond to the draft findings of the ESCOSA inquiry by creating opportunities for more joint planning and through resetting the timeline for the Eyre Peninsula Supply Options RIT-T.
- c) CCP9 recommends that ElectraNet review the identified need articulated in the Eyre Peninsula PSCR to better capture a more diverse set of drivers.
- d) The use of VCR estimates is an important component of network regulation and a consistent approach is encouraged. CCP9 recommend that any excursions from the AEMO published figures to be well supported with evidence. Sensitivity testing of options assessment should at least include a scenario using AEMO VCR figures.

¹² <https://www.transgrid.com.au/psf>.