RIN response: 4.4.10 - 14 Non-Network alternatives

2025-2030 Regulatory Proposal

Supporting document 5.8.8

SA Power Networks

Empowering South Australia

Contents

1 About this document

Purpose

This document addresses the Cross Reference Table requirements in sections 4.4.10 to 4.4.14, by explaining how SA Power Networks considers non-network alternatives in the development of its regulatory proposal.

2 Non-network alternatives

Section 4.1.10

Identify the *policies and strategies* and *procedures* in the response to *Workbook 1 – Forecast data, regulatory template* 7.1, which relate to the selection of efficient *non-network* solutions.

Procedure 670: Regulatory Investment Test – Distribution
SA Power Networks' primary procedure for the identification of non-network alternatives is via its Regulatory Investment Test – Distribution (**RIT-D**), procedure 670[1].

The purpose of this procedure is to ensure that SA Power Networks meets its regulatory obligations to correctly perform the RIT-D in accordance with section 5.17 of the National Electricity Rules (NER) and AER Guidelines for those projects defined by the NER as "RIT-D Projects" which are not excluded in accordance with clause 5.17.3 of the NER.

Procedure 670 applies to all network investments exceeding the relevant RIT-D Threshold (ie RIT-D Projects) except those that satisfy the conditions specified in clause 5.17.3 of the NER.

This procedure is applied by **all** personnel required to perform a RIT-D evaluation of a RIT-D Project. For clarity, a RIT-D Project may include projects initiated by the need for asset replacement, customer initiated projects or in response to a network constraint where the works will augment the capacity of the shared network subject to the exclusions specified in clause 5.17.3 of the NER.

Procedure 670 is available on request.

Industry Engagement Document
SA Power Network publishes an Industry Engagement Document (IED) annually as required by the NER clause 5.13.1 ((e) – (j)).

This document encapsulates SA Power Networks' strategy for integrating non-network solutions and SAPS (Stand-Alone Power System) solutions, into the South Australian distribution network. It is an essential part of our pursuit for optimal network operation by engaging the most efficient long-term solutions.

This document aims to explain to customers and providers how non-network solutions or where applicable SAPS solutions, are considered when resolving identified needs and our expectations of them throughout this process. Information for connecting embedded generation to the network is also addressed.

SA Power Networks IED can be found here:
https://www.sapowernetworks.com.au/public/download.jsp?id=9718

[1] SA Power Networks' Quality Management System: Procedure 670 – Regulatory Investment Test – Distribution.

Distribution Annual Planning Report
The Distribution Annual Planning Report (**DAPR**) is prepared by SA Power Networks to comply with the NER clause 5.13.2. This report is published annually on our website in accordance with clause 5.13.2(a)(2) and provides the information specified in NER Schedule 5.8.
The DAPR is intended to inform regulators, market participants in the NEM, and other stakeholders about existing and forecast system limitations on our distribution network together with details related to our asset replacement programs and network performance within a five year forward planning period.

SA Power Networks includes detailed attachments for load forecasts, system limitations, project timing and the network visualisation portal available from the industry section of the SA Power Networks website which can be accessed from this link https://www.sapowernetworks.com.au/industry/annual-network-plans/.

Typically, the DAPR is the only customer visible source of non-network or SAPS opportunities for Regulatory Investment Test – Distribution (RIT-D) exempt projects.

Section 4.1.11

Explain the extent to which the provision for efficient *non-network* alternatives has been considered in the development of the *forecast capex* and forecast *opex* proposals.

In our business cases, covering all areas of network expenditure programs and projects (i.e. CER integration, repex, augex), we have considered the viability of non-network alternatives, and the justification of why these options have been considered non-credible or credible.

Our forecast expenditure for 2025-30 has not found viable / credible non-network alternatives to address the identified needs of our network replacement program, our augmentation program on reliability and bushfire management. However, our forecast includes some prominent examples of non-network alternatives in relation to CER integration, noting that:

- our CER integration expenditure extends and leverages our investment in world leading approaches by which to flexibly manage CER export on the network (Dynamic Operating Envelopes), together with other non-network and tariff solutions, prior to considering the need for additional upgrades to the physical hosting capacity of the network through augmentation;
- our Demand Flexibility program proposes to extend our existing capabilities for flexible export management to the management of loads on the network - likewise serving to minimise the extent of physical network capacity that we need to build in coming years; and
- our approach to network resilience has avoided extensive physical network upgrades to address long duration outages from severe weather, proposing instead to invest in mobile generation at this point in time.

SA Power Networks undertakes extensive trials and evaluates emerging demand management technologies. We identify economically viable opportunities to improve the levels of network security and reliability provided to customers and to reduce the costs of providing standard control services. The technologies investigated include the use of smart meter data and services, transformer monitoring, energy storage, dynamic voltage management and direct communication with customer devices such as air conditioners, electric vehicle chargers, smart hot water systems, solar and battery inverters and home energy management systems (HEMS).

Further, while our repex forecasts are based on removing risk through replacement, we considered if parts of our network should be replaced at all through non-network alternatives. With the recent improvements in distributed energy resource technologies, there is potential for parts of our network to be decommissioned with customers instead supplied by stand-alone power systems (**SAPS**). To assess the viability of this

potential option, we partnered with ITP renewables in 2021 to undertake a systematic analysis of the entire Eyre Peninsula region of the network (the most sparsely populated and therefore most likely to contain sections of the network that are economic to *not* replace).

This analysis utilised much of the data underpinning the repex Risk Cost Model used in forecasting our replacement expenditure – including the quantification of risk costs. The analysis showed that there were very few locations where SAPS were an economically viable alternative to maintaining an ongoing connection to the network. We believe that SAPS represent a viable solution in unique parts of the network (very long sections supplying a single customer) but that this non-network alternative does not represent a material impact on our forecast expenditure.

The full report and analysis are available in the *Microgrid Feasibility and Screening Study – South Australian Eyre Peninsula*[2]

Expression of Interest: Non-network solutions
SA Power Networks published an 'Expression of Interest for non-network solutions' document to seek expressions of interest from suitably qualified interested parties, particularly from proponents of non-network solutions, to provide solutions that address network constraints to limit or defer augmentation of SA Power Networks' existing electricity distribution network.

This document was prepared to acquaint non-network service providers and interested parties with relevant information regarding SA Power Networks' requirements to address network constraints within three regions, https://www.sapowernetworks.com.au/public/download.jsp?id=323261.

Section 4.1.12

Identify each non-network alternative that SA Power Networks has:
(a) commenced during the *current regulatory control period*; and
(b) selected to commence during, or will continue into, the *forthcoming regulatory control period*.

SA Power Networks' Annual Network Plans, including Expressions of Interest, RIT-Ds, Options Screening Reports, are published on SA Power Networks' website here:
https://www.sapowernetworks.com.au/industry/annual-network-plans/

SA Power Networks has not determined any credible non-network alternative in the current regulatory period.

Section 4.1.13

For each *non-network* alternative identified provide a description, including cost and location.

Not applicable.

Section 4.1.14

For each *non-network* alternative identified provide a description, including cost and location.

[2] ITP Renewables, *Microgrid Feasibility and Screening Study – South Australian Eyre Peninsula*, May, 2023. Accessible on: [https://itpau.com.au/projects/eyre-peninsula-microgrid-feasibility-studies-and-screening-tool/].

Provide, for each year of the current regulatory control period, and for the forthcoming regulatory control period, details of each payment made, or expected to be made, by SA Power Networks to an embedded generator in reflection of any costs avoided by deferring augmentation of:

(a) SA Power Networks' distribution network; or

(b) the relevant transmission *network*.

Not applicable.