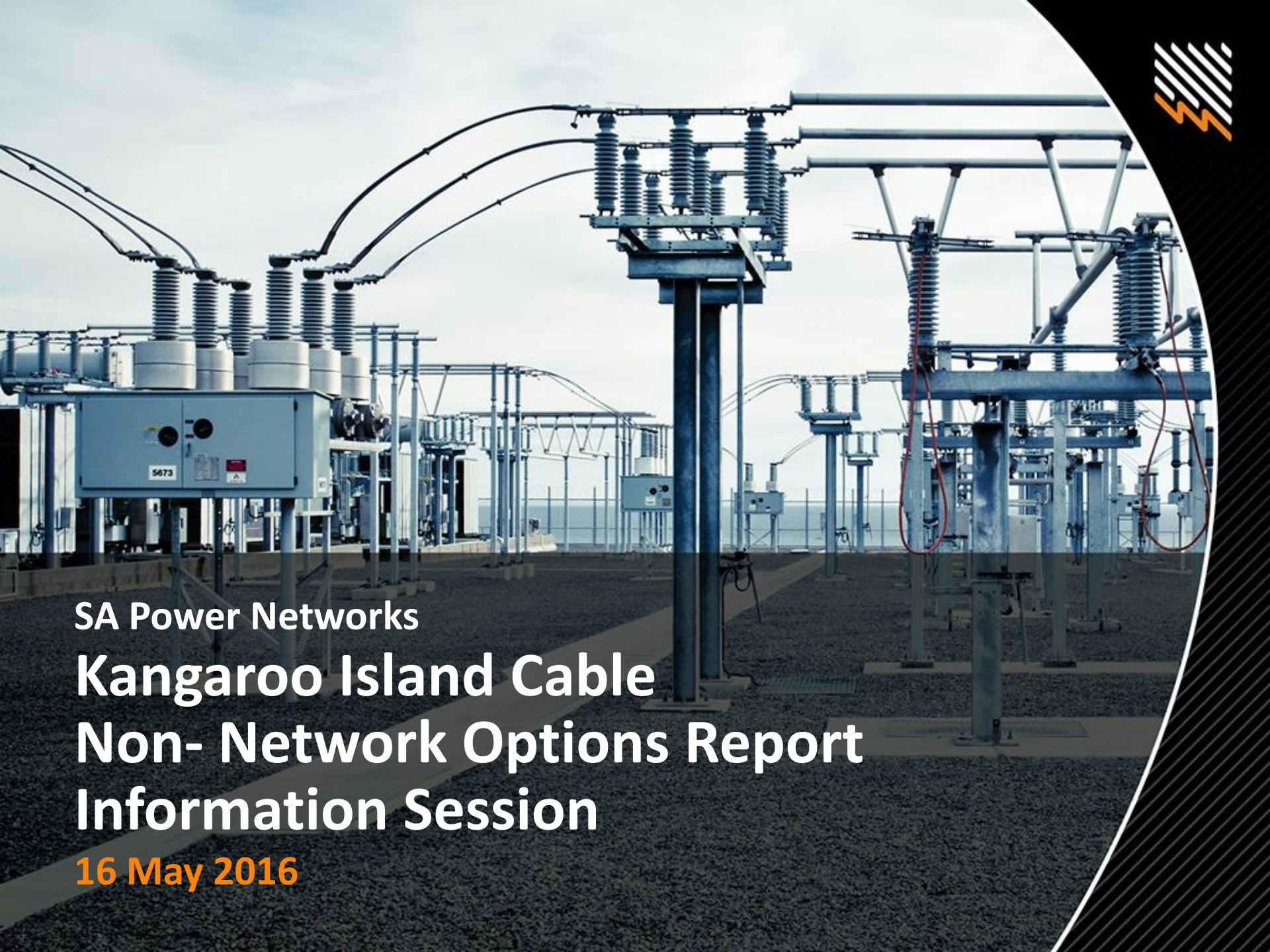


SA Power Networks

Kangaroo Island Cable Non- Network Options Report Information Session

16 May 2016

Agenda

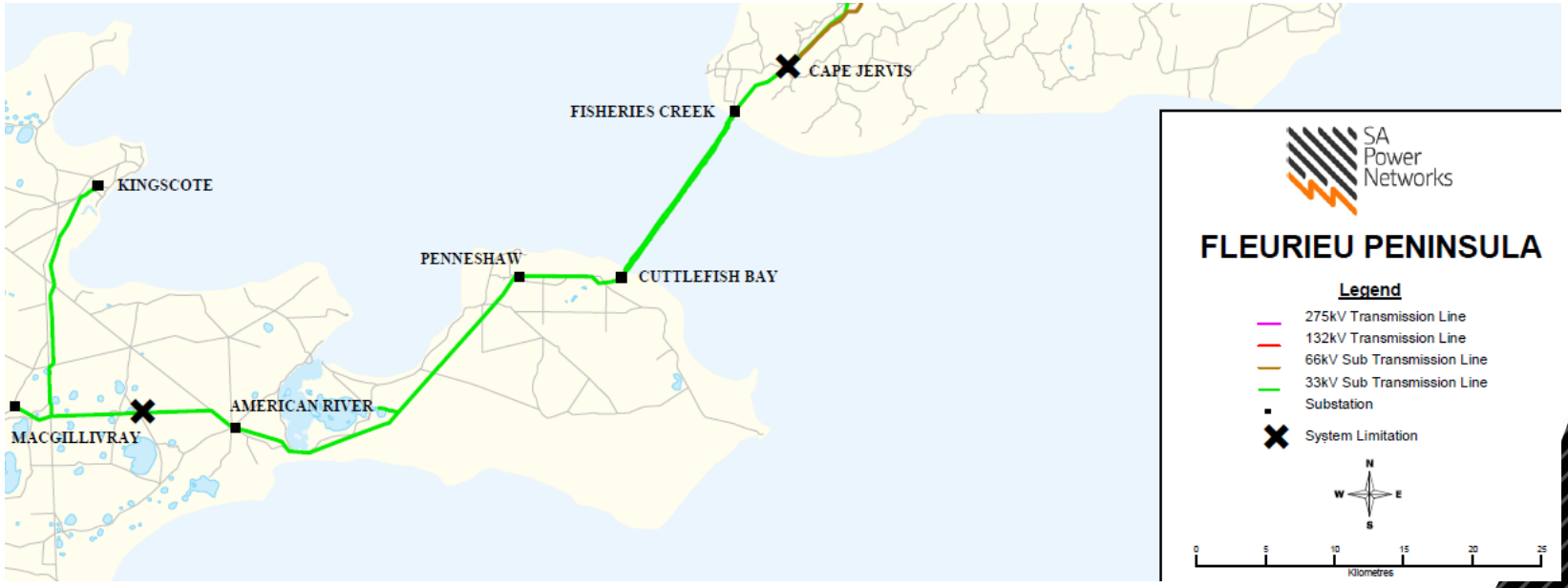
- Introduction
- Kangaroo Island Cable NNOR Presentation
- Unique questions received to date
- Questions from the floor
- Next steps

Presentation outline

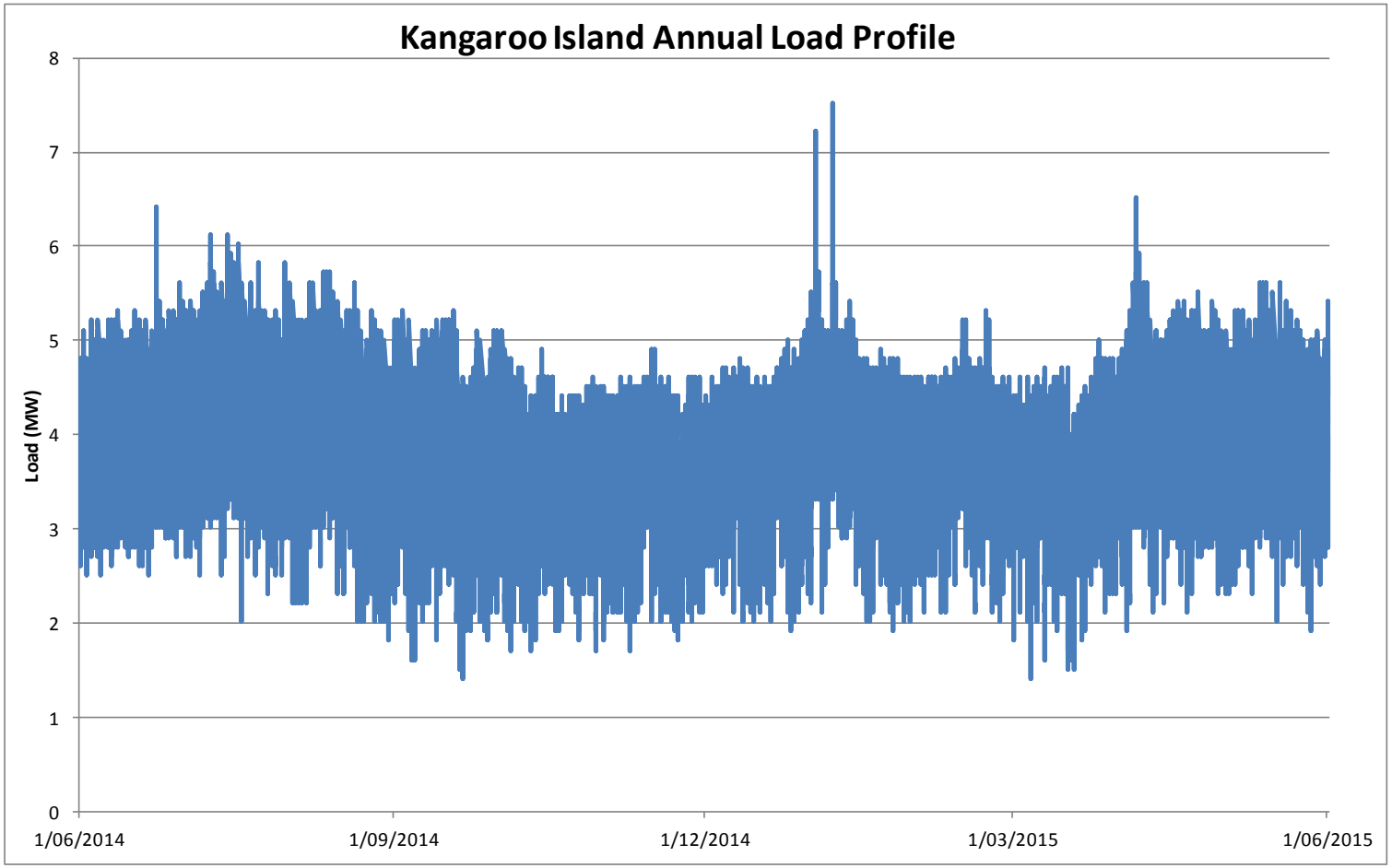
- Background
- Annual Load Profile 2014/15
- Description of the Identified Need
- AER Regulatory Investment Test
- RIT-D Milestone Dates
- Non-network Solutions
- Criteria for Non-network Solutions
- Consideration of Islanded Solutions
- Contents of proposals
- Submissions
- Request for Additional Information

Background

- Kangaroo Island is supplied via a single 33,000 Volt submarine cable from the main land & a single 33,000 Volt power line from Cuttlefish Bay to Kingscote
- This 33,000 Volt power line supplies 33,000/11,000 Volt substations at Penneshaw, American River, MacGillivray & Kingscote



Annual Load Profile 2014/15



- Peak load = 7.6MW
- Annual consumption = 31GWh
- Average load = 3.5MW

Description of the Identified Need

- The security of supply to Kangaroo Island is at risk due to the age & condition of the existing submarine cable supplying the island.
- Significant consequences exist if the cable fails prior to the new cable installation:
  - **Cost of Event**: Approximately $43M for generation (up to 1 yr), repair and management costs.
  - **Impact on KI community:** Initial load shedding followed by reduction in reliability of supply when relying on local generation. Potential impact on tourism, business and the community.

AER Regulatory Investment Test

- SA Power Networks proposes to install a new submarine cable in 2018, ideally prior to failure of the existing cable.
- Before SA Power Networks makes such a financial commitment we will complete the Regulatory Investment Test process that compares both network and non-network solutions to find the optimum solution for our customers.
- The Regulatory Investment Test – Distribution (RIT-D) process as set out in the National Electricity Rules (NER) commenced in April 2016 with the issuing of the Non-Network Options Report.
- SA Power Networks has also sought offers for the cable supply & installation to provide a firm pricing for comparison with any non-network solutions & facilitate commitment to a solution in 2017.

RIT-D Milestone Dates

Milestone	Date
Issue of Non-Network Options Report (NNOR)	Friday 15th April 2016
Information Session (Q & A)	Monday 16th May 2016
Latest date for Final Proposal Submissions to this report	Friday 15th July 2016
Expected date for publication of Draft Project Assessment Report (DPAR)	October 2016
Expected date for publication of Final Project Assessment Report (FPAR)	December 2016

Non-network Solutions

- In order for a non-network solution to be considered viable for KI, it must by itself or in combination with other non-network solutions or traditional network solutions, demonstrate that it:

  - resolves all of the identified network constraints;
  - is of equal security performance (availability) than the proposed network solution (2nd cable);
  - is economically viable (cost effective);
  - be technically feasible in that it is possible that sufficient supply will be provided by the option to meaningfully defer the preferred network option; and
  - is achievable within the required timeframe to resolve the identified need.

Non-network Solutions (2)

- Such a non-network solution must be able to support the island's total demand should the existing cable fail (ie islanded solution), thereafter for the whole evaluation period of 25 years.

- The existing Kingscote Power Station is designed as a standby plant to provide network support in the event of a fault or during maintenance and testing of plant on SA Power Networks' distribution network.

- The existing Kingscote Power Station is only to be used as a backup to the proposed network solution (new cable) or the proposed non-network solution (stand alone).

Criteria for Non-network Solutions

Criteria	Information
Size and Security	• Large enough to meet total demand (future growth) • Adequate redundancy
Operating Profile	• Support the peak summer and winter loads
Location	• Consider augmentation impact of the proposed supply location
Timeframe	• Capable of being operational by 1st December 2018
Fault Levels	• Consider impact on fault levels due to embedded generators to ensure its technical viability (eg protection)
Reliability	•Similar levels of reliability to that provided by the preferred network option (cable)

Criteria for Non-network Solutions (2)

Criteria	Information
Generation	• Suitability for connection and compliance with SA Power Networks' technical standards
Certainty	• Proven technology and have adequate funding, project management and track record of successful implementation elsewhere
Longevity	• Provide solution to the identified need for a period of at least 25 years; or •Be able to defer additional network investment for a number of years whilst delivering the highest network market benefit without increasing SA Power Networks' liability or risk
Islanded Solution	• National Electricity Law and National Energy Retail Law may no longer apply
Evaluation	• 25 year evaluation period

Consideration of Islanded Solutions

- If KI is islanded from the National Grid, then the National Electricity Law and National Energy Retail Law may no longer apply – similar to Coober Pedy (where the ESCOSA rules apply).
- An islanded solution would require considerable stakeholder consultation to determine the form of regulation and who would oversee that regulation.
- The finalisation of the regulatory framework that would apply under an islanded solution may take considerable time.

Contents of Proposal

- A proposal must contain the following information but not limited to:
  - Disclaimer Agreement Form;
  - Proponent's contact details;
  - Evidence of previous experience in undertaking proposed solution;
  - Technical details:
    - Description of technology, size & location;
    - Contribution to fault levels, load flows or stability studies;
    - Operating profile & type of equipment;
    - Operating life or longevity of asset;
    - Capacity, expansion & redundancy capability;
    - Planning & development or environmental compliance approval requirements and timeframe;
    - Salvage or removal costs; and
    - Evaluation of potential risks and actions to mitigate these risks.

Contents of Proposal (2)

- A proposal must contain the following information but not limited to:
  - Amount of network system support being offered (MW and MVA);
  - Costs not included or considered by proponent to be incurred by SA Power Networks (e.g. Connection services);
  - Indicative estimate of the payment levels, payment structure and duration of contract required by the proponent;
  - Expected reliability and availability of the solution;
  - Milestone dates or lead time to implement proposed solution; and
  - Any other issues or information considered relevant.

Submissions

- As part of this evaluation process, SA Power Networks may:
  - seek clarification of details from the proponent
  - combine proposals to form a credible alternative.

- Prospective proponents are encouraged to discuss their potential non-network solution with us prior to submission of proposal.

- All submissions must be received by **16:00 Friday 15th July 2016**.

- Submissions may be sent by email to the following address:

  requestforproposals@sapowernetworks.com.au

  Note: Max size limit for email is 10MB. Proponents may split proposal into multiple emails.

- Written submissions (3 copies) should be posted or lodged at:

  SA Power Networks Tender Box,
  No. 1 Anzac Highway, Keswick, SA 5035

Request for Additional Information

- Request for additional information or clarification regarding this NNOR should be directed by e-mail to:

requestforproposals@sapowernetworks.com.au

- Telephone enquiries can be directed to Pat Howard on (08) 8404 5514.

Unique Questions Received to Date

Questions	Response
Start and end dates for Summer and Winter Seasons	Summer: 1st December to 28th or 29th February Winter: 1st June to 31st August
Summer N - 1 Probability (The probability that a contingency condition (or event) will occur)	A normal distribution curve based on the standard deviation of the square root of the expected life of a cable (30 years) has been used to formulate the probability of failure of the KI cable. The RIT-D analysis scales the annual probability of failure rate by assuming no cable failure before 2017.
The nominal capacity rating of the network element during summer.	10MVA (Rating of existing cable)

Unique Questions Received to Date (2)

Questions	Response
Has any land be defined as potential areas for a large scale PV and wind installation?	No land has been identified or defined for large scale PV and wind installation. It is the responsibility of the proponent to investigate or source a suitable location for the proposed solution.
Since large scale PV and wind will require planning approval and this is a process with an undefined timeframe, does this rule out large scale PV and wind given the uncertainty on permitting and when would this be granted?	SA Power Networks welcomes all proposal however duration required for planning or environmental approvals has to be considered in your proposal. All proposed solution must be capable of being operational by 1st December 2018. Any deferral of network investment must deliver highest market benefit without increasing SA Power networks liability or risk.

Unique Questions Received to Date (3)

Questions	Response
Should large scale PV and wind not be ruled out due to the permitting uncertainty behind them, is the SAPN preference for the proponent to be responsible for the development or will SAPN run this process?	The proponent is solely responsible for the development of the proposed solution.

Questions ?

QUESTIONS ?

www.sapowernetworks.com.au