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Business Case Fact Sheet Reinstate Supply - Peak Alone May 2021

Why we need to invest

✓ **Compliance**

To comply with the NSW Electricity Supply Act 1995, and its obligations under the National Electricity Rules (NER), Essential Energy needs to prudently restore power supply to its customers affected by network outages, in this case, the catastrophic bushfires.

Peak Alone mountain is located within the Wadbilliga National Park in the southeast of New South Wales. The summit of Peak Alone hosts four towers providing communications infrastructure for the Rural Fire Service, National Parks, NSW Police, Essential Energy, Telstra, Optus, Vodafone and the Eurobodalla Shire Council.

On 31st December 2019, bushfires destroyed the four-kilometre 11kV feeder servicing the four communications towers on top of Peak Alone. Following the fires, two rapid-response stand-alone power systems (SAPS) were installed to service three of the four communications towers, with the fourth tower being serviced by a diesel generator alone.

✓ **Business Improvement**

The existing arrangement was only intended to be temporary and is no longer fit for purpose; a permanent solution needs to be implemented that considers the critical nature of the telecommunications services and considers the bushfire risks that exist at this location.

Why not leave things as they are?

Customer reliability at this site has become a considerable issue to manage with the temporary power supplies. Due to the issues with temporary SAPS being undersized the system supplying Towers 1-3 was turned off in August 2020, and the site moved onto full generator supply.

The use of temporary generators is not a long-term solution for maintaining power to customers, and as such a permanent solution of either installing a larger custom design SAPS or a replacement powerline will be considered.

What options did we consider?

Alternative options have been considered to address the identified investment needs as follows:

Option 1: Rebuild the Power Line with Composite Fibre Poles

- Reconstruction of the overhead powerline with new fire-resistant composite fibre poles
- This option while not the cheapest, provides increased resilience in the event of another fire. Capex $0.78M

Option 2: Install a permanent SAPS

- Installation of 137kw of solar and 470kwh of battery capacity to supply the site from a renewable energy SAPS
- The cost of this option was significantly more expensive than other options. Capex $1.33M

Option 3: Rebuild the Power Line with Wood Poles

- Reconstruction of the overhead powerline with wood poles (as per old line)
- This option was not chosen as is does not increase the resilience of the power supply. Capex $0.74M

Option 4: Install new Underground high voltage cables to supply the summit

- Convert the old 4klm overhead powerline to underground high voltage cable
- The cost of this option was significantly more expensive than other options. Capex $1.92M

What are we proposing?

Option 1 is Recommended: Rebuild the Power Line with Composite Fibre Poles

- Reconnection to the power grid will remove the temporary generators on site
- The use of composite poles will increase the resilience to bushfires, evidence from the 2019-20 bushfire season showed significant improvement in asset condition following bushfires
- A slight increase in capital cost will result in longer term benefits for the life expectancy of the powerline
- This option provides the shortest timeframe to restore a permanent power supply
- Provides a unique opportunity to test large scale deployment of 20 composite poles in a single section of network for ongoing monitoring

What will it (Option 1) cost?

This investment will occur over 6 Months from April 2021 with total costs as follows:

Expenditure	$ (FY21 Real)
Project Capital Expenditure	$776k
Ongoing Operating Expenditure (p.a.)	$28k

What are the benefits?

This proposal delivers benefits and addresses the identified investment needs as follows:

Need	Benefit	$ p.a. (FY21 Real)
✓ **Compliance**	Reconstruction of overhead powerlines is compliant with the current licence conditions	Non-financial
✓ **Risk Mitigation**	Use of composite poles is expected to provide for a greater level of resilience and additionally provides modelling capacity of this new technology into the future	Non-financial
✓ **Business Improvement**	Reconstruction of the powerline will reduce the temporary generation costs	$98k p.a.

Options NPV/NPC Comparison

Option		NPV (NPC) $M (FY21 Real)
Option 1 (Recommended)	**Line rebuilt with composite poles**	**($1.76)**
Option 2	SAPS	($2.25)
Option 3	Line rebuilt with wood poles	($1.72)
Option 4	Underground (not modelled as capex exceeded NPV of other options)	NA

Next Steps

Consultation with consumer advocates and stakeholders on the proposed option, begins in June 2021, followed by further consultation in July, prior to finalisation of the cost pass through application and submission to the Australian Energy Regulator in September.