



Powerlink Queensland

Summary of Project Specification Consultation Report

13 September 2018

Addressing the secondary systems condition risks at Belmont Substation

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Summary

Belmont Substation is located in South East Queensland, approximately eleven kilometres south east of the Brisbane CBD, and forms part of Powerlink's transmission network supplying electricity to the Energex distribution network in the surrounding local area and south of Brisbane.

Several secondary systems at the Belmont Substation are reaching the end of their technical service life and are facing obsolescence with manufacturer support and spares no longer available.

Secondary systems include the control, protection and communications equipment that are necessary to operate the transmission network and prevent damage to primary systems when adverse events occur. Under the National Electricity Rules (the Rules), Transmission Network Service Providers (TNSPs) are required to provide sufficient secondary systems, including redundancies, to ensure the transmission system is adequately protected.

Powerlink is required to apply the RIT-T to this investment

This investment is driven by an obligation in the Rules, and is classified as a 'reliability corrective action' under the RIT-T.

Two credible options have been identified to address the identified need

Table 1: Summary of credible options

Option	Description	Indicative capital cost (\$million, 2017/18)	Indicative annual O&M costs (\$million, 2017/18)
Base Option: Replacement with new panels in existing building	Replace obsolete secondary system panels within the existing secondary systems building, beginning early 2019 and completed by late 2020	8.6	0.017
Option 1: Replacement with new panels in prefabricated building	Replace obsolete secondary systems using a modular prefabricated building with new secondary systems installed. Installation on site and commissioning to occur by late 2021	9.6	0.017

The Base Option reflects a conventional approach to ensuring continued compliance with the secondary systems obligations in the Rules and has been selected to serve as the basis of comparison. This option targets the replacement of obsolete components while retaining current infrastructure within the existing building.

It has then been compared with an option in which obsolete secondary systems are replaced using a modular prefabricated building constructed off-site then installed at Belmont Substation.

Powerlink has also considered whether non-network options could address the identified need. A non-network option that avoids replacement of secondary systems would need to replicate the support that Belmont Substation provides Powerlink in meeting its reliability obligations on an enduring basis at a cost that is lower than the network options currently under consideration.

Powerlink welcomes submissions from potential proponents who consider that they could offer a credible non-network option that is both economically and technically feasible.

Base Option has been identified as the preferred option

Due to the nature of the investment neither of the options considered are expected to give rise to market benefits. The difference between the options relates primarily to differences in capital costs. This is supported by the economic net present value (NPV) analysis (refer Table 2).

Table 2: NPV of credible options (NPV, \$m 2017/18)

Option	Central Scenario NPV	Ranking
Base Option	-6.6	1
Option 1	-6.9	2

Powerlink recommends the Base Option for the following reasons:

- least cost in NPV terms
- optimised use of existing infrastructure
- simplified installation and cut-over due to the space available in the existing building.

Under the Base Option, work on designing the replacement secondary systems will commence in early 2019, with completion of the project in late 2020.

The indicative capital cost of this option is \$8.6 million in 2017/18 prices.

Submissions

Powerlink welcomes written submissions on this *Project Specification Consultation Report*. Submissions are particularly sought on the credible options presented.

Submissions are due on or before Tuesday, 11 December 2018.

Please address submissions to:

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