

Contents

Inputs	Tab I0
Calculations	C0
Cashflow	C1
CBA results	R0
Cashflow results	R1

Cell colour key

Header 1

Header 2

Table Header

Format	Example
Table Row Name	Text
Input Cell	
Calculation cell	
Parameter Cell	
Output Cell	

Project description

It has been identified that communication traffic across sections of the Brinkworth – Robertstown line is facing capacity constraints across the radio links between Brinkworth – Bungaree Hill, Bungaree Hill – Clare North, Clare North – Quarry Hill and Quarry Hill – Waterloo East.

In addition, the substation of Mintaro is currently serviced by a radio site at Mt Horrocks (and two radio links, Mintaro – Mt Horrocks and Mt Horrocks – Quarry Hill). Replacing the six existing radios with high capacity radio will provide more adequate communications capacity to serve the needs of this region of the network.

This project is required to meet the Rules capital expenditures objective to comply with all applicable regulatory obligations or requirements associated with the provision of prescribed transmission services and to maintain the quality, reliability and security of supply of prescribed transmission services.

Project options

Base case	Only reactive capital expenditure with business as usual costs escalating to maintain aging assets and account for escalating risk
Option 1	Install OPGW on the link from Brinkworth to Waterloo (via Mintaro and Clare North).
Option 2	Install buried fibre between Brinkworth and Waterloo via Clare Nth and Mintaro, decommission 6 radio links, vacate the leased site of Mt Horrocks and exit Quarry Hill.

Option 3

Delay the planned replacement for installing the OPGW until 2029-2034 as prior to this units are run to failure with emergency replacement of telecommunications asset as required

Key modelling assumptions

Financial year runs from 1 July to 30 June.

Real 2018 \$ are used for all monetary values unless otherwise stated.

Inputs to the model

Parameter/Input	Description	Source
Inflation rate	Rate of inflation.	Reserve Bank of Australia
Discount rate	Real pre-tax discount rate.	ElectraNet estimate
First year of analysis	Year to start analysis.	ElectraNet
Base financial year for analysis	Base year of dollar used in inputs tab.	ElectraNet
Time horizon	Length of time under consideration.	ElectraNet
Capital costs	Amount of capital investment in real terms for each project option.	ElectraNet project budgets and estimates
Useful life	Length of time capital investments are expected to provide service.	ElectraNet project budgets and estimates
Routine maintenance	Annual amount of estimated routine maintenance in real terms	Detailed Opex Assessment
Line Unreliabilty	Annual line unreliabilty due to of a lack of shielding	Line unreliability Tab
Line Maintenance	Annual line maintenance cost	Detailed Opex Assessment

R0 CBA Results

Sensitivities, results and rankings

Input Summary

Parameter selection for sensitivity analysis Discount rate

Scenario parameters	Units	Discount rate scenario		
		Low	Medium	High
Assumed scenario weighting	% weighting	33%	33%	33%
Discount rate	% real, pre-tax	4.50%	6.00%	8.50%
Capital cost	% of estimate	100%	100%	100%

Cost selection for sensitivity analysis Routine Maintenance

Scenario cost inputs	Units	Routine Maintenance scenario		
		Low	Medium	High
Routine Maintenance	% of estimate	70.0%	100.0%	130.0%
Line Unreliability	% of estimate	70.0%	100.0%	130.0%
Line Maintenance	% of estimate	100.0%	100.0%	100.0%

Cost Benefit Analysis Results (Quantitative)

Output summary Net present value of benefits

NPV results Option	Units	Scenario			Weighted NPV
		Low	Medium	High	
Option 1	2018 \$	1,422,517	871,206	39,464	777,729
Option 2	2018 \$	1,048,010	757,451	245,470	683,644
Option 3	2018 \$	294,656	105,216	-126,084	91,263

Output summary Ranking of options

Ranking of options Option	Units	Scenario			Weighted ranking
		Low	Medium	High	
Option 1	2018 \$	1	1	2	1
Option 2	2018 \$	2	2	1	2
Option 3	2018 \$	3	3	3	3