Investment Evaluation Summary (IES)

Project Details:

Project Name:	Install/Augment LV Feeder
Project ID:	00829
Thread:	System Development
CAPEX/OPEX:	CAPEX
Service Classification:	Standard Control
Scope Type:	D
Work Category Code:	CALVF
Work Category Description:	LV Feeders Upgrade - Capacity
Preferred Option Description:	Augment LV cable to appropriate rating and/or configuration.
Preferred Option Estimate (Nominal Dollars):	$0

	17/18	18/19	19/20	20/21	21/22	22/23	23/24	24/25	25/26	26/27
Unit ($)	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Volume	3	3	3	3	3	3	3	3	3	3
Estimate ($)										
Total ($)	$233,625	$233,625	$233,625	$233,625	$233,625	$233,625	$233,625	$233,625	$233,625	$233,625

Governance:

Project Initiator:	Ewan Sherman	**Date:**	30/03/2015
Thread Approved:	Stephen Jarvis	**Date:**	19/10/2015
Project Approver:	Stephen Jarvis	**Date:**	19/10/2015

Document Details:

Version Number:	1

Related Documents:

Description	URL
Network Development Management Plan 2017-19	-

Section 1 (Gated Investment Step 1)

1. Background

This program includes Low Voltage (LV) distribution substations, transformers, and associated feeder circuits operating at < 1 kV (i.e. 400/230 V).

Common projects and programs within this planning level include:

- Upgrading, relocating or establishing distribution transformers, substations, and LV circuits to manage localised thermal loading, voltage, performance, or power quality regulations;
- Installation of HV and LV duct (conduit) with other TasNetworks or third party (local council, developments, etc) works for future network development. Typically for road crossings.
- Reinforcing localised supply feeds to manage exposure of the HV and LV feeder elements (bird strike mitigation, protection relocation, Local Reliability Program);

In particular, this program includes the augmentation of LV feeder conductor and cables to manage localised thermal loading, voltage, performance, or power quality constraints.

1.1 Investment Need

LV networks exposed to excessive thermal loading, or voltage and power quality issues pose a significant risk in terms of:

- public safety,
- third party equipment failure;
- regulatory obligations;
- community values and expectations;
- premature asset failure; and
- reliability performance.

The management of the above risks support TasNetworks to deliver the following:

- Compliance with regulatory obligations; and
- Safety, reliability and security of supply outcomes that meet customers' needs, by maintaining asset utilisation rates at appropriate levels at the lowest whole of life cost.

1.2 Customer Needs or Impact

TasNetworks continues to undertake a consumer engagement as part of business as usual and through the voice of the customer program. Consumers have identified safety, restoration of faults/emergencies and supply reliability as the highest performing services offered by TasNetworks. This project specifically addresses the requirements of consumers in the area of safety, restoration of faults/emergencies and supply reliability.

Customers will continue to be consulted through routine TasNetworks processes, including the Voice of the customer program, the Annual Planning Review and ongoing regular customer liaison meetings.

1.3 Regulatory Considerations

This project is required to achieve the following capital expenditure objectives as described by the National Electricity Rules section 6.5.7(a) 6.5.7 (a).

Forecast capital expenditure

1. meet or manage the expected demand for standard control services over that period;
2. comply with all applicable regulatory obligations or requirements associated with the provision of standard control services;
3. to the extent that there is no applicable regulatory obligation or requirement in relation to:
    - the quality, reliability or security of supply of standard control services; or
    - the reliability or security of the distribution system through the supply of standard control services, to the relevant extent:
    - maintain the quality, reliability and security of supply of standard control services; and
    - maintain the reliability and security of the distribution system through the supply of standard control

services; and
4. maintain the safety of the distribution system through the supply of standard control services.

2. Project Objectives

To manage network risk associated with localised thermal loading, voltage, performance, or power quality constraints.

3. Strategic Alignment

3.1 Business Objectives

Strategic and operational performance objectives relevant to this project are derived from TasNetworks 2014 Corporate Plan, approved by the board in 2014. This project is relevant to the following areas of the corporate plan:

- We understand our customers by making them central to all we do.
- We care for our assets, delivering safe and reliable networks services while transforming our business.

3.2 Business Initiatives

The business initiatives that relate to this project are as follows:

- Safety of our people and the community, while reliably providing network services, is fundamental to the TasNetworks business and remains our immediate priority
- We care for our assets to ensure they deliver safe and reliable network services
- We will transform our business with a focus on: - an appropriate approach to the management and allocation of risk The strategic key performance indicators that will be impacted through undertaking this project are as follows:
    - Customer engagement and service – customer net promoter score
    - Price for customers – lowest sustainable prices
    - Network service performance – meet network planning standards

4. Current Risk Evaluation

The current risk evaluation is Medium.

4.1 5x5 Risk Matrix

TasNetworks business risks are analysed utilising the 5x5 corporate risk matrix, as outlined in TasNetworks Risk Management Framework.

Relevant strategic business risk factors that apply are follows:

Risk Category	Risk	Likelihood	Consequence	Risk Rating
Customer	Localised supply interuptions and contribution towards: • negative impact on community values and expectations • damage to third party equipment; • Increased customer complaints	Possible	Minor	Low
Environment and Community	Increased risk of conductor clashing or failure leading to interruptions, explosion and expulsion of oil	Possible	Minor	Low

Financial	Higher cost associated with repairing equipment under fault, compensation payments (GLS).	Possible	Negligible	Low
Network Performance	Decreased life expectancy of assets due to operating above design criteria. Overheating of transformers and switchgear leading to: • flashover • explosion • oil spill • reduced current ratings	Possible	Minor	Low
Regulatory Compliance	Non-compliance with obligations, resulting in: • Minor fine, or • breach of code and standard or licence for TEC, NER, connection agreements, legislation and regulation	Unlikely	Negligible	Low
Reputation	Minor loss of reputation with affected customers.	Rare	Negligible	Low
Safety and People	Assets in this class are generally located in public areas with high chance of pedestrian traffic. Asset failure could cause: • Decreased operating clearances • Increasing risk of third party contact • Electric shock or electrocution • Explosion, • Physical damage or harm.	Likely	Minor	Medium

Section 1 Approvals (Gated Investment Step 1)

Project Initiator:	Ewan Sherman	**Date:**	30/03/2015
Line Manager:		**Date:**	
Manager (Network Projects) or Group/Business Manager (Non-network projects):		**Date:**	
[Send this signed and endorsed summary to the Capital Works Program Coordinator.]			

Actions			
CWP Project Manager commenced initiation:		**Assigned CW Project Manager:**	
PI notified project initiation commenced:		**Actioned by:**	

Section 2 (Gated Investment Step 2)

5. Preferred Option:

Augment LV network elements including conductor, cable and switchgear.

5.1 Scope

This program consists of installing and augmenting LV circuits to manage asset loading and voltage votlage or power quality issues.

5.2 Expected outcomes and benefits

The outcome of augmenting LV network elements to manage localised thermal loading, voltage, performance, or power quality constraints is the reduction of risk associated with:

- public safety,
- third party equipment failure;
- regulatory obligations;
- community values and expectations;
- premature asset failure; and
- reliability performance.

5.3 Regulatory Test

Not applicable.

6. Options Analysis

The following tables provide a brief summary of the options considered as part of a desk top assessment and in accordance with the Network Development Management plan.

6.1 Option Summary

Option description	
Option 0	Do nothing
Option 1 (preferred)	Augment LV cable to appropriate rating and/or configuration.

6.2 Summary of Drivers

Option	
Option 0	Continued exposure of LV network elements and customers to excessive loading, and/or votlages; resulting in business risks described in Section 1.1.
Option 1 (preferred)	Manage exposure of LV network elements and customers to excessive loading, and/or votlages; resulting in business risks described in Section 1.1.

6.3 Summary of Costs

Option	**Total Cost ($)**

Option 0	$0
Option 1 (preferred)	$0

6.4 Summary of Risk

As a result of the program the target risk assessment will be Low.

6.5 Economic analysis

Option	Description	NPV
Option 0	Do nothing	$0
Option 1 (preferred)	Augment LV cable to appropriate rating and/or configuration.	$0

6.5.1 Quantitative Risk Analysis

Not applicable.

6.5.2 Benchmarking

Not applicable.

6.5.3 Expert findings

Not applicable.

6.5.4 Assumptions

Not applicable.

Section 2 Approvals (Gated Investment Step 2)

Project Initiator:	Ewan Sherman	**Date:**	30/03/2015
Project Manager:		**Date:**	

Actions			
Submitted for CIRT review:		**Actioned by:**	
CIRT outcome:			