

Investment Evaluation Summary (IES)



Project Details:

Project Name:	Replace LV potheads
Project ID:	00667
Thread:	Underground System
CAPEX/OPEX:	CAPEX
Service Classification:	Standard Control
Scope Type:	A
Work Category Code:	REPOC
Work Category Description:	Replace Terminations - LV cast iron potheads
Preferred Option Description:	Replace cable termination
Preferred Option Estimate (Nominal Dollars):	\$800,000

	17/18	18/19	19/20	20/21	21/22
Unit (\$)	\$8,000	\$8,000	\$8,000	\$8,000	\$8,000
Volume	20	20	20	20	20
Estimate (\$)	\$160,000	\$160,000	\$160,000	\$160,000	\$160,000
Total (\$)	\$160,000	\$160,000	\$160,000	\$160,000	\$160,000

Governance:

Project Initiator:	Michael Healy	Date:	26/03/2015
Thread Approved:	David Ellis	Date:	02/11/2015
Project Approver:	David Ellis	Date:	02/11/2015

Document Details:

Version Number:	1
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Related Documents:

Description	URL
Replace LV potheads - IES	http://projectzone.tnad.tasnetworks.com.au/business-projects/nis-program/DD17SAM/Deliverables/Underground%20Systems/DRAFT%20IES%20REPOC%20LV%20potheads.docx

Section 1 (Gated Investment Step 1)

1. Background

In the last few years there have been several instances where cast iron cable terminations have failed, and in some instances, catastrophically resulting in metal shards and pitch being disseminated around the point of failure. Although no harm to the public occurred as a result of these instances, as a consequence their use in public areas presents a notable business risk.



Figure 1: Low voltage cast iron cable termination

1.1 Investment Need

To eliminate the potential for injury or death from a catastrophic failure of cast iron cable termination. There are typically two pothead terminations failures on the network per annum. There are approximately 150 LV potheads on the network.

1.2 Customer Needs or Impact

TasNetworks continues to undertake consumer engagement as part of business as usual and through the voice of the customer program. This engagement seeks in depth feedback on specific issues relating to:

- How it prices impact on its services;
- Current and future consumer energy use;
- Outage experiences (frequency and duration) and expectations;
- Communication expectations;

- STPIS expectations (reliability standards and incentive payments); and
- Increasing understanding of the electricity industry and TasNetworks;

Consumers have identified safety, restoration of faults/emergencies and supply reliability as the highest performing services offered by TasNetworks.

Consumers also identified that into the future they believe that affordability, green, communicative, innovative, efficient and reliable services must be provided by TasNetworks. This project specifically addresses the requirements of consumers in the areas of safety and affordability.

1.3 Regulatory Considerations

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

(4) Maintain the safety of the distribution system through the supply of standard control services.

2. Project Objectives

The objective of this project is to replace all the cast iron low voltage cable terminations on the distribution network to minimise the risk of a failure on the distribution network injuring a member of the public.

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 enable our people to deliver value; and
- 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; and
- We care for our assets to ensure they deliver safe and reliable network services

The strategic key performance indicators that will be impacted through undertaking this project are as follows:

- Price for customers – lowest sustainable prices;
- Zero harm – significant and reportable incidents; and
- Sustainable cost reduction – efficient operating and capital expenditure

4. Current Risk Evaluation

If TasNetworks does not replace all the cast iron cable terminations on the distribution network there is a risk that a failure could result in death or serious injury to a member of the public.

The business risk associated with these assets has been evaluated by using the TasNetworks risk framework

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	Loss of supply	Possible	Negligible	Low
Network Performance	Partial disconnection of network	Possible	Negligible	Low
Reputation	Damage to reputation from harm to member of the public	Possible	Minor	Low
Safety and People	Personal injury or death to member of the public	Unlikely	Major	Medium

Section 1 Approvals (Gated Investment Step 1)

Project Initiator:	Michael Healy	Date:	26/03/2015
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:

The preferred option is to replace all low voltage cast iron cable terminations with new PVC cable terminations.

5.1 Scope

The scope of work entails replacement of the existing cast iron cable terminations with new PVC insulate terminations.

5.2 Expected outcomes and benefits

Following the completion of this work the risk of a cast iron termination failure occurring will be eliminated. This will eliminate the risk of such a failure causing harm to a member of the public.

5.3 Regulatory Test

Not applicable.

6. Options Analysis

6.1 Option Summary

Option description	
Option 0	Do nothing
Option 1 (preferred)	Replace cable termination

6.2 Summary of Drivers

Option	
Option 0	Customer impact from asset failures will increase over time. Network impact from asset failures will increase over time. Risk to reputation from failures occurring that causes personal harm. Does not address safety risk
Option 1 (preferred)	Eliminates the risk of customer impact from asset failures. Eliminates the risk network impact from asset failures. Eliminates the risk to reputation from failures occurring that causes personal harm. Eliminates safety risk

6.3 Summary of Costs

Option	Total Cost (\$)
Option 0	\$0
Option 1 (preferred)	\$800,000

6.4 Summary of Risk

Option 0: Do Nothing

Public safety risk remains at 'Medium' with the potential to increase further over time as the failure rate increases.

Option 1: Replacement of all low voltage cast iron cable terminations [Preferred Option]

The likelihood of a failure causing harm to a member of the public reduces over time, with it being significantly reduced by 2023.

6.5 Economic analysis

Option	Description	NPV
Option 0	Do nothing	\$0
Option 1 (preferred)	Replace cable termination	\$0

6.5.1 Quantitative Risk Analysis

Not applicable.

6.5.2 Benchmarking

Minimising the safety risk that the electrical distribution network presents to the public is also considered a high priority to other DNSP's around Australia.

6.5.3 Expert findings

Not applicable.

6.5.4 Assumptions

Not applicable.

Section 2 Approvals (Gated Investment Step 2)

Project Initiator:	Michael Healy	Date:	26/03/2015
Project Manager:		Date:	

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