

Investment Evaluation Summary (IES)



Project Details:

Project Name:	Address safety and environmental issues in ground mounted substations - Asbestos
Project ID:	00526
Thread:	Ground Mounted Substations
CAPEX/OPEX:	CAPEX
Service Classification:	Standard Control
Scope Type:	D
Work Category Code:	SIGMS
Work Category Description:	Address Safety and Env Issues in GMS
Preferred Option Description:	Address poor condition asbestos containing material
Preferred Option Estimate (Nominal Dollars):	\$50,000

	17/18	18/19	19/20	20/21	21/22	22/23	23/24	24/25	25/26	26/27
Unit (\$)	\$5,000	\$5,000	\$5,000	\$5,000	\$5,000	\$5,000	\$5,000	\$5,000	\$5,000	\$5,000
Volume	1	1	1	1	1	1	1	1	1	1
Estimate (\$)	\$5,000	\$5,000	\$5,000	\$5,000	\$5,000	\$5,000	\$5,000	\$5,000	\$5,000	\$5,000
Total (\$)	\$5,000	\$5,000	\$5,000	\$5,000	\$5,000	\$5,000	\$5,000	\$5,000	\$5,000	\$5,000

Governance:

Project Initiator:	Jarad Hughes	Date:	20/03/2015
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
Address Safety and Environmental Issues in Ground Mounted Substations - IES	http://projectzone.tnad.tasnetworks.com.au/business-projects/nis-program/DD17SAM/Deliverables/Ground%20Mounted%20Substations/DRAFT%20SIGMS%20-%20Address%20Safety%20and%20Environmental%20Issues%20in%20Ground%20Mounted%20Substations%20IES.docx

Section 1 (Gated Investment Step 1)

1. Background

TasNetworks own and maintain approximately 1900 ground mounted distribution substations which can be divided into the following types:

1. Building: Indoor equipment enclosed in a permanent building with working space and passageways;
2. Fence: Predominantly outdoor equipment, but may be indoor equipment installed in individual weatherproof housings, within a fenced enclosure;
3. Kiosk: Indoor equipment enclosed in a common weatherproof housing with little or no working space or passageway. Provision is made for individual items to be changed;
4. Padmounted: A complete assembly, which is installed or replaced as a unit on a concrete foundation at ground level; and
5. Vault: Indoor equipment housed in an underground vault with access by a vertical hatchway from a road or footpath.

These assets were installed from the 1950s and the technology and designs used previously vary greatly to those of today's standards. As such a number of these contain safety and environmental issues of which this program aims to address. The issues are as follows:

- Lack of adequate oil containment
- Asbestos containing material
- Fire standards compliance
- Exposed energised equipment (live front boards)

1.1 Investment Need

TasNetworks is required to comply with the Work Health and Safety Act and Regulations 2012, along with the Building Code of Australia, AS 2067 Substation and High Voltage Installations Exceeding 1 kV AC, AS 3000 Electrical Wiring Rules and WorkSafe Tasmania – How to Manage and Control Asbestos in the Workplace Code of Practice.

Asbestos containing material:

As mentioned above TasNetworks has to comply with various regulations on how to manage asbestos. Approximately 600 of TasNetworks' ground mounted distribution substations contain asbestos, with the majority of this is in good condition, i.e. not friable. There are however a number of items that are in poor condition or require replacement due to other work on the asset which could cause airborne asbestos particles.

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*. 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)
- Increase 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, restoration of faults/emergencies and supply reliability
- affordability, green, communicative, innovative, efficient and reliable services

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 and operational expenditure objectives as described by the National Electricity Rules section 6.5.7(a).

6.5.7 (a) Forecast capital expenditure

- (2) comply with all applicable regulatory obligations or requirements associated with the provision of standard control services;
- (4) maintain the safety of the distribution system through the supply of standard control services.

2. Project Objectives

The objective of this work is to address issues with poor condition asbestos at TasNetworks' ground mounted substations

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.

- 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

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

- Zero harm – significant and reportable incidents

4. Current Risk Evaluation

TasNetworks where to take a do nothing approach there would be an increase an increased risk of public or personnel developing asbestos related illnesses.

The assessment of risk was undertaken using TasNetworks' Risk Management Framework.

The level of risk identified was such that a treatment plan is required to reduce the risk down to a manageable level.

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
Safety and People	Long term health impacts as a result of asbestosis – poor condition friable ACM in subs	Unlikely	Severe	High

Section 1 Approvals (Gated Investment Step 1)

Project Initiator:	Jarad Hughes	Date:	20/03/2015
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 solution is to replace poor condition (friable) asbestos containing equipment (ACM)

5.1 Scope

This work will include the replacement of asbestos containing material (ACM) such as light and power boards and meter boards. Previous periodic inspections of ACM at distribution substations have identified that one site per year approaches a friable condition. The replacement rate is based on this

5.2 Expected outcomes and benefits

It is expected that no TasNetworks Operator will experience any asbestos exposure health effects from the completion of this program

5.3 Regulatory Test

Not applicable

6. Options Analysis

6.1 Option Summary

Option description	
Option 0	Do nothing
Option 1 (preferred)	Address poor condition asbestos containing material

6.2 Summary of Drivers

Option	
Option 0	This does not address poor condition asbestos and may lead to long term health impacts
Option 1 (preferred)	This will prevent any long term health impacts as a result of asbestosis

6.3 Summary of Costs

Option	Total Cost (\$)
Option 0	\$0
Option 1 (preferred)	\$50,000

6.4 Summary of Risk

Option 0: Do Nothing

Take no action towards the removal of friable asbestos until the substation is replaced.

Advantages:

- Lowest cost solution
- CAPEX deferral

Disadvantages

- Does not fix the health risk
- Does not fix the non-compliance problem

This option does not address the risks previously identified in Section 4.

Option 1: Remove Friable Asbestos [Preferred Option]

Remove asbestos when found to be in a friable state which otherwise neglected would result in serious health risks to the public and personnel.

Advantages:

- Addresses the non-compliance issue
- Mitigates against health issues

Disadvantages:

- Capital expenditure required

This is the lowest cost option to reduce the business risks down to a manageable level.

6.5 Economic analysis

Option	Description	NPV
Option 0	Do nothing	\$0
Option 1 (preferred)	Address poor condition asbestos containing material	\$0

6.5.1 Quantitative Risk Analysis

Not applicable

6.5.2 Benchmarking

Other DNSPs also have policies and strategies in place to safely manage the risks associated with asbestos containing materials.

6.5.3 Expert findings

Not applicable

6.5.4 Assumptions

Nil

Section 2 Approvals (Gated Investment Step 2)

Project Initiator:	Jarad Hughes	Date:	20/03/2015
Project Manager:		Date:	

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