

Investment Evaluation Summary (IES)



Project Details:

Project Name:	Replace Service Fuses – Fault (Fault Code 01)
Project ID:	00756
Thread:	Connection Assets
CAPEX/OPEX:	CAPEX
Service Classification:	Standard Control
Scope Type:	B
Work Category Code:	SCSRE
Work Category Description:	Replace services OH & service fuses
Preferred Option Description:	Replace service fuses
Preferred Option Estimate (Nominal Dollars):	\$9,000,000

	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	850,000	850,000	850,000	850,000	850,000	850,000	850,000	850,000	850,000	850,000
Estimate (\$)										
Total (\$)	\$850,000	\$850,000	\$850,000	\$850,000	\$850,000	\$850,000	\$850,000	\$850,000	\$850,000	\$850,000

Governance:

Project Initiator:	Darryl Munro	Date:	30/03/2015
Thread Approved:	Darryl Munro	Date:	16/10/2015
Project Approver:	Darryl Munro	Date:	16/10/2015

Document Details:

Version Number:	1
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Related Documents:

Description	URL
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Section 1 (Gated Investment Step 1)

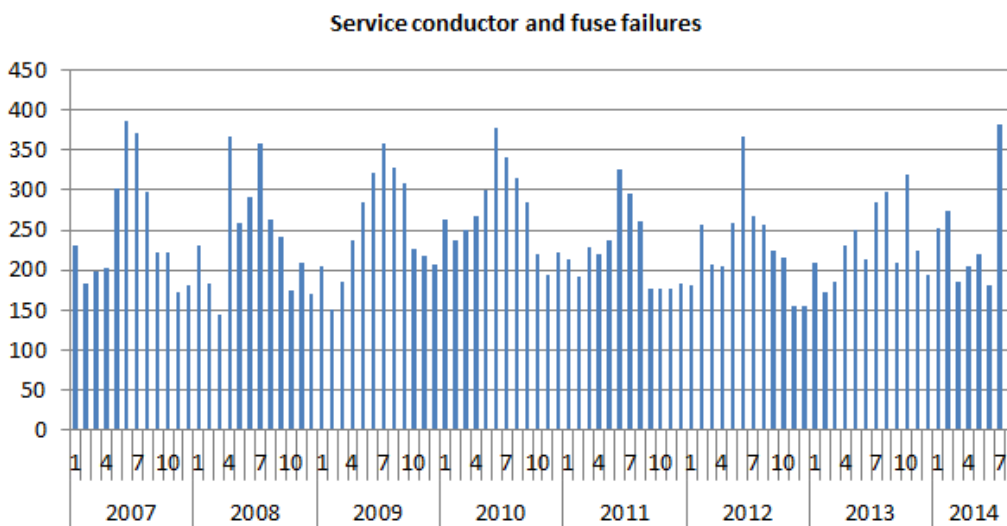
1. Background

An audit in 2006 identified that approximately 13% of service connection assets, including service wire, fuses and clamps, were in poor condition and required replacement. This audit identified specific asset types that were in poor condition and has resulted in the creation of the Overhead service replacement rule base. The rule base is used to assess the condition and identify assets for replacement whenever crews work on a service asset during other tasks such as pole replacement or staking or LV conductor upgrades.

Volumes are based on expected number of pole replacements/staking and number of spans of LV conductor upgraded. Analysis of assets data indicates that there are approximately 1.6 overhead services per LV pole and this average is used in the estimate of the number of services that will require replacement. It is also assumed that approximately 13% of services will be in poor condition as per the 2006 audit.

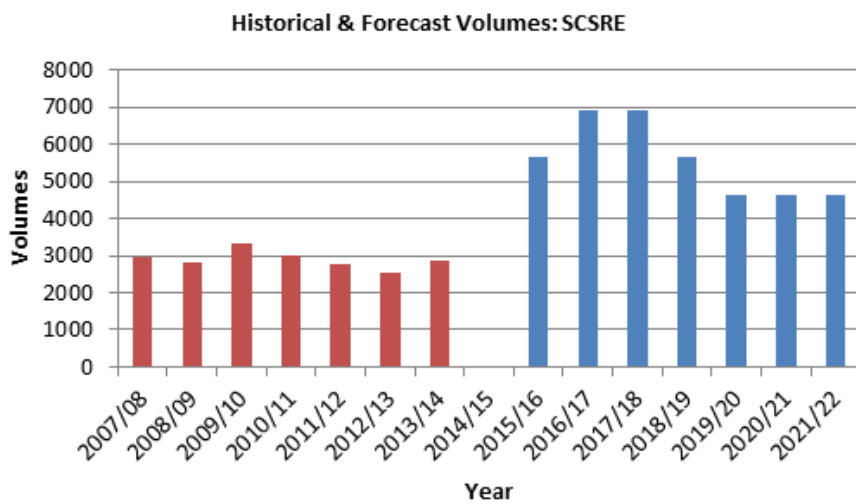
This program capitalises the asset replacement required during replacement of service assets that operate or fail in service. Forecasting of this replacement program is based on historical service related outage information, which is shown in Figure 6 and shows a stable trend of service related outages averaging at approximately 2900 faults per year.

Figure 1: Number of Service Conductor and Fuse failures per Month



This category of work also includes replacement tasks associated with upgrades to public lighting assets and assets replaced according to the Overhead Service Replacement Rule Base. Figure 2 below shows historical and forecast volumes of tasks for this work category.

Figure 2: Historical and Forecast Volumes - SCSRE



1.1 Investment Need

Existing substandard overhead electrical services are required to be replaced to ensure the safety of the property owner, the general public and TasNetworks personnel.

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 its 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)
- 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, 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) and 6.5.6(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:
 - (i) the quality, reliability or security of supply of standard control services; or

- (ii) the reliability or security of the distribution system through the supply of standard control services, to the relevant extent;
 - (iii) maintain the quality, reliability and security of supply of standard control services; and
 - (iv) 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

Respond to fault and emergency activities relating to Service Fuses that require immediate attention and carry out repairs to restore the Service to a safe and stable operation.

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
- 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
 - Culture and people engagement – Culture score
 - Zero harm – significant and reportable incidents
 - Network service performance – meet network planning standards
 - Network service performance – outcomes under service target performance incentive schemes
 - Sustainable cost reduction – efficient operating and capital expenditure

4. Current Risk Evaluation

Do nothing is not an acceptable option to TasNetworks' risk appetite. The level of risk identified above is such that a treatment plan is required to reduce the risks to a tolerable level, in line with TasNetworks' Risk Management 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	Supply interruption resulting from asset failure.	Almost Certain	Negligible	Medium
Financial	GSL payments for failure to restore supply within required timeframes.	Almost Certain	Negligible	Medium
Network Performance	Supply interruption or power quality issue resulting from asset failure.	Almost Certain	Minor	Medium
Safety and People	Potential of injury or death resulting from hazardous conditions.	Unlikely	Severe	High

Section 1 Approvals (Gated Investment Step 1)

Project Initiator:	Darryl Munro	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:

Reactive non-demand replacement of overhead servicing assets that have failed in service.

5.1 Scope

Capitalisation of replacing Service Fuses under fault.

5.2 Expected outcomes and benefits

This capital expenditure is required to:

- Restore the network to a safe condition following a fault; and
- Restore supply to a customer following a fault.

5.3 Regulatory Test

6. Options Analysis

Option 0: Do nothing - cease responding to faults

Advantages

- Less expenditure than option 1

Disadvantages

- Customer supply will not be restored following interruption.
- Potentially hazardous voltages remain following asset failure.

Option 1: Replace service fuses

Advantages

- Customer supply will be restored following interruption.
- Maintains network security following fault on consumer mains.
- Network restored to safe condition following asset failure.

Disadvantages

- More expensive than option 0.

Option 2: Replace service fuses (with complimentary pro-active replacement program)

Advantages

- Customer supply will be restored following interruption.
- Maintains network security following fault on consumer mains.
- Network restored to safe condition following asset failure.

Disadvantages

- Most expensive NPV.
- Reduced network performance due to increased unplanned outages.
- Reduced public safety due to running assets to failure and allowing assets in poor condition to remain in service longer.

6.1 Option Summary

Option description	
Option 0	Do nothing - cease responding to faults
Option 1 (preferred)	Replace service fuses
Option 2	Replace service fuses (with complimentary pro-active replacement program)

6.2 Summary of Drivers

Option	
Option 0	<ul style="list-style-type: none"> Restore the network to a safe condition following a fault - No Restore supply to a customer following a fault - No
Option 1 (preferred)	<ul style="list-style-type: none"> Restore the network to a safe condition following a fault - Yes Restore supply to a customer following a fault - Yes
Option 2	<ul style="list-style-type: none"> Restore the network to a safe condition following a fault - Yes Restore supply to a customer following a fault -Yes

6.3 Summary of Costs

Option	Total Cost (\$)
Option 0	\$0
Option 1 (preferred)	\$9,000,000
Option 2	\$0

6.4 Summary of Risk

This section outlines an overall residual asset risk level, for each of the options.

Option	Risk Assessment
Option 0	Very High
Option 1	Medium

6.5 Economic analysis

Option	Description	NPV
Option 0	Do nothing - cease responding to faults	\$0
Option 1 (preferred)	Replace service fuses	\$0
Option 2	Replace service fuses (with complimentary pro-active replacement program)	\$0

6.5.1 Quantitative Risk Analysis

A quantitative risk analysis has not been completed for this item.

6.5.2 Benchmarking

Benchmarking has not been completed for this item.

6.5.3 Expert findings

There are no expert findings to report on this project.

6.5.4 Assumptions

Program is based on historical volumes and expenditure for this category of work.

Section 2 Approvals (Gated Investment Step 2)

Project Initiator:	Darryl Munro	Date:	30/03/2015
Project Manager:		Date:	

Actions

Submitted for CIRT review:		Actioned by:	
CIRT outcome:			