

Investment Evaluation Summary (IES)



Project Details:

Project Name:	Replace OH LV Services - Basic
Project ID:	00757
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 overhead services
Preferred Option Estimate (Nominal Dollars):	\$8,000,000

	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	1,500	1,500	1,500	1,500	1,500	1,500	1,500	1,500	1,500	1,500
Estimate (\$)										
Total (\$)	\$750,000	\$750,000	\$750,000	\$750,000	\$750,000	\$750,000	\$750,000	\$750,000	\$750,000	\$750,000

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)

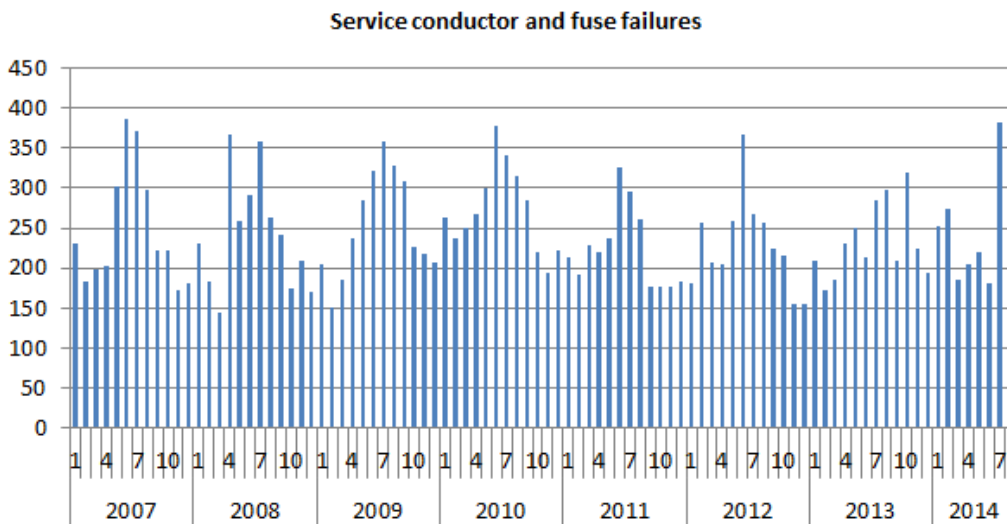
1. Background

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.

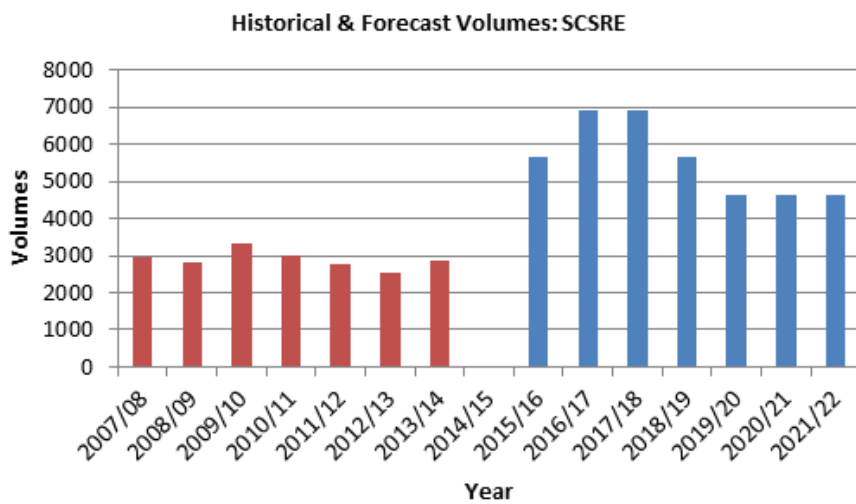
This program capitalises the asset replacement required during replacement of service assets that operate or fail in service. Forecasting of this replacement program is based on historical service related outage information, which is shown in Figure 6 and shows a stable trend of service related outages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

Non-demand replacement of overhead servicing assets according to condition and risk based assessment criteria. This project specifically targets basic replacement tasks where no other work is required to complete the task (such as install cross-over poles).

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 failure in service if not replaced in time.	Almost Certain	Negligible	Medium
Network Performance	supply interruption or quality issue resulting from failure in service if not replaced in time.	Almost Certain	Minor	Medium
Safety and People	risk of shock or electrocution resulting from failed neutral.	Possible	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:

Non-demand replacement of overhead servicing assets.

5.1 Scope

Work to be undertaken: The work to be undertaken shall be the replacement of substandard overhead services and associated assets as described in NW-#30208873-Defective Servicing Asset Replacement Rule Base.

Particular methodology to undertake the work:

- a) Customer's mains box will be inspected before the start of work to ensure serviceability.
- b) Service upgrades will include the renewal of all components from the pole to the customer's main box or equivalent (including service conductor, fuse holder, fuse cartridge and tails into the mains box). The renewal shall also include the refitting of the fascia mounted service hook (anchoring point) as required.
- c) Assets are to be replaced as per NW-#30208873-Defective Servicing Asset Replacement Rule Base.
- d) Replacements to be completed according to the Service and Installation Rules and OH line design manual.
- e) In addition to work performed, and prior to leaving the site, all connections on a pole and/or point of attachment where work is undertaken shall be checked and tightened/replaced where required, e.g. check the service fuse, mains box, service tails, PG clamps, Ds & Ts, visual inspection of TX neutral earths etc.
- f) In addition to work performed a visual inspection of the immediate site shall be undertaken to ensure minimum ground clearance standards are maintained for all overhead conductors.
- g) Work under this scope is confined to basic replacements that do not require upgrades to points of attachment or installation of cross-over poles. Replacements that require additional work should be completed under the D type scope SCSRE - Replace OH LV Services – Complex.

5.2 Expected outcomes and benefits

This capital expenditure is required to:

- Replace assets that have degraded and are at increased risk of failure; and
- Replace assets before they fail in service (to reduce risk and cost).

5.3 Regulatory Test

6. Options Analysis

Option 0: Do nothing

Advantages

- Less expenditure than option 1

Disadvantages

- Does not effectively manage risk of shock or electrocution by continuing to run all assets to failure.
- Likely customer shock or electrocution from failed neutral or exposure to hazardous voltages.
- Results in unplanned supply interruption when asset fails in service.

Option 1: Replace overhead services

Advantages

- Reduces risk of customer shock or electrocution by replacing assets before they fail in service.
- Cheaper option than running assets to failure and replacing under fault.
- Enables replacement activities to be prioritised and combined with other tasks to improve efficiency.
- Supply interruption planned and shorter duration.

Disadvantages

- More expensive than option 0

6.1 Option Summary

Option description	
Option 0	Do nothing
Option 1 (preferred)	Replace overhead services

6.2 Summary of Drivers

Option	
Option 0	<ul style="list-style-type: none"> • Replace assets that have degraded and are at increased risk of failure - No • Replace assets before they fail in service (to reduce risk and cost) - No.
Option 1 (preferred)	<ul style="list-style-type: none"> • Replace assets that have degraded and are at increased risk of failure - Yes • Replace assets before they fail in service (to reduce risk and cost) - Yes.

6.3 Summary of Costs

Option	Total Cost (\$)
Option 0	\$0
Option 1 (preferred)	\$8,000,000

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	\$0
Option 1 (preferred)	Replace overhead services	\$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

No expert findings have been used for this item.

6.5.4 Assumptions

CablePI (SCMWA) program will continue to provide neutral integrity monitoring - enabling just in time replacement of service assets as they approach failure.

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:			