Investment Evaluation Summary (IES)

Project Details:

Project Name:	Replace control relays on pilot and cascade roadlighting control systems
Project ID:	00527
Thread:	Public Lighting
CAPEX/OPEX:	CAPEX
Service Classification:	Alternative Control
Scope Type:	B
Work Category Code:	RLREL
Work Category Description:	Replace relays - RL control systems
Preferred Option Description:	Replace relays and control systems
Preferred Option Estimate (Nominal Dollars):	$400,000

	17/18	18/19	19/20	20/21	21/22	22/23	23/24	24/25	25/26	26/27
Unit ($)	$800	$800	$800	$800	$800	$800	$800	$800	$800	$800
Volume	50	50	50	50	50	50	50	50	50	50
Estimate ($)	$40,000	$40,000	$40,000	$40,000	$40,000	$40,000	$40,000	$40,000	$40,000	$40,000
Total ($)	$40,000	$40,000	$40,000	$40,000	$40,000	$40,000	$40,000	$40,000	$40,000	$40,000

Governance:

Project Initiator:	Gerard Martindill	**Date:**	21/03/2015
Thread Approved:	Darryl Munro	**Date:**	16/10/2015
Project Approver:	Darryl Munro	**Date:**	16/10/2015

Document Details:

Version Number:	1

Related Documents:

Description	URL

Section 1 (Gated Investment Step 1)

1. Background

Relays and cascade control systems are installed in CBD areas and arterial routes mainly with other scattered systems through out towns and suburbs in Tasmania. These relays systems control both major and minor lighting, with major lighting ion the CBD areas and arterial routes. As part of the National Broadband Network (NBN) roll out in Tasmania, NBNCo is removing the switch wire (mostly on minor lighting) and some associated relays systems in order to increase the height available on TasNetworks' poles to run optical fibre.

1.1 Investment Need

Relays systems are 'run to failure' when either the electrical or mechanical properties of the relays system fail. Investment is required to scope, procure and install replacement relays systems. There is the occassional time, when new relays systems are required to suppliment an existing relay controlling scheme.

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 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. specifically items 3 and 4

2. Project Objectives

To provide for the replacement of faulty or aged control relays and associated equipment as required maintaining a reliable and effective public roadlighting system.

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: - the customer, and a strong commitment to delivering services they value - an engaged workplace with strong cultural qualities and people who will be great ambassadors for TasNetworks - a high performing culture with clear accountabilities for deliverables - an appropriate approach to the management and allocation of risk - a well run, efficient business, that delivers sustainable returns to the Tasmanian community and is resilient to future challenges. 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 • Zero harm – significant and reportable incidents • Sustainable cost reduction – efficient operating and capital expenditure

4. Current Risk Evaluation

Do nothing is not an acceptable option to TN's risk appetite. If nothing is done, vast amount of streetlighting systems would fail to operate and cause issues with public safety and non complience with the AER.

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	Public safety due to loss of lighting circuit	Possible	Moderate	Medium

Section 1 Approvals (Gated Investment Step 1)

Project Initiator:	Gerard Martindill	**Date:**	21/03/2015
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:

To provide for the replacement of faulty or aged control relays and associated equipment as required maintaining a reliable and effective public road lighting system.

5.1 Scope

1 Work to be undertaken:

The work to be undertaken shall be the response to and replacement of faulty control relays. The work can also be as a targeted program to replace aged control relays as identified. The replacements will be sourced by the following methods:

a) Assets generated

- i) Metering Asset Strategy will issue individual scope for faulty relays or control circuitry.
- ii) Targeted replacement of control relays for pilot wire or cascade roadlighting control systems will be issued by individual scope document listing specific work required. This will be issued by Assets direct to Works and Service Delivery.

b) Works and Service Delivery generated

- i) Works and Service Delivery may attend individual faulty relays under their own direction, however such attendances are to be made known to Metering Asset Strategy as soon as it is practicable to do so.
- ii) Works and Service Delivery may make recommendations for targeted replacement. The Asset Engineer - Public Lighting must approve this recommendation in writing prior to issuing the work.

2. Particular methodology to undertake the work:

a. The data registered should detail the Pole ID, Address and Location. This is important to enable correct records to be kept, which will enable Aurora to undertake future replacement and maintenance in future years. Refer to client for further information as required.

b. In accordance with the requirements of TasNetworks Operating Procedures and under the direction of Network Operations Department: i. Provide adequate levels of response to streetlight upgrade activities as agreed with Regional. ii. Take appropriate actions to ensure the safety of the public, employees, network assets and the environment.

c. In accordance with TasNetworks Maintenance Department instructions:

- i. Undertake an appropriate level of repairs to reinstate the Public Lighting System in accordance with section 2f.
- ii. Advise Metering Assets Strategy through a standardised reporting system any further asset repair actions required including recommendations as a result of the defective luminaires.
- iii. Identify, record and report to Metering Assets Strategy all defects and findings that require either further specific design and/or construction work and will result in further expenditure of a capital nature.

d. Definitions: Streetlight Upgrade General Replacement versus Fault and Emergency Repair. i. Streetlight Upgrade General Replacement is:

1. The replacement of faulty 2x20 watt fluorescent luminaires and 50 W MV luminaries where the replacement can wait to be done and does not pose a risk to either system stability or public safety. (usually work that can be delayed more than 24 hours).

5.2 Expected outcomes and benefits

Ensure public safety by maintaining a reliable and effective public road lighting system.

5.3 Regulatory Test

6. Options Analysis

6.1 Option Summary

Option description	
Option 0	Do nothing
Option 1 (preferred)	Replace relays and control systems

6.2 Summary of Drivers

Option	
Option 0	Does not maintain effective lighting resulting in risk to public safety.
Option 1 (preferred)	Ensure public safety by maintaining a reliable and effective public road lighting system.

6.3 Summary of Costs

Option	Total Cost ($)
Option 0	$0
Option 1 (preferred)	$400,000

6.4 Summary of Risk

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

Option	Risk Assessment
Option 0	Medium
Option 1	Medium

6.5 Economic analysis

Option	Description	NPV

Option 0	Do nothing	$0
Option 1 (preferred)	Replace relays and control systems	$0

6.5.1 Quantitative Risk Analysis

A quanitative 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

Section 2 Approvals (Gated Investment Step 2)

Project Initiator:	Gerard Martindill	**Date:**	21/03/2015
Project Manager:		**Date:**	

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