

Investment Evaluation Summary (IES)



Project Details:

Project Name:	Emerg & Unsched Pwr Sys Response & repairs
Project ID:	00963
Thread:	System Operations
CAPEX/OPEX:	OPEX
Service Classification:	Standard Control
Scope Type:	B
Work Category Code:	EMRES
Work Category Description:	Emerg & Unsched Pwr Sys Response & repairs
Preferred Option Description:	Option 1 - operational activities associated with the process and work in attending to system faults and emergencies
Preferred Option Estimate (Nominal Dollars):	\$100,011,080

	17/18	18/19	19/20	20/21	21/22	22/23	23/24	24/25	25/26	26/27
Unit (\$)	\$10,001,108	\$10,001,108	\$10,001,108	\$10,001,108	\$10,001,108	\$10,001,108	\$10,001,108	\$10,001,108	\$10,001,108	\$10,001,108
Volume	1	1	1	1	1	1	1	1	1	1
Estimate (\$)	\$10,001,108	\$10,001,108	\$10,001,108	\$10,001,108	\$10,001,108	\$10,001,108	\$10,001,108	\$10,001,108	\$10,001,108	\$10,001,108
Total (\$)	\$10,001,108	\$10,001,108	\$10,001,108	\$10,001,108	\$10,001,108	\$10,001,108	\$10,001,108	\$10,001,108	\$10,001,108	\$10,001,108

Governance:

Project Initiator:	Jason King	Date:	08/04/2015
Thread Approved:	Nicole Eastoe	Date:	01/11/2015
Project Approver:	Nicole Eastoe	Date:	01/11/2015

Document Details:

Version Number:	1
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Related Documents:

Description	URL
TasNetworks Risk Appetite Statements	http://collaborationzone.tnad.tasnetworks.com.au/business-functions/audit-risk-compliance/Risk-Management/Risk%20Management/TasNetworks%20-%20Risk%20Appetite%20Statement%20FINAL.docx
TasNetworks Risk Metrics	http://collaborationzone.tnad.tasnetworks.com.au/business-functions/audit-risk-compliance/Risk-Management/Risk%20Management/TasNetworks%20-%20Risk%20Metrics%20FINAL.docx
Emergency Response Asset Management Plan	-

Section 1 (Gated Investment Step 1)

1. Background

TasNetworks distribution network is currently managed utilising various asset management strategies. These asset management strategies vary from run to failure, through to more mature condition based preventive management strategies. As a result of these varying strategies, at times there is a need to undertake emergency response activities on the distribution network to repair or replace assets. This work is required to ensure the safe and reliable operation of the distribution network.

In addition to the asset management strategies, the distribution network is also operated in an environment for which exogenous factors influence the status of the network. At times the distribution network experiences damage or failure of assets due to third parties.

Fault and Emergency Maintenance category covers the operational activities associated with the process and work in attending to system faults and emergencies excluding third party damage.

1.1 Investment Need

The fault and emergency maintenance availability work category covers the operational activities associated with the process and work in attending to system faults and emergencies. This is considered business as usual and a requirement ensuring compliance with ESI Act 1995.

To address emergency and unscheduled outage events TasNetworks has a reactive forced maintenance program based on historical outage event data.

This work program includes:

- Ensuring the distribution system does not pose a health and safety risk to the general public;
- Providing information to customers – keeping the customer informed about interruptions including extent, cause and probable restoration time;
- Repairing the faulty assets;
- Providing system access to enable the faulty asset to be repaired for repair – if the fault requires specialist crews;
- Restoring supply; and
- Providing information to asset management staff on the interruption.

Once identified, System Operations will conduct emergency system repair and response work when it is considered appropriate and safe to do so. The responsibility of emergency repair and management of system security and control rests with System Operations. Emergency works is conducted to maintain a safe and secure system, and to minimise, both the number of customers affected by a supply outage, as well as the duration of any supply interruption.

The mitigation against personal injury is a requirement of the Workplace Health and Safety Act 1995 set down by the Tasmanian State Government. The TEC states that TasNetworks must use reasonable endeavours to ensure that customers receive supply reliability within prescribed targets.

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
- 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.

This operational expenditure specifically addresses the requirements of consumers in the area 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 operational expenditure objectives as described by the National Electricity Rules section 6.5.6(a). The specific requirements that this project meets in alignment with the forecast operating expenditure 6.5.6 (a) are as follows:

- (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

The objective of this work category is to identify and repair system faults and emergencies. This work category is a key component of the emergency response asset management plan. The objectives for the emergency response asset management plan focus on six key areas:

- a. Zero Harm will continue to be our top priority and we will ensure that our safety performance continues to improve;
- b. cost performance will be improved through prioritisation and efficiency improvements that enable us provide predictable and lowest sustainable pricing to our customers;
- c. service performance will be maintained at current overall network service levels, whilst service to poorly performing reliability communities will be improved to meet regulatory requirements;
- d. customer engagement will be improved to ensure that we understand customer needs, and incorporate these into our decision making to maximise value to them;
- e. our program of work will be developed and delivered on time and within budget; and
- f. our asset management capability will be continually improved to support our cost and service performance, and efficiency improvements.

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
- 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 and option 2 are not an acceptable option to Tas Networks risk appetite.

The level of risk identified 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	Material supply interruption to customers.	Likely	Minor	Medium
Environment and Community	Damage to the general public and / or the environment	Possible	Major	High
Network Performance	Damage to plant and equipment with asset failure or damage that leads to poor network performance outcomes	Unlikely	Minor	Low
Regulatory Compliance	Regulatory non-compliance due to failure or damage of the network assets.	Possible	Moderate	Medium
Reputation	Local or state publicity that results due to the incident.	Unlikely	Minor	Low
Safety and People	Damage to personnel and/or the general public. Potential shock resulting in injury or death due to electrocution.	Unlikely	Major	Medium

Section 1 Approvals (Gated Investment Step 1)

Project Initiator:	Jason King	Date:	08/04/2015
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 ensure that operational budget is available to operational activities associated with the process and work in attending to system faults and emergencies. The operational budget that has been allowed, is outlined in the emergency response asset management plan. The expenditure is in alignment with historical trends.

5.1 Scope

Field staff are to respond to Fault and Operations directions to:

Ensure the distribution system does not pose a health and safety risk to the general public;

Provide information for customers – keeping the customer informed about interruptions including extent, cause and probable restoration time;

Repair the faulty assets;

Provide system access to enable the faulty asset to be repaired for repair – if the fault requires specialist crews;

Restore supply; and

Provide information for asset management.

Once identified, System Operations will conduct emergency system repair and response work when it is considered appropriate and safe to do so. The responsibility of emergency repair and management of system security and control rests with System Operations. Emergency works is to maintain a safe and secure system, and to minimise, both the number of customers affected by a supply outage, as well as the duration of any supply interruption.

5.2 Expected outcomes and benefits

The expected outcomes of this operational expenditure are to:

- Reduce safety risk associated with asset failure or damage;
- Reduce risk to public safety from asset failure or damage; and
- Maintain asset reliability
- Restoration of service after an event.

5.3 Regulatory Test

The regulatory test does not apply to this expenditure.

6. Options Analysis

6.1 Option Summary

Option description	
Option 0	Do nothing
Option 1 (preferred)	Option 1 - operational activities associated with the process and work in attending to system faults and emergencies
Option 2	Option 2 - Emergency response operational expenditure reduced to half of current average and capital to remain the same

6.2 Summary of Drivers

Option	
Option 0	<p>Do not undertake operational activities associated with the process and work in attending to system faults and emergencies.</p> <p>This does not address the risks identified associated with safety and people, environmental and community, reputation, network performance, regulatory compliance or customer.</p> <p>This option presents a minimum cost solution to the customer, however, it does not address the risks associated with failed or damaged assets.</p>
Option 1 (preferred)	<p>Fault and Emergency Maintenance covers the operational activities associated with the process and work in attending to system faults and emergencies. This is considered business as usual and a requirement ensuring compliance with ESI Act 1995.</p>

	<p>This work program includes:</p> <ul style="list-style-type: none"> • Ensuring the distribution system does not pose a health and safety risk to the general public; • Providing information to customers – keeping the customer informed about interruptions including extent, cause and probable restoration time; • Repairing the faulty assets; • Providing system access to enable the faulty asset to be repaired for repair – if the fault requires specialist crews; • Restoring supply; and • Providing information to asset management staff on the interruption. <p>Once identified, System Operations will conduct emergency system repair and response work when it is considered appropriate and safe to do so. The responsibility of emergency repair and management of system security and control rests with System Operations. Emergency works is conducted to maintain a safe and secure system, and to minimise, both the number of customers affected by a supply outage, as well as the duration of any supply interruption.</p> <p>The mitigation against personal injury is a requirement of the Workplace Health and Safety Act 1995 set down by the Tasmanian State Government. The TEC states that TasNetworks must use reasonable endeavours to ensure that customers receive supply reliability within prescribed targets.</p>
Option 2	<p>Fault and Emergency Maintenance covers the operational activities associated with the process and work in attending to system faults and emergencies. This is considered business as usual and a requirement ensuring compliance with ESI Act 1995. This option assumes that the level of expenditure available is half of the long term average. The work undertaken is the same as in option 1. However, due to the reduction in operational expenditure the same quantum is not able to be completed.</p> <p>By reducing the operational expenditure to half of what is currently expended, it is assumed that an inappropriate amount of risk would be presented to the community and TasNetworks employees in relation to a safe network. It would also result in network performance lower than required by the customers and under the jurisdictional network performance criteria.</p> <p>This option assumes a constant operational expenditure and GSL payments for customers. It also assumes a constant capital investment across all distribution network assets. It is considered that this option is not valid as it does not provide an appropriate risk appetite outcome for TasNetworks.</p> <p>An NPV calculation has been completed that takes into account all operational expenditure associated with Emergency Expenditure (work category codes - EMDAA, EMMAJ, EMRES).</p>

6.3 Summary of Costs

Option	Total Cost (\$)
Option 0	\$0
Option 1 (preferred)	\$100,011,080
Option 2	\$50,005,540

6.4 Summary of Risk

Option	Risk Assessment
Option 0	Medium
Option 1 (preferred)	Low
Option 2 - Emergency response operational expenditure reduced to half of current average and capital to remain the same	Medium

The risk rating assessment if expenditure was not incurred is assessed as medium risk, with unacceptable risk ratings in the areas of Customer, Regulatory Compliance, Environment and Community and Safety and People. By implementing the operational expenditure associated with this work category, it is considered that the risk rating will be reduced to low.

6.5 Economic analysis

Option	Description	NPV
Option 0	Do nothing	\$0
Option 1 (preferred)	Option 1 - operational activities associated with the process and work in attending to system faults and emergencies	\$0
Option 2	Option 2 - Emergency response operational expenditure reduced to half of current average and capital to remain the same	\$0

6.5.1 Quantitative Risk Analysis

Quantitative risk assessment has not been completed for this project.

6.5.2 Benchmarking

While TasNetworks emergency response operational expenditure is a significant component of the total operational budget, along with other 'core' activities of an efficient network business, such as customer service, asset inspection, routine and condition based maintenance. TasNetworks emergency response is strongly influenced by operating environment factors external to its control. These include:

- Environmental factors (e.g. mountainous terrain, weather, vegetation, etc);
- Customer demographics (e.g. low average customer density, remote locations); and
- Economic conditions (e.g. demand and supply of labour and contractors).

These environmental factors have influenced expenditure during the current period, and are expected to continue to drive opex over the forthcoming period. Anticipating operating environment change is crucial to the development of an opex forecast that reflects the costs that a prudent operator would require to achieve the opex objectives.

6.5.3 Expert findings

The opex benchmarking analysis completed by Huegin in June 2015 demonstrates the operational emergency response is less favourable than industry peers. However, it is noted that this is a function of the operating environment.

6.5.4 Assumptions

TasNetworks has assumed that the level of emergency response required will continue at a similar level as that currently experienced into the future. This assumption is based on the historical trends of unplanned outages and operational expenditure against the work category.

All costs are in 2014/15 dollars.

Section 2 Approvals (Gated Investment Step 2)

Project Initiator:	Jason King	Date:	08/04/2015
Project Manager:		Date:	

Actions

Submitted for CIRT review:		Actioned by:	
CIRT outcome:			