

Business Case – Capital Expenditure

Low Value Preventative & Reactive Maintenance

Business Case Number BC330 AA23-27

1 Project Approvals

TABLE 1: BUSINESS CASE – PROJECT APPROVALS

Created By	Adam Newbury	Asset Lifecycle Specialist, Asset Management
Costed By	Adam Newbury	Asset Lifecycle Specialist, Asset Management
Reviewed By	Shane Matthews	Manager Operations and Maintenance VIC, Operations & Maintenance
Approved By	Daniel Tucci	Victorian Asset Manager, Asset Management

2 Project Overview

TABLE 2: BUSINESS CASE – PROJECT OVERVIEW

Description of Issue/Project	<p>Issue</p> <p>A recent review of Victorian transmission system operational expenditure identified maintenance activities and urgent procurement items to be included in the stay-in-business program. These tasks are mission critical to reduce risk of non-compliance, equipment failure or enable transmission operations field personnel to respond quickly, safely and efficiently to ensure VTS assets remain safe and reliable.</p> <p>Preventative and reactive maintenance facilitates transmission operations ability to maintain and operate the equipment as intended</p> <p>Impact</p> <ul style="list-style-type: none"> • Preventative maintenance delays resulting in non-compliance and/or critical equipment failure. • Response delays where low value upgrades are urgently required. • If required tooling or equipment is not available there is a risk of delay and/or equipment damage. <p>Successful solution</p> <p>The objective is to ensure the ongoing timely and efficient execution of low value maintenance and upgrades by allocating funds to the following:</p> <ul style="list-style-type: none"> • Reactive upgrades (urgent replacement of obsolete components) • Procurement of tools and equipment for transmission operations field staff • Minor facility upgrades (e.g. renovation or asbestos removal managed by operations).
Options Considered	<p>The following options have been considered:</p> <p>Option 1: Do Nothing</p> <p>Option 2: Allocate funding for preventative maintenance and reactive upgrades/tooling</p>
Estimated Cost	\$2,500,000

<p>Consistency with the National Gas Rules (NGR)</p>	<p>The reactive program complies with the new capital expenditure criteria in Rule 79 of the NGR because:</p> <ul style="list-style-type: none"> • it is necessary to maintain and improve the safety of services and maintain the integrity of services (Rules 79(2)(c)(i) and (ii)); and • it is such as would be incurred by a prudent service provider acting efficiently, in accordance with accepted good industry practice, to achieve the lowest sustainable cost of providing services (Rule 79(1)(a)).
<p>Stakeholder Engagement</p>	<p>Stakeholder engagement is limited as this work is minor in nature. However, the intent of this investment is to minimise the impact to customers where upgrades are required to return a failed asset to service.</p>
<p>Benefit to Customers and Consumers</p>	<p>Customers and consumers are affected where equipment is out of service awaiting unplanned funding for repairs. The reactive program will allow for unplanned problems to be addressed in a timelier and more cost effective manner.</p>

3 Background and project need

A recent review of Victorian Transmission System operational expenditure identified maintenance activities and urgent procurement items that should be included in the stay-in-business program. These activities and procurement items are mission critical to reduce risk of non-compliance, equipment failure or enable transmission operations field personnel to respond quickly, safely and efficiently.

The maintenance activities include:

Minor reactive upgrades where an equipment failure necessitates urgent upgrade:

- Due to the age and condition variance of the Victorian Transmission System assets, there are occasions where older (but inherently reliable) components suddenly fail and require upgrade to modern equivalents.
- Sometimes these failures occur on common equipment (e.g. a commonly used valve actuator), where this occurs a decision may be made to conduct urgent replacement campaigns to address the remaining obsolete equipment instances.

Procurement of tooling or equipment to enable maintenance to be completed in a safe and efficient manner

- When transmission operations field staff tools and equipment become obsolete or reach end of life, a prompt procurement is required to ensure enable field staff to work efficiently and safely while minimising asset downtime.
- Restructures and rezoning of the transmission operations teams often requires that additional tools or equipment are urgently required, not having access to the equipment in a timely manner forces labour resources to delay maintenance tasks while awaiting equipment.
- New equipment installations often require new tooling to safely, effectively and efficiently perform the required maintenance. Sometimes these new requirements are not required for minor maintenance but are discovered during major maintenance so urgent procurement of the required tooling is important to keep the asset maintained and ensure that the labour resources are utilised efficiently.

Minor facility upgrades

- When supporting infrastructure requires low value renovation (e.g. amenities upgrades or roof replacement) this is managed by transmission operations field staff. Generally the scope is not part of a long term plan but leaving as is will cost more to address later.

4 Risk Assessment

The untreated risk of not allowing for a reactive program are presented in the following table.

TABLE 3: RISK RATING

Risk Area	Tools	Asset Upgrades	Facility Upgrades
Health and Safety	Negligible	Negligible	Moderate
Environment	Negligible	Negligible	Negligible
Operational	Moderate	Moderate	Negligible
Customers	Negligible	Low	Negligible
Reputation	Negligible	Low	Negligible
Compliance	Negligible	Negligible	Negligible
Financial	Negligible	Negligible	Negligible
Final Untreated Risk Rating	Moderate	Moderate	Moderate

The reactive program will address risks of unplanned and unforeseen issues that need to be addressed, including:

- Health and safety scenario - a facility building has asbestos that has become unstable and has become a health risk leading to risk of life threatening illness.
- Operational capability scenario - tools or asset upgrades urgently required during unplanned outage are delayed while the funds are approved causing an unplanned interruption of ≥ 1 day but < 1 month to the delivery of firm services.

5 Identification and Assessment of Options

Option 1 – Do Nothing

Currently reactive matters are addressed in an ad hoc way. There has been no stay-in-business program to address reactive and unplanned problems.

Option 2 – Allocate funding for preventative maintenance & reactive upgrades/tooling

- Allocate annual budget to allow rapid stay-in-business funding of urgent preventative maintenance, reactive upgrades or tool purchases.
- An allocation of \$500,000 annually consisting of \$250,000 general capital and \$250,000 miscellaneous capital. Where general capital is for urgent asset related expenditure and miscellaneous capital is for special tools, trailers and minor building refurbishments. These projects are short term 'low hanging fruit' that improve asset availability or improve the efficiency/safety of personnel.

Summary of Cost/Benefit Analysis

The section should include a general overview of how the options compare and identify any options are not technically feasible.

TABLE 4: SUMMARY OF COST/BENEFIT ANALYSIS

Option	Benefits (Risk Reduction)	Costs	Comment
Option 1	Do Nothing		

LOW VALUE PREVENTATIVE & REACTIVE MAINTENANCE

Option 2	Allocate funding for preventative maintenance & reactive upgrades/tooling	\$2,500,000	
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This program is an all of VTS budget allocation that allows the operations maintenance team to respond promptly and efficiently to address minor failures requiring upgrade of obsolete equipment, urgent procurement of special tools or equipment to enable safe efficient maintenance activities.

The benefits of this option include:

- Enables prompt efficient response by field personnel which reduces asset or facility downtime.
- Reduces likelihood of injury or long term illness.
- Improves morale when safety or productivity issues can be resolved before they impact customers.
- The operational and capital expenditure budget is less likely to have unplanned expenditure requests.

6 Consistency with the National Gas Rules

Consistent with the requirements of Rule 79 of the National Gas Rules, APA considers that the capital expenditure is:

- Prudent – The expenditure is necessary in order to maintain and improve the safety of services and maintain the integrity of services to customers and personnel and is of a nature that a prudent service provider would incur.
- Efficient – The expenditure can therefore be considered consistent with the expenditure that a prudent service provider acting efficiently would incur
- Consistent with accepted and good industry practice – Addressing the risks associated with the poor condition of a number of below ground transmission system regulators and replacing assets that have reached the end of their useful life is accepted as good industry practice. In addition the reduction of risk to as low as reasonably practicable in a manner that balances cost and risk is consistent with Australian Standard AS2885.
- To achieve the lowest sustainable cost of delivering pipeline services – The sustainable delivery of services includes reducing risks to as low as reasonably practicable and maintaining reliability of supply.

7 Forecast Cost Breakdown

The requested budget is based on historic expenditure rates.

The business case scope is essentially an anticipated spend profile, estimates and quotes by third party contractors have not been sought or provided as the nature of this work is reactive .

TABLE 5: PROJECT COST ESTIMATE

	Asset Upgrades	Facility Refurbishment, Tool & Equipment Procurement	CY23-CY27 Total
Internal Labour	\$0	\$0	\$0
Materials	\$1,000,000	\$1,250,000	\$2,250,000
Contracted Labour	\$250,000	\$0	\$250,000
Other Costs	\$0	\$0	\$0

LOW VALUE PREVENTATIVE & REACTIVE MAINTENANCE

Total	\$1,250,000	\$1,250,000	\$2,500,000
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8 Acronyms

Acronym	Definition/Description
AEMO	Australian Energy Market Operator
AGA	Australian gas association – Type B compliance governing body
API	American Petroleum Institute – publisher of standards
HAZOP	Control system HAZOP – study of the control system functions to identify logic vulnerabilities
ESD	Emergency shutdown – control system-initiated shutdown designed to prevent incident escalation if operating parameters are breached
ESV	Energy Safe Victoria
HAZOP	Hazard and operability study
HMI	Human machine interface
ILI	Inline inspection – pipeline internal inspection
OEM	Original Equipment Manufacturer
RA	Risk Assessment
RBI	Risk Based Inspection – a process used to prioritise maintenance or inspection activities based on risk of failure.
SIL	Safety Integrity Level – an assessment used to rank control systems by their ability to fail safely
SMS	Safety Management Study
VTS	Victorian Transmission System