

Business Case – Capital Expenditure

Wollert CG & T74/T119 PRS Instrument Air

Business Case Number BC216 AA23-27

1 Project Approvals

TABLE 1: BUSINESS CASE – PROJECT APPROVALS

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Approved By	Daniel Tucci	Victorian Asset Manager, Asset Management

2 Project Overview

Project resubmitted - deferred due to resource constraints

TABLE 2: BUSINESS CASE – PROJECT OVERVIEW

Description of Issue/Project	The Wollert City Gate & T74/T119 PRS uses Instrument Gas which vents to atmosphere causing a safety hazard and unnecessary greenhouse gas emissions. The project is to convert the Wollert CG & T74/T119 PRS to Instrument Air.
Options Considered	The following options have been considered: Option 1: Do Nothing Option Option 2: Convert the Wollert City Gate and T74/T119 PRS to Instrument Air
Estimated Cost	\$1,596,000
Relevant Standard	Consistent with the As Low As Reasonably Practical principle in AS2885, this project eliminates threats to safe operation. Environmental Protection Act requires businesses to reduce harm to the environment where possible.
Consistency with the National Gas Rules (NGR)	The conversion of these assets to Instrument Air complies with the new capital expenditure criteria in Rule 79 of the NGR because: <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)).
Key Stakeholders	Stakeholder benefits from this project are: <ul style="list-style-type: none"> Gas market (reduced unaccounted for gas) Reduced carbon emissions Operations personnel benefit from reduced hazards in the workplace.
Benefits to Customers and Consumers	Key improvements with instrument air are reduced emissions and the improvement makes the asset safer to operate.

3 Background

The Wollert City Gate (WCG) & T74/T119 PRS operates with Instrument Gas (IG) for regulators and other devices. This equipment vents small amounts of Instrument Gas during normal operation. Thus there is an almost constant release of natural gas to the atmosphere.

The Wollert Compressor Station (WCS) is adjacent to the WCG and operates on Instrument Air (IA) and provisioned for the WCG to be connected to the IA system in terms of capacity and an offtake. , However the project did not route piping to WCG and thus did not convert the WCG to IA.

However, additional loads post Western Outer Ring Maim expansion will require a dedicated instrument air system to supply the Wollert City Gate (WCG) & T74/T119 PRS.

There is a need to converting the Wollert City Gate from Instrument Gas to Instrument Air will eliminate the hazard from gas release during normal operation and reduce greenhouse gas emissions.

4 Risk Assessment

Converting the WCG from IG to IA will eliminate the hazard from gas release during normal operation and reduce greenhouse gas emissions. Whilst this hazard can be reduced through the control of ignition sources by using procedures and appropriately designed electrical equipment this is a second best option that does not eliminate the risk eliminating the gas release.

TABLE 3: RISK RATING

Risk Area	Risk Level
Health and Safety	Low
Environment	Low
Operational	Negligible
Customers	Negligible
Reputation	Low
Compliance	Negligible
Financial	Negligible
Final Untreated Risk Rating	Low

5 Identification and Assessment of Options

1.1 Identification of Options

1.1.1 Option 1 - Do Nothing

The Do Nothing option will continue to operate as normal with gas release during normal operation

The Environmental Protection Act requires businesses to reduce harm to the environment where possible.

1.1.2 Option 2: Convert the Wollert City Gate and T74/T119 PRS to Instrument Air - Proposed Solution

Option 2 involves constructing approximately 200m of underground polyethylene pipe and 50m of above ground stainless steel pipe for IA service. Connect to the existing IA system and commission the IA from IG at the WCG and the T74/T119 PRS.

1.2 Assessment of Options

TABLE 4: SUMMARY

Option	Description	Costs
Option 1:	Do Nothing	Indeterminate
Option 2:	Convert WCG & T74/T119 PRS to IA (Install a Standalone New Package)	\$1,596,000

1.2.1 Option 1 - Do Nothing

Is to continue unimproved releasing instrument gas through normal operation for the life of the Wollert City Gate (WCG) & T74/T119 PRS. The amount of gas release per year is difficult to approximate, however over the life of the plant the volumes would be significant. The continued use of Instrument Gas maintains the size of the hazardous area.

1.2.2 Option 2 - Convert WCG & T74/T119 PRS to IA

Involves conversion to Wollert City Gate to Instrument Air. The primary benefit for this option is that it prevents the release of instrument gas through normal operation for the life of the Wollert City Gate (WCG) & T74/T119 PRS. Converting to instrument air also reduces the size of the hazardous area and decreases cost of maintaining the hazardous area equipment.

The reasonably practical means of eliminating the hazard of venting gas in normal operation is the conversion to IA. Option 2 is the preferred option.

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 improve the safety of services to personnel and is of a nature that a prudent service provider would incur. IA systems are used in all new compressor stations within APA.
- Efficient – The field work will be carried out by a suitably qualified external contractor. This procurement will be undertaken consistent with the APA procurement policy. 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 constant venting of natural gas is a priority. Consistent with the As Low As Reasonably Practical principle in AS2885, this project is eliminates threats to safe operation.

7 Forecast Cost Breakdown

TABLE 5: PROJECT COST ESTIMATE,

	Total
Internal Labour	\$426,823
Materials	\$634,639
Contracted Labour	\$534,538
Other Costs	\$0
Total	\$1,596,000

The estimates provided in table 5 are based on a similar installation that has been designed for Dandenong City Gate.

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
CHAZOP	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