



Pipeline Licence 7 - Moomba to Sydney Pipeline



Pipeline Licence 8 – Ethane Pipeline

Statement of Environmental Objectives
(Operations)

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1 Introduction

This Statement of Environmental Objectives (SEO) for the operation of:

- Pipeline Licence 7, the Moomba to Sydney (Wilton) Gas Pipeline (MSP), and
- Pipeline Licence 8, the Moomba to Sydney Ethane Pipeline (Ethane Pipeline)

has been prepared by RPS on behalf of APA Group in accordance with the requirements of Section 99 of the South Australian *Petroleum and Geothermal Energy Act 2000*.

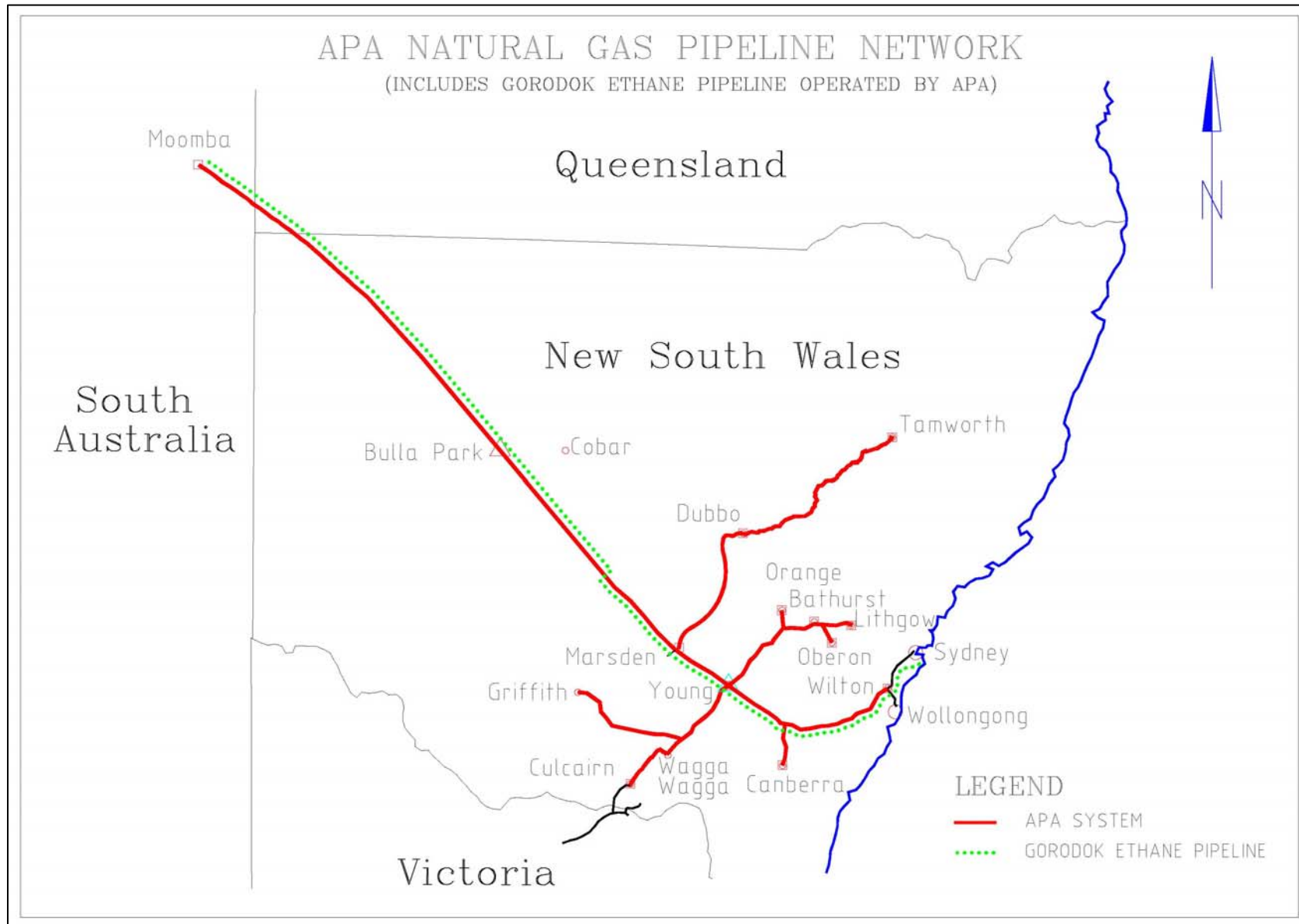
1.1 Background

APA Group owns and operates the Moomba to Sydney Pipeline, an underground natural gas pipeline, from Moomba in South Australia to Sydney in New South Wales. The Moomba to Sydney Pipeline is 1,299km in length and links the Cooper Basin gas fields at Moomba, South Australia, with the Jemena East receiving terminal at Wilton, south west of Sydney, New South Wales. A range of industrial, commercial and residential users in New South Wales and the Australian Capital Territory are serviced by gas delivered by the MSP. The first 111km of the pipeline is located in South Australia (including the 10km Moomba bypass pipeline) and is operated under Pipeline Licence 7, issued by the Department of Primary Industries and Resources, South Australia (PIRSA) in June 1994.

APA Group also operates the underground Ethane Pipeline from Moomba to Sydney (on behalf of the pipeline licensee, Gorodok Pty Ltd) also has a 6.1% interest in the Ethane Pipeline Income Fund, which owns the pipeline. The Ethane Pipeline is 1,375km in length and links the Moomba gas fields with the Qenos Petrochemical Plant in Botany. The first 1299km of the pipeline, including the 101km South Australian section, runs parallel to the MSP, within the MSP easement, at an 8m offset. The first 101km of the pipeline is located in South Australia and is operated under Pipeline Licence 8, issued by PIRSA in July 1996.

The pipeline route is shown in Figure 1.

Figure 1: Location of Moomba-Sydney Pipeline & Ethane Pipeline in South Australia



1.2 Purpose of SEO

The intent of this SEO is to outline the environmental objectives to which the pipeline operation activities will conform and the criteria upon which the achievement of these objectives will be assessed.

The objectives of this SEO have been developed on the basis of information and issues identified in the Pipeline Licence 7 & 8 Environmental Impact Report (Operations) (APA Group 2010) and are in keeping with the objectives of the *Petroleum and Geothermal Energy Act 2000*, which include:

- to minimise the environmental damage from the activities involved in the operation of transmission pipelines for transporting petroleum
- to establish appropriate consultative processes involving people directly affected by regulated activities and the public generally
- to promote adherence to AS2885 as a primary means of achieving public, environmental and safety objectives
- to protect the public from risks inherent in regulated activities.

This SEO has been based on or utilised information from the following SEOs:

- Statement of Environmental Objectives Moomba to Sydney Natural Gas Pipeline (PIRSA 2001)
- Statement of Environmental Objectives Moomba to Sydney Ethane Pipeline (PIRSA 2000)
- Statement of Environmental Objectives for the QSN Link Pipeline (Epic Energy 2008).

1.3 Scope of SEO

APA Group operates the South Australian portions of the MSP and the Ethane Pipeline under Pipeline Licence 7 and Pipeline Licence 8 respectively.

This SEO applies to all APA Group pipeline operation activities undertaken in the South Australian sector. Operational activities that are covered by this SEO include:

- Pipeline maintenance including:
 - Dig-ups
 - Pigging and integrity testing
 - Welding
 - Cathodic protection
 - Inspection and testing
 - Pipeline surveys
- Easement maintenance including:
 - Patrolling / inspections
 - Vegetation control
 - Erosion control
- Facility maintenance, including:
 - Weed control
 - waste management and treatment
 - Inspection and testing.

These operations are described in detail in the Pipeline Licence 7 & 8 Environmental Impact Report (Operations) (APA 2009).

1.4 Regulatory Definitions

Environment is broadly defined in the *Petroleum and Geothermal Energy Act 2000* to include its natural, social, cultural and economic aspects. The environmental objectives outlined in the SEO incorporate these aspects.

The SEO relates to *pipelines* and *petroleum* as defined by the Act. *Pipeline* means a pipe or system of pipes for conveying petroleum or another regulated substance from place to place and includes:

- tanks, machinery and equipment necessary for, or associated with, its operation
- a part of a pipeline.

Petroleum refers to a naturally occurring substance consisting of hydrocarbon or a mixture of hydrocarbons in gaseous, liquid or solid state.

2 Environmental Objectives

Potential environmental hazards and consequences associated with the operation of the MSP have been identified in the Environmental Impact Report (APA Group 2010). APA Group is committed to achieving a range of environmental objectives in regard to these potential hazards.

The Objectives for the environmental management of the operation of the MSP and Ethane Pipeline are:

Objective	Goal
1. To maintain soil stability / integrity on the easement	1.1 To remediate erosion or subsidence as a result of pipeline operations in a timely manner
	1.2 To prevent soil inversion
	1.3 To mitigate soil compaction if necessary by remedial action
	1.4 To reinstate soil and terrain as near as practicable to pre-existing contours and conditions
2. To minimise and manage impacts to water resources	2.1 To maintain current surface drainage patterns
	2.2 To minimise disruption to third party use of surface waters
3. To avoid land or water contamination	3.1 To prevent spills occurring and if they occur minimise their impact
	3.2 To ensure that rubbish and waste material are disposed of in an appropriate manner
	3.3 To prevent impacts as a result of hydrotest water, trench water and waste water (e.g. washdown water) disposal
	3.4 To ensure the safe and appropriate disposal of camp wastewater (grey water, sewage)
4. To promote and maintain native vegetation cover on the easement	4.1 To promote and maintain regrowth on the easement to be consistent with surrounding area
	4.2 To minimise additional clearing of native vegetation as part of operational activities
	4.3 To ensure maintenance activities are planned and conducted in a manner that minimises impacts on native fauna
5. To avoid the spread of weeds and pathogens	5.1 To ensure that weeds and pathogens are controlled at a level that is at least consistent with adjacent land
6. To adequately protect heritage sites and values during operations and maintenance	6.1 To ensure that identified heritage sites are not disturbed
7. To minimise noise due to operations	7.1 To ensure operations comply with noise standards
8. To minimise atmospheric emissions	8.1 To minimise controlled and uncontrolled atmospheric emissions
	8.2 To minimise the generation of dust
9. To avoid unnecessary disturbance to third party infrastructure, landholders or landuse	9.1 To minimise disturbance or damage to infrastructure / land use and remediate where disturbance cannot be avoided
	9.2 To minimise disturbance to landholders
10. To minimise the risk to public health and safety	10.1 To adequately protect public safety during operations
	10.2 To avoid fires associated with pipeline maintenance activities
	10.3 To prevent unauthorised activity on the easement that may adversely impact on the pipeline integrity

2.1 Decommissioning

A natural gas transmission pipeline can potentially have an indefinite operational lifespan, however as the pipeline ages the level of maintenance required will increase. Where it is intended to operate the pipelines beyond their design life, engineering investigation of the design, operating conditions and history of the pipeline will be undertaken to determine the condition and any limits for continued safe operation, in accordance with AS2885. The pipelines shall be operated in accordance with all State and Commonwealth legislation.

In the event that the utility is no longer required, the pipeline will be decommissioned in accordance with AS2885 and the regulatory requirements and accepted current environmental best practices of the day.

The Objectives for the environmental management of the decommissioning of the MSP and Ethane Pipeline are:

Objective	Goal
11. To appropriately decommission the pipeline in accordance with regulatory requirements and accepted best practice environmental management	11.1 To safely decommission the pipeline and associated above-ground infrastructure in accordance with appropriate regulatory requirements
	11.2 To minimise disturbance to landholders and other stakeholders

3 Assessment Criteria

The environmental objectives identified above are subject to an assessment to measure the level of achievement. The assessment criteria for each objective will be one of the following:

- defined conditions – objectives for activities that can only be managed through the prevention of unacceptable actions (e.g. “No new outbreak or spread of weeds or pathogens as a result of pipeline activities”)
- defined requirements – the achievement of an objective can be assessed against the implementation of specific procedures or actions required for an activity (e.g. “For excavations, surface drainage profiles restored.”)

Appendix 1 tabulates the objectives and the appropriate assessment criteria.

Appendix 1 also lists the controls that will be implemented by APA Group to ensure that environmental objectives are achieved, in the “Guide to how objectives can be achieved” column. These controls are not intended to be a mandatory regulatory requirement, but are provided to give an indication of the measures that can be implemented to ensure compliance.

4 Reporting

It is a requirement under Section 85 of the *Petroleum and Geothermal Energy Act 2000* that any incidents that are determined to be 'serious' or 'reportable' incidents must be reported to the Minister.

Serious Incidents must be reported to the PIRSA Minister as soon as practicable after the occurrence, as per Section 85 of the *Petroleum and Geothermal Energy Act 2000* and Section 32 of the *Petroleum and Geothermal Energy Regulations 2000*.

Reportable Incidents must be reported to PIRSA on a quarterly basis within 1 month of the end of the quarter, as per Section 32 of the *Petroleum and Geothermal Energy Regulations 2000*.

4.1 Definitions

Regulation 12 (2) requires an SEO to identify events that could cause a serious incident or a reportable incident within the meaning of Section 85 of the Act.

PIRSA has developed the following set of incident definitions, provided in Table 1, relative to operation activities. These definitions are intended to expand on definitions provided in Section 85(1) of the Act and Regulation 32(1), and provide consistency for Licensee reporting.

In accordance with Section 85 of the Act and Regulation 32(1):

Serious incident means an incident arising from activities conducted under the licence in which:

- a) a person is seriously injured or killed; or
- b) an imminent risk to public health or safety arises; or
- c) serious environmental damage occurs or an imminent risk of serious environmental damage arises; or
- d) security of natural gas supply is prejudiced or an imminent risk of prejudice to security of natural gas supply arises.
- e) some other event or circumstance occurs or arises that results in the incident falling within a classification of serious incidents under the regulations or a relevant statement of environmental objectives.

Reportable incident means an incident (other than a serious incident) arising from activities conducted under a licence classified under the regulations as a reportable incident. The following are classified as reportable incidents:

- a) an escape of petroleum, a processed substance, a chemical or a fuel that affects an area that has not been specifically designed to contain such an escape; and
- b) an incident identified as a reportable incident under the relevant Statement of Environmental Objectives (SEO).

Table 1: Incident Definitions

Serious Incidents	Reportable Incidents
<ol style="list-style-type: none"> 1. A person is seriously injured¹ or killed. 2. An imminent risk to public health or safety arises. 3. Serious environmental damage occurs or an imminent risk of serious environmental damage arises. For example: <ol style="list-style-type: none"> a) Disturbance to sites of cultural and/or heritage significance without appropriate permits and approvals². b) An escape of petroleum, process substance, a chemical or a fuel to a water body, or to land in a place where it is reasonably likely to enter a water body by seepage or infiltration, or onto land that affects the health of native flora and fauna species. c) Detection of a declared weed, animal/plant pathogen or plant pest species that has been introduced or spread as a direct result of activities. d) Any removal of rare, vulnerable or endangered flora and fauna without appropriate permits and approvals³. 4. Security of natural gas supply is prejudiced or an imminent risk of prejudice to security of natural gas supply arises⁴. 5. An event that compromises the physical integrity of an asset or facility. For example: <ol style="list-style-type: none"> a) Pipeline⁵ or facility failure or rupture. b) Unauthorised activity on a pipeline easement where the pipeline is contacted and repair action is required⁶. 6. An uncontrolled gas release resulting in the activation of gas detection alarms and/or emergency response and evacuation procedures of an area in or adjacent to the gas release, and/or fire or explosion. 	<ol style="list-style-type: none"> 1. An escape of petroleum⁷, processed substance, a chemical or a fuel that affects an area that has not been specifically designed to contain such an escape⁸ (other than a serious incident). 2. An event that has the potential to compromise the physical integrity of an asset or facility. For example: <ol style="list-style-type: none"> a) Unauthorised activity on a pipeline easement where the pipeline is contacted but repair action is not required. b) Unauthorised activity on a pipeline easement with equipment that has been identified⁶ as exceeding the pipeline’s penetration resistance, determined in accordance with Australian Standard (AS) 2885. c) Unauthorised activity on a pipeline easement with equipment or vehicles that have been identified⁶ as exceeding allowable stress limits, determined in accordance with AS2885. d) An unapproved⁹ excursion outside of critical design or operating conditions/parameters. e) Failure of a critical procedural control in place to reduce a credible threat to low or as low as reasonably practicable (ALARP).¹⁰ 3. Malfunction or failure of critical plant or equipment that had (or still has) potential to cause a serious incident.

¹ Includes an immediately notifiable work-related injury pursuant to Division 6.6 of the *Occupational Health, Safety and Welfare Regulations 1995* that results in the issuing of a Prohibition Notice by SafeWork SA.

² Pursuant to *Aboriginal Heritage Act 1988* and *Heritage Places Act 1993*

³ Pursuant to *Native Vegetation Act 1991* (flora) and *National Parks and Wildlife Act 1972* (fauna).

⁴ That is, after taking into account relevant factors on a day and rights and obligations under contracts, a significant curtailment of firm service that detrimentally impacts or is likely to impact upon the security of electricity supply to South Australia or to gas supplies to a significant number of commercial and/or domestic gas users in SA

⁵ As per Petroleum and Geothermal Energy Act definition, the term ‘pipeline’ includes tanks, machinery and equipment necessary for, or associated with, operation of the pipeline.

⁶ For the case where a detailed assessment is required to determine this, PIRSA recommends the incident be reported initially and amended at a later date if required.

⁷ In gaseous, liquid or solid state, as per Petroleum and Geothermal Energy Act definition.

⁸ An area assigned during a Hazard and Operability Process (HAZOP) study as a hazardous area for the purpose of gas venting, and designed as such, is considered to be an area specifically designed to contain a gas escape.

⁹ “Approval” as per AS2885 definition. Note that there may be situations where excursions are allowable under AS2885.

¹⁰ As per the Safety Management System process articulated in Australian Standard (AS) 2885.1-2007, or similar risk assessment process.

5 Definitions

Definitions of the terms used in the SEO are provided below.

Approval	Refers to approval under the relevant legislation
Consistent with surrounding land/area	A qualitative assessment of land condition on the easement to determine if condition of the easement is similar to that of adjacent land (i.e. soil, vegetation, landform).
Easement	For the purpose of this SEO, an easement is considered to be an area of land that is located directly above the buried pipeline. The width of the easement will vary depending on factors such as construction requirements and land tenure, but is typically up to 30 m.
Infrastructure	Physical assets which are built on the land (e.g. roads, power poles, fences, railway, troughs, gates, dams, other services).
Landholder	Owner or occupier of the land.
Landuse	Use of land e.g. grazing, mining, oil and gas production, access, industrial, residential, environmentally sensitive area, recreational.
Minimise	To reduce as far as possible, considering all other factors e.g. requirements for safe operations and accessibility.
Pipeline operations	Any activity associated with the operation, inspection and maintenance of the pipeline, easement and associated facilities. This includes: Pipeline Dig ups Pigging & integrity testing Welding Cathodic protection Inspection and testing Pipeline surveys Easement Patrolling / inspections (foot, vehicle, aerial) Vegetation control Erosion control Facilities (main line valves, access tracks, cathodic protection beds, meter stations) Storage and use of diesels, oils and chemicals Weed control Waste treatment and disposal Inspection and testing
Spill	Uncontrolled or unplanned release or discharge of a hydrocarbon, chemical or hazardous substance.
Timely manner	Timeframe agreeable to pipeline licensee and impacted third party, that considers all external factors e.g. weather constraints and accessibility.
Uncontrolled atmospheric emission	Discharge to air that is not planned or part of any routine operation or routine maintenance (e.g. maintenance or checks of valves and equipment).

6 Glossary

ANZECC	Australian and New Zealand Environment and Conservation Council
AS 2885	Australian Standard AS 2885: Pipelines - Gas and liquid petroleum
EIR	Environmental Impact Report prepared in accordance with Section 97 of the <i>Petroleum and Geothermal Energy Act 2000</i> and Regulation 10.
EMS	Environmental Management System
EPA	Environment Protection Authority
NRM Board	Natural Resources Management Board
PIRSA	Department of Primary Industries and Resources, South Australia
SEO	Statement of Environmental Objectives prepared in accordance with Section 99 and 100 of the <i>Petroleum and Geothermal Energy Act 2000</i> and Regulations 12 and 13.

7 References

APA Group (2010) *Pipeline Licence 7 - Moomba to Sydney Pipeline, Pipeline Licence 8 – Ethane Pipeline Environmental Impact Report (Operations)*. Prepared by RPS for APA Group, January 2010.

Epic Energy (2007) QSN Link Pipeline Statement of Environmental Objectives (South Australia). Prepared by RPS Ecos for Epic Energy, March 2008.

PIRSA (2001) *Statement of Environmental Objectives: Moomba to Sydney Natural Gas Pipeline*. Prepared by PIRSA for Agility Management, March 2001.

PIRSA (2000) *Statement of Environmental Objectives: Moomba to Sydney Ethane Pipeline*. Prepared by PIRSA for Gorodok, August 2000.

Appendix 1:
Objectives and Assessment Criteria

Operations Objectives and Assessment Criteria¹¹

Objective	Goal	Guide to How Objectives Can Be Achieved ¹²	Assessment Criteria
1. To maintain soil stability / integrity on the easement.	1.1 To remediate erosion or subsidence as a result of pipeline operations in a timely manner.	Timed photo points or regular land survey, specifically to look at evidence of erosion, subsidence, vegetation loss on easement & compare to adjacent land. Inspections undertaken as part of regular patrols, following specific works, following significant storm events. Preventative measures implemented and monitored in susceptible areas.	No unremediated subsidence. The extent of soil erosion on the easement is consistent with surrounding land. No excessive erosion on areas adjacent to corridor as a result of easement.
	1.2 To prevent soil inversion.	Regular land surveys to look for soil discolouration, success of vegetation return as an indicator. Planning and monitoring of disturbances (i.e. dig-ups) to ensure that top soil/subsoil are stockpiled separately and soil profiles appropriately reinstated following the re-instatement of works/excavations.	Vegetation cover is consistent with surrounding land. No evidence of subsoil on surface (colour).
	1.3 To mitigate soil compaction if necessary by remedial action	Ripping of identified compacted areas where appropriate to soil type and erosion risk (i.e. generally avoid ripping in gibber) Regular inspections undertaken of easement and disturbance areas (i.e. dig-ups) including to look for evidence of soil compaction	No visual evidence of soil compaction following remediation of pipeline easement (e.g. hard soil, local water pooling)
	1.4 To reinstate soil and terrain as near as practicable to pre-existing contours and conditions	Implement reinstatement requirements specified in procedures (e.g. Environmental Management Plans, APIA Code of Environmental Practice) Regular inspections undertaken of easement and disturbance areas (i.e. dig-ups) Use of photo points before, during & after excavations, CP installation, construction activities etc.	Surface contours consistent with adjacent land

¹¹ Assessment criteria shown have been developed to be “black and white”. Professional judgement is required to assess whether non-compliance is minor or major. It is necessary to ensure that adequate information is available to enable this judgement to be made.

¹² This column is provided for information only. Under the *Petroleum and Geothermal Energy Act 2000*, only objectives and assessment criteria are approved.

Objective	Goal	Guide to How Objectives Can Be Achieved ¹²	Assessment Criteria
<p>2. To minimise and manage impacts to water resources.</p>	<p>2.1 To maintain current surface drainage patterns.</p>	<p>Regular patrols and survey undertaken to look for evidence of erosion, windrow development, abnormal vegetation growth or death or any changes to the easement which could change surface hydrology conditions.</p> <p>Observations also to be undertaken following significant storm events.</p> <p>Monitoring of disturbances and use of photo points before, during & after excavations, CP installation, construction activities, etc.</p>	<p>For excavations, surface drainage profiles restored.</p> <p>For existing easement, drainage is maintained to pre-existing conditions or better.</p>
	<p>2.2 To minimise disruption to third party use of waters.</p>	<p>Minimising period of disturbance for any excavation or land disturbance and prompt reinstatement of easement in sections of easement intersecting or adjacent to water bodies.</p> <p>Installation and subsequent removal of appropriate temporary watercourse/water body protection measures to prevent flow interruptions.</p>	<p>No reasonable complaints received from landholders or third party users in relation to use of surface waters.</p>
<p>3. To avoid land or water contamination.</p>	<p>3.1 To prevent spills occurring and if they occur minimise their impact.</p>	<p>Prevention program including pigging, intelligent pigging and pipe maintenance.</p> <p>Regular patrols undertaken to look for evidence of soil or water discolouration, vegetation or fauna death.</p> <p>Incident / Spill reports.</p> <p>Use of spill protection methods where work is completed within or adjacent to environmentally sensitive areas.</p> <p>Spill response/cleanup procedures, requiring spills to be:</p> <ul style="list-style-type: none"> ▪ reported ▪ contained ▪ cleaned-up ▪ cause investigated and corrective and/or preventative action implemented. <p>Spills/contamination remediated in consultation with regulatory agencies and landholder.</p> <p>Ensuring personnel are trained in spill response procedures.</p> <p>Appropriate spill response equipment is available on site.</p> <p>Compliance with fuel and hazardous waste standards.</p> <p>Containment of all hazardous substances and liquid waste in appropriate vessels/containment areas.</p> <p>Bunded areas in accordance with EPA guidelines <i>080/07 Bunding and Spill Management</i>.</p>	<p>No soil or water contamination as a result of pipeline activities.</p> <p>Compliance with Environment Protection Act.</p>

Objective	Goal	Guide to How Objectives Can Be Achieved ¹²	Assessment Criteria
	<p>3.2 To ensure that rubbish and waste material are disposed of in an appropriate manner.</p>	<p>Regular patrols or annual survey undertaken to look for evidence of rubbish, spills (soil discolouration). Waste disposal records, chemical manifests. Appropriately licensed contractors used for any hazardous waste disposal and records are maintained for all hazardous waste disposal. Use of photo points before, during & after excavations, CP installation, construction activities etc.</p>	<p>No pipeline related rubbish or litter on easement or at facilities or on surrounding land. Waste material is contained and disposed of in accordance with APA approved procedures and Environment Protection Act.</p>
	<p>3.3 To prevent impacts as a result of hydrotest water, trench water and waste water (e.g. washdown water) disposal.</p>	<p>Water disposed of in a manner that prevented discharge or runoff to watercourses or environmentally sensitive areas. Water discharged onto stable ground, with no evidence of erosion as a result of discharge. Records on source of water and discharge method/location. Investigation of water quality prior to release/disposal of trench water and waste water. Testing of hydrotest water if potentially harmful chemicals added. Inspection of water disposal sites for evidence of water entering a watercourse or environmentally sensitive area.</p>	<p>Discharge water meets appropriate ANZECC and EPA criteria for point of disposal. No evidence of impacts to soil, water and vegetation as a result of water disposal (e.g. soil erosion, dead vegetation, water discoloration).</p>
	<p>3.4 To ensure the safe and appropriate disposal of camp wastewater (grey water, sewage).</p>	<p>All wastewater disposed in accordance with the <i>Public and Environmental Health (Waste Control) Regulations 1995</i> (i.e. the waste water disposal system must either comply with the <i>Standard for the Construction, Installation and Operation of Septic Tank Systems in SA</i> or be operated to the satisfaction of the Department of Health). If treated sewage wastewater is disposed of onto land, it is well away from any place from which it is reasonably likely to enter any waters.</p>	<p>No soil or water contamination as a result of camp wastewater disposal.</p>
<p>4. To promote and maintain native vegetation cover on the easement.</p>	<p>4.1 To promote and maintain regrowth on the easement to be consistent with the surrounding area.</p>	<p>Annual land survey to assess vegetation rehabilitation and look for evidence of disturbance to vegetation on easement (apart from access tracks). Planning and monitoring of disturbances (including timed photos) to indicate adequate steps taken to facilitate regrowth. Follow-up rehabilitation work undertaken where natural regeneration is inadequate.</p>	<p>Species abundance and distribution on the easement is reasonably consistent with surrounding areas. Note: assessment of the consistency with surrounding areas will take into account that regrowth is a time and rainfall dependent process.</p>

Objective	Goal	Guide to How Objectives Can Be Achieved ¹²	Assessment Criteria
	<p>4.2 To minimise additional clearing of native vegetation as part of operational activities.</p>	<p>Annual land survey to look for evidence of disturbance to vegetation on easement (apart from access tracks). Restriction of operational activities to the easement, access tracks and approved work areas. Monitoring of disturbances and use of photo points before, during & after any excavation or land disturbance activity. Vegetation trimmed rather than cleared where possible. Consideration of sensitive vegetation, including large old trees, during vegetation trimming and / or clearing activities. Obtain any clearance consent required. Location of temporary camps in naturally clear areas or on previously cleared sites.</p>	<p>Vegetation clearing within the easement or on land adjacent to the easement is limited to previously disturbed areas, unless prior regulatory approval obtained under the <i>Native Vegetation Act 1991</i>.</p>
	<p>4.3 To ensure maintenance activities are planned and conducted in a manner that minimises on native fauna.</p>	<p>Monitoring of disturbances and use of photo points before, during & after any excavation or land disturbance activity. In the event of excavations, open trenches monitored regularly and left open for the minimum time practical. Procedures or management plans implemented for significant fauna species. Provision of fauna ramps at regular intervals in open trench. Additional fauna protection measures (e.g. sawdust-filled hessian sacks soaked in water) may be installed where appropriate (e.g. where there are long sections of trench open in hot weather). Daily inspection of open trenches. Prompt reinstatement of easement.</p>	<p>Native fauna casualties associated with operations restricted to as low as reasonably practical.</p>
<p>5. To avoid the spread of weeds and pathogens.</p>	<p>5.1 To ensure that weeds and pathogens are controlled at a level that is at least consistent with adjacent land.</p>	<p>Regular patrols undertaken to look for evidence of weeds on easement and adjacent land (if weeds on easement but not adjacent land must implement control to prevent spread). Implementation of control measures of weeds and pathogens on easement in consultation with the regional NRM Board and the landholder as necessary. Records of any outbreaks found, weed control activities and photo-monitoring of significant outbreaks. Vehicle cleaning/washdown register.</p>	<p>The presence of weeds on the easement is consistent with or better than adjacent land. No new outbreak or spread of weeds or pathogens as a result of pipeline activities.</p>

Objective	Goal	Guide to How Objectives Can Be Achieved ¹²	Assessment Criteria
6. To adequately protect heritage sites and values during operations and maintenance.	6.1 To ensure that identified heritage sites are not disturbed.	<p>Consultation with relevant heritage groups if operations occurring outside known surveyed areas.</p> <p>Site examined for cultural heritage material prior to work involving disturbance outside known surveyed areas.</p> <p>Records of site locations in GIS and Alignment Sheets.</p> <p>Monitoring of disturbances and use of photo points before, during & after any excavation or land disturbance activity.</p> <p>Measures undertaken to protect heritage sites on or near the easement.</p> <p>Implement appropriate protocols for dealing with accidental discovery of cultural heritage material during operations.</p>	<p>No impact to known heritage sites without approval under the <i>Aboriginal Heritage Act 1998</i> or the <i>Heritage Places Act 1993</i>.</p> <p>Any new sites identified are reported to appropriate authority and recorded.</p>
7. To minimise noise due to operations.	7.1 To ensure operations comply with noise standards.	<p>Design any facilities to meet the noise requirements under the Environment Protection Act.</p> <p>Incident reports.</p> <p>Monitoring results, where deemed necessary (e.g. frequent complaints).</p>	No reasonable complaints received.
8. To minimise atmospheric emissions.	8.1 To minimise controlled and uncontrolled atmospheric emissions.	<p>Maintenance procedures.</p> <p>Incident reports.</p>	No uncontrolled atmospheric emissions (e.g. due to malfunction or mis-operation).
	8.2 To minimise the generation of dust.	<p>Compliance with EMS and operations procedures.</p> <p>Incident reports.</p>	No reasonable complaints received.
9. To avoid unnecessary disturbance to third party infrastructure, landholders or landuse.	9.1 To minimise disturbance or damage to infrastructure / land use and remediate where disturbance cannot be avoided.	<p>Incident reports.</p> <p>Records of communications with adjacent landholders / third party prior to and during maintenance work.</p> <p>Landholder contact records.</p> <p>Monitoring of disturbances (including use of photo points) or inspection reports, specifically to look at: removal of waste products, re-instatement of soil profiles, adequate re-contouring of surface profile, return of land use.</p> <p>Measures undertaken to minimise third party use right-of-way where necessary.</p> <p>Management of fuel, oil and spills (if they occur) to meet landholder requirements for Quality Assurance programs (e.g. Cattlecare, Organic certification).</p>	<p>Where disturbance is unavoidable or accidental, infrastructure or land use is restored to the satisfaction of the landholder or as near as practicable to undisturbed condition.</p> <p>Duration of disturbance does not exceed agreed timeframe.</p> <p>No reasonable complaints received.</p>

Objective	Goal	Guide to How Objectives Can Be Achieved ¹²	Assessment Criteria
	9.2 To minimise disturbance to landholders.	Records of communications with adjacent landholders / third party prior to and during maintenance work. Landholder contact records. Landholder activities not restricted as a result of pipeline activities. Monitoring of disturbances and use of photo points.	No reasonable landholder complaints. Landholder activities not restricted or disturbed as a result of pipeline activities unless by prior arrangement.
10. To minimise the risk to public health and safety.	10.1 To adequately protect public safety during operations.	Job Hazard Analysis. Records of Annual Reports, Fitness for Purpose Reports, Risk Assessments and inspections. Records of communications with adjacent landholder prior to and during maintenance work including advice of the nature and schedule of maintenance activities. Adequate implementation of traffic management practices. Records demonstrating compliance with AS2885. Use of signage or bunting to identify all potentially hazardous areas. Records of regular emergency response training for employees and review of procedures. Incident Reports.	No injuries or incidents involving the public.
	10.2 To avoid fires associated with pipeline maintenance activities.	Incident reports. Records of regular fire safety and emergency response training for all operations personnel and review of procedures. Established procedures for minimising fire risk during maintenance.	No pipeline related fires.
	10.3 To prevent unauthorised activity on the easement that may adversely impact on the pipeline integrity	Inspection / Patrol reports and records. Comprehensive landholder liaison program and records of communications with landholders. Community education program and 'Dial before you dig' number available and widely advertised. Clear identification of the pipeline by signs installed in accordance with AS2885. All reports of unauthorised activity are reported and investigated.	No unauthorised activity on the easement that has the potential to impact on the pipeline integrity.

Decommissioning Objectives and Assessment Criteria¹³

Objective	Goal	Guide to How Objectives Can Be Achieved ¹⁴	Assessment Criteria
11. To appropriately decommission the pipeline in accordance with regulatory requirements and accepted best practice environmental management	11.1 To safely decommission the pipeline and associated above-ground infrastructure in accordance with appropriate regulatory requirements	Records of consultation with appropriate regulatory authorities and industry associations Incident reports No above-ground infrastructure evident	Pipeline and associated above-ground infrastructure decommissioned to an appropriate standard as required by the legislation and standards of the day
	11.2 To minimise disturbance to landholder and other third party stakeholders	Records of communications with adjacent landholders / third parties prior to and during maintenance work Landholder activities not restricted as a result of pipeline activities	No reasonable landholder complaints Landholder activities not restricted or disturbed as a result of pipeline activities unless by prior arrangement

¹³ Assessment criteria shown have been developed to be “black and white”. Professional judgement is required to assess whether non-compliance is minor or major. It is necessary to ensure that adequate information is available to enable this judgement to be made.

¹⁴ This column is provided for information only. Under the *Petroleum and Geothermal Energy Act 2000*, only objectives and assessment criteria are approved.