Statement of Environmental Objectives

Pipeline Licence No.1

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DOCUMENT CONTROL SHEET

ENV 490 – PL1 Statement of Environmental Objectives

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Appendices

1 Introduction

This Statement of Environmental Objectives (SEO), for the operation of Pipeline Licence No. 1 (Moomba to Adelaide Gas Pipeline), has been prepared by Epic Energy in accordance with the requirements of Section 99 of the Petroleum and Geothermal Energy Act 2000.

1.1 Background

The Moomba to Adelaide Pipeline (MAP) was constructed by the Pipeline Authority of South Australia (PASA) in 1969, and acquired by Epic Energy in 1995. The pipeline transports natural gas from the Cooper Basin to markets in Adelaide and, via a series of lateral pipelines to regional centres. Epic Energy owns and operates the Moomba to Adelaide Pipeline under Pipeline Licence No.1. Details of Pipeline Licence 1 and associated infrastructure are provided below.

Licence	Pipeline Licence 1
Licence description	*Pipelines* • Moomba to Adelaide Pipeline (780km) • Pelican Point Lateral (1.88km) • Quarantine Lateral (0.14km) • Nuriootpa Lateral (1.60km) • Burra Lateral (15.0km) • Peterborough Lateral (1.90km) • Whyalla Lateral (87.80km) • Port Bonython Lateral (5.50km) • Point Douglas Lateral (11.5km) • Quarantine Power Station Lateral (0.12km) • Dry Creek Lateral (1.30km) • Osborne Lateral (1.31km) • Taperoo Lateral (1.20km) • Angaston lateral (38.7km)0 • Mintaro Lateral (0.33km) • Hallett Lateral (0.72km) • Port Pirie Lateral (77.80km) • Amcor Lateral (10.0km) • Wasleys-Torrens Island Loop (43km) *Facilities* • Compressor Stations (7) (Compressor Stations 2, 5, & 7 have been mothballed) • Metering Stations • Scraper Stations • Hot Taps • Communications • Mainline Valves • Cathodic Protection • Pipeline Markers

Location	Refer to Figure 1.
Activities covered by this SEO.	All regulated activities relating to the operation and maintenance of the Moomba to Adelaide Pipeline. This SEO does not apply to de-commissioning of the pipeline. A separate SEO will be required prior to de-commissioning. This SEO does not apply to new pipeline construction projects.

1.2 Purpose of SEO

The intent of this SEO is to outline the environmental objectives to which the pipeline operating and maintenance activities will conform.

The objectives of this SEO have been developed on the basis of information and issues identified in the Environmental Impact Report for Pipeline License No.1 (Epic 2003) 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 construction, operation and maintenance 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 takes into account the interim MAP SEO, previous Declarations of Environmental Factors and Codes of Environmental Practice approved under the Petroleum and Geothermal Energy Act 2000, and makes reference to the Australian Pipeline Industry Association code of Environmental Practice Part B – Onshore Pipeline Operations.

It should be noted that the major environmental impacts associated with a pipeline project are associated with construction of a new pipeline, while the operational and maintenance impacts are negligible in comparison. As stated above, this SEO applies to pipeline operations and maintenance only.

Figure 1: Location of Pipeline

2 Environmental Objectives

Potential environmental hazards and consequences associated with the operation of Pipeline Licence No.1 facilities have been identified in the Pipeline Licence No.1 Environmental Impact Report (Epic 2003) Epic Energy is committed to achieving a range of environmental objectives in regard to these potential hazards.

The Objectives for the environmental management of Pipeline Licence 1 are:

Objective	**Goal**
1. To avoid unnecessary disturbance to 3rd party infrastructure, landholders or landuse	1.1 To minimise disturbance or damage to infrastructure / land use and remediate where disturbance cannot be avoided
	1.2 To minimise disturbance to landholders
2. To maintain soil stability / integrity	2.1 To remediate erosion as a result of pipeline operations in a timely manner
	2.2 To prevent soil inversion
3. To maintain native vegetation cover on the easement where practicable.	3.1 To maintain regrowth of native vegetation on the easement to be consistent with surrounding area where practicable
	3.2 To minimise additional clearing of native vegetation as part of operational activities
	3.3 To ensure maintenance activities are planned and conducted in a manner that minimises impacts on native fauna
	3.4 To minimise disturbance of marine habitats
4. To not cause the spread of weeds and pathogens	4.1 To endeavour to control weeds and pathogens at a level that is at least consistent with adjacent land
5. To minimise the impact of the pipeline operations on surface water resources	5.1 To maintain current surface drainage patterns
6. To avoid land or water contamination	6.1 To prevent spills occurring, and if they occur minimise their impact
	6.2 To remediate and monitor areas of known contamination arising from pipeline operations
	6.3 To prevent the spread of contamination where the easement intersects known contaminated sites
	6.4 To ensure that rubbish and waste material is disposed of in an appropriate manner.
	6.5 To prevent impacts of waste water disposal
	6.6 To ensure the safe and appropriate disposal of grey water (sullage, sewage)
7. To minimise the risk to public health and safety	7.1 To adequately protect public safety during normal operations
	7.2 To adequately protect public safety during maintenance
	7.3 To avoid fires associated with pipeline maintenance

Objective	Goal
	activities
	7.4 To prevent unauthorised activity on the easement that may adversely impact on the pipeline integrity
	7.5 To monitor the condition of the pipeline to ensure that potential leaks are identified and appropriate action implemented.
8. Minimise impact of emergency situations	8.1 To minimise the impact as a result of an emergency situation or incident
	8.2 To restore any damage that may occur as a result of an emergency situation
9. To minimise noise due to operations	9.1 To ensure operations comply with noise standards
10. To minimise atmospheric emissions	10.1 To eliminate uncontrolled atmospheric emissions
	10.2 To minimise the generation of dust.
11. To adequately protect cultural heritage sites and values during operations and maintenance	11.1 To ensure that identified cultural sites are not disturbed unless by agreement.

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 operation activities that can only be managed through the prevention of unacceptable actions (eg no soil or water contamination due to pipeline activities);
- Defined requirements - the achievement of an objective can be assessed against the implementation of specific procedures or actions required for an activity (eg the design and construction of the pipeline must meet the requirements of AS 2885.1—1997 Pipelines—Gas and liquid petroleum);
- Goal Attainment Scaling (GAS) Criteria – objectives requiring visual assessment can be prone to uncertainties of subjective judgement. To minimise this occurring, GAS is used to measure such objectives against a series of criteria described by a written description and/or photographically. In this SEO, GAS is applied to measuring construction and restoration of borrow pits (refer to Appendix B).

Appendix A tabulates the objectives and the appropriate assessment criteria.

4 Reporting

4.1 Definitions

The following descriptions have been provided to help clarify and elaborate on the definitions given in Section 85(1) of the *Petroleum and Geothermal Energy Act 2000* and Regulation 32(1) of the Petroleum and Geothermal Energy Regulations 2000.

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.

In accordance with Regulation 32(1), 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.

In order to expand on section(85)(e) and Regulation (32)(b) PIRSA has developed the following set of incident definitions (Table1) relative to operations (facility and pipeline) activities. These definitions are intended to provide consistency with Licence reporting. The purpose of the provision of examples within the definitions is to enable Licensees to clearly identify events that must be reported.

Table 1: Incident definitions for operation (facility and pipelines) activities

Serious Incidents	Reportable Incidents
1. A person is seriously injured[1] 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: a) Disturbance to sites of cultural and/or heritage significance without appropriate permits and approvals[2]. 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 approvals[3]. 4. Security of natural gas supply is prejudiced or an imminent risk of prejudice to security of natural gas supply arises[4]. 5. An event that compromises the physical integrity of an asset or facility. For example: a) Pipeline[5] or facility failure or rupture. b) Unauthorised activity on a pipeline easement where the pipeline is contacted and repair action is required[6]. 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.	1. An escape of petroleum[7], processed substance, a chemical or a fuel that affects an area that has not been specifically designed to contain such an escape[8] (other than a serious incident). 2. An event that has the potential to compromise the physical integrity of an asset or facility. For example: 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 identified[6] 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 identified[6] as exceeding allowable stress limits, determined in accordance with AS2885. d) An unapproved[9] 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 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 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.

4.2 Reporting Requirements

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

5 Definitions

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

Area of known Archaeological Sensitivity	A part of the landscape that contains demonstrated occurrences of cultural material. The level of sensitivity depends upon the density and significance of the material.
Archaeological Potential	A part of the landscape, generally a physiographic unit or landform, that is likely to contain occurrences of cultural material on the basis of comparative research in similar areas.
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 land directly above the buried pipeline. The width of the easement is generally up to 25m of cleared land to permit safe pipeline operations.
Infrastructure	Physical assets which are built on the land (eg: roads, power poles, fences, railway, troughs, gates, dams, other services)
Landholder	Owner or occupier of the land.
Landuse	Use of land eg: grazing, cropping, access, industrial, residential, environmentally sensitive area, recreational
Line of sight clearance	Clearing of large vegetation between pipeline markers to maintain a clear line of site between each pipeline marker. Eg. For trees on easement where large trees cannot be retained, vegetation trimmed to height of 1m over pipeline and to 3m either side of centreline. This is to satisfy the operational obligations to ensure pipeline integrity and personnel safety cannot be compromised (ie. Any objective is subservient to these requirements).
Marine environment	Includes all marine habitat contained within the body of sea water, the sea bed and inter-tidal zone.
Minimise	To reduce as far as possible, considering all other factors e.g. requirements for safe operations and accessibility.
Non-interference activities (marine)	Any activity undertaken within the marine environment that does not involve the physical disturbance of the seabed, marine vegetation or flora (eg. diving, submarine inspection).
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 (including marine surveys for pipeline in marine areas) **Easement** Patrolling / Inspections (foot, vehicle, aerial)

	Vegetation Control Erosion Control Establishment/replacement, use and rehabilitation of borrow pits and material extraction **Facilities** (Main Line Valves, Compressor Stations, Camps, Access Tracks, Cathodic Protection Beds, Meter Stations) Storage and use of diesels, oils and chemicals Weed Control Waste treatment and disposal Inspection and Testing
Right of Way (ROW)	For the purpose of this SEO, a right of way is considered to be generally 3m to 5m wide to permit safe vehicular traffic.
Spill	Uncontrolled or unplanned release or discharge of a hydrocarbon, chemical or hazardous substance.
Stakeholder	The affected public, Local Government Departments, Utilities, Authorities, Emergency Agencies, Construction and Excavation Contractors.
Timely manner	Timeframe agreeable to Epic and impacted third party, that considers all external factors e.g. weather constraints and accessibility.
Uncontrolled 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

ALARP	As Low As Reasonably Practical
APIA	Australian Pipeline Industry Association
AS 2885	Australian Standard AS 2885.3-2001 Pipelines - Gas and liquid petroleum - Operation and maintenance
DEF	Declaration of Environmental Factors
DHEAA	Department of Environment, Heritage and Aboriginal Affairs
EPA	Environment Protection Agency
EIR	Environmental Impact Report prepared in accordance with Section 97 of the Petroleum and Geothermal Energy Act 2000 and Regulation 10.
PIRSA	Primary Industries and Resources, South Australia
Planning SA	Department of Transport, Urban Development and the Arts
ROW	Right of Way
SEO	Statement of Environmental Objectives prepared in accordance with Section 99 and 100 of the Petroleum and Geothermal Energy Act 2000 and Regulations 12 and 13.

7 References

Epic Energy 2003. *Pipeline Licence No.1 Environmental Impact Report*. Prepared by Ecos Consulting (Aust).

Epic Energy 2003. *Moomba to Adelaide Pipeline – Statement of Environmental Objectives.* April 2003.

McDonough, R. 1999. *Goal attainment scaling: a tool for evaluating pipeline environmental performance.* Primary Industries and Resources of South Australia, Adelaide.

Petroleum Group (PIRSA) 2000. *Criteria for Classifying the Level of Environmental Impact of Regulated Activities: Requirements under Part 12 Petroleum and Geothermal Energy Act 2000*. Primary Industries and Resources of South Australia, Adelaide. http://www.pir.sa.gov.au

Appendix A:
Objectives and Assessment Criteria

Objectives and Assessment Criteria[11]

OBJECTIVE	GOAL	MEASURE / HOW	OBJECTIVE ACHIEVED
1. To avoid unnecessary disturbance to 3rd party infrastructure, landholders (including Native Title Claimants or land use)	**1.1** To minimise disturbance or damage to infrastructure / land use and remediate where disturbance cannot be avoided	Incident reports. Records of communications with adjacent landholders / 3rd party prior to & during maintenance work. Landholder contact records database. 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. Where disturbance is unavoidable or accidental, infrastructure or land use is restored as near as is practicable to its predisturbed condition or as agreed between the relevant parties. . Duration of disturbance does not exceed agreed timeframe.	No reasonable landholder complaints.
	1.2 To minimise disturbance to landholders	Records of communications with adjacent landholders / 3rd party prior to & during maintenance work. Landholder contact records database. Landholder activities not restricted as a result of pipeline activities. Completed disturbance checklist.	No reasonable landholder complaints. Landholder activities not restricted or disturbed as a result of pipeline activities unless by prior arrangement.

[11] Assessment criteria 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.

OBJECTIVE	GOAL	MEASURE / HOW	OBJECTIVE ACHIEVED
2. To maintain soil stability / integrity	**2.1** To remediate erosion as a result of pipeline operations in a timely manner	Timed photo points or annual 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.	The extent of soil erosion on the easement is consistent with surrounding land. 0, +1 or +2 GAS criteria are obtained for borrow pit construction and restoration, as listed in Appendix B
	2.2 To prevent soil inversion	Annual land survey to look for soil discolouration, success of vegetation return as an indicator. Disturbance checklist signed off to indicate top soil/subsoil is 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). No reasonable landholder complaints.
3. To maintain native vegetation cover on the easement where practicable	**3.1** To promote and maintain regrowth of native vegetation on the easement	Annual land survey to look for evidence of disturbance to vegetation on easement (apart from access tracks). Disturbance checklist (including timed photos) signed off to indicate adequate steps undertaken to facilitate regrowth. Follow-up rehabilitation work undertaken where natural regeneration has been inadequate.	Species abundance and distribution on the easement. Note: assessment of the consistency with surrounding areas will take into account that regrowth is a time and rainfall dependent process.

OBJECTIVE	GOAL	MEASURE / HOW	OBJECTIVE ACHIEVED
	3.2 To minimise clearing of native vegetation as part of operational activities	Annual land survey to look for evidence of disturbance to vegetation on easement (apart from access tracks). Use of Disturbance checklist and photo points before, during & after any excavation or land disturbance activity. Restrict disturbance to the ROW and approved access and work areas where practicable. Vegetation trimmed rather than cleared where possible. Consideration of sensitive vegetation during vegetation trimming and / or clearing activities in line with government legislation and regulations. Where necessary approval obtained under *Native Vegetation Act 1991* for any clearance of native vegetation.	Vegetation clearance is limited to previously disturbed areas or areas assessed to be of low sensitivity, unless prior approval obtained.
	3.3 To ensure maintenance activities are planned and conducted in a manner that minimises impacts on native fauna	Use of Disturbance checklist and photo points before, during & after any excavation or land disturbance activity. In event of pipeline repair, open trenches are monitored daily and not left open for more than 72 hours where practicable.	Vegetation clearing is limited to previously disturbed areas or areas assessed to be of low sensitivity, unless prior regulatory approval obtained.
	3.4 To minimise disturbance of marine habitats	Only undertake non-interference maintenance activities in the marine habitat. Obtain regulatory approval prior to undertaking disturbance in marine habitat (contact should be initially made with PIRSA during the planning process). Use of Disturbance checklist and photo points before, during & after any excavation or marine disturbance activity.	No 'interference' activities undertaken in the marine habitat unless prior regulatory approval obtained.

OBJECTIVE	GOAL	MEASURE / HOW	OBJECTIVE ACHIEVED
4. To not cause the spread of weeds and pathogens	**4.1** To endeavour to control weeds and pathogens at a level that is at least consistent with adjacent land	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). Records of outbreaks found, weed control activities and photo-monitoring of significant outbreaks. Vehicle washdown register. Where appropriate, closure of ROW access road.	The presence of weeds and pathogens on the easement is consistent with or better than adjacent land. No new outbreak or spread of weeds reported.
5. To minimise the impact of the pipeline operations on surface water resources	**5.1** To maintain current surface drainage patterns	Regular patrols and annual survey undertaken to look for evidence of erosion, abnormal vegetation growth or death. Observations also to be undertaken following significant storm events. Use of Disturbance checklist and photo points before, during and after excavations, CP installation, construction activities, establishment of borrow pits, etc.	For excavations, surface drainage profiles restored. For existing easement, drainage is maintained to pre-existing conditions or better. For borrow pits, surface drainage profiles are not disturbed.

OBJECTIVE	GOAL	MEASURE / HOW	OBJECTIVE ACHIEVED
6. To avoid land or water contamination	**6.1** To prevent spills occurring, and if they occur minimise their impact	Evidence of soil discolouration, vegetation or fauna death during patrols. Incident / Spill reports. Use of spill protection methods where work is completed within or adjacent to environmentally sensitive areas. Containment of all hazardous substances and liquid waste in appropriate vessels. In the event of a spill, the spill was: • Reported • Contained • Cleaned-up, and • Cause investigated and corrective and/or preventative action implemented. Prevention program including pigging, intelligent pigging and pipe maintenance. Compliance with relevant sections of the Environment Protection Act.	No soil or water contamination as a result of pipeline activities. No land or water contamination as a result of spills during pipeline operation activities.
	6.2 To remediate and monitor areas of known contamination arising from pipeline operations	Incident / Spill reports. Active remediation methods implemented where it is determined that contamination is spreading or level of contamination is not decreasing. Use of groundwater monitoring bores. Use of soil farms for remediation.	Contamination confined to known area. Level of contamination continually decreasing, ultimately to meet EPA guidelines.
	6.3 To prevent the spread of contamination where the easement intersects known contaminated sites	Use of Disturbance checklist and photo points before, during & after excavations, CP installation, construction activities, etc. Identification of contaminated sites along easement and establishment of monitoring points.	No evidence of movement of contaminated material along easement (i.e. vegetation death, soil discolouration, subsidence).

OBJECTIVE	GOAL	MEASURE / HOW	OBJECTIVE ACHIEVED
	6.4 To ensure that rubbish and waste material is disposed of in an appropriate manner.	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 Disturbance checklist and photo points before, during & after excavations, CP installation, construction activities, etc.	No evidence of rubbish or litter on easement or at facilities. Waste material is contained and disposed of in accordance with EPA approved procedures.
	6.5 To prevent impacts of waste water disposal	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. Testing of water quality prior to release/disposal of waste water. Inspection of water disposal sites for evidence of water entering a watercourse or environmentally sensitive area. Compliance with the *Environment Protection (Water Quality) Policy 2003*.	No evidence of impacts to soil, water and vegetation as a result of water disposal (i.e. soil erosion, dead vegetation, water discoloration).
	6.6 To ensure the safe and appropriate disposal of grey and black water (sullage, sewage)	Compliance with the relevant local government regulations or relevant health and sanitation regulations.	No evidence of non-compliance with local or state government regulations.
7. To minimise the risk to public health and safety	**7.1** To adequately protect public safety during normal operations	Job Hazard Analysis. Records of Annual Reports, Fitness for Purpose Reports, Risk Assessments and inspections. Records (including above) demonstrating compliance to AS2885. Emergency procedures implemented and personnel trained.	No injuries or incidents involving the public.

OBJECTIVE	GOAL	MEASURE / HOW	OBJECTIVE ACHIEVED
	7.2 To adequately protect public safety during maintenance	Job Hazard Analysis'. Records of communications with adjacent landholders prior to and during maintenance work including advice on the nature and schedule of maintenance activities. Use of signage or bunting to identify all potentially hazardous areas. Adequate implementation of traffic management practices. Records of regular emergency response training for employees and review of procedures. Incident Reports.	No injuries or incidents involving the public. Emergency procedures implemented and personnel trained.
	7.3 To avoid fires associated with pipeline operation and 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. Emergency procedures implemented and personnel trained.	No pipeline related fires.
	7.4 To prevent unauthorised activity on the easement that may adversely impact on the pipeline integrity	Inspection / Patrol reports and records. Comprehensive landholder and other stakeholder pipeline awareness program and records of communications with these. Community education program implemented in Regional areas. 'Dial before you dig' number available and widely advertised. Clear identification of the pipeline by signs installed in accordance with AS2885. All reports of unauthorized activity are reported and investigated.	No unauthorised activity on the easement that has the potential to impact on the pipeline integrity.

OBJECTIVE	GOAL	MEASURE / HOW	OBJECTIVE ACHIEVED
8. Minimise impact of emergency situations	**8.1** To minimise the impact as a result of an emergency situation or incident	Incident reports. Emergency response trials (carried out at least annually) and associated documentation. Records of regular emergency response training for all personnel and review of procedures. Link between ER exercises and Risk assessment.	Emergency response procedures are effectively implemented in the event of an emergency. Emergency response exercises are aligned with credible threats and consequences identified in the risk assessment.
	8.2 To restore any damage that may occur as a result of an emergency situation	Refer to previous criteria (Objective 1, 2, 3 & 6).	Refer to previous criteria (Objective 1, 2, 3 & 6).
9. To minimise noise due to operations	**9.1** To ensure operations comply with noise standards	Incident reports. Monitoring results, where deemed necessary (e.g. frequent complaints).	Operational activities comply with noise regulations, under the *Environment Protection (Noise) Policy 2007*. No reasonable complaints received.
10. To minimise atmospheric emissions	**10.1** To eliminate uncontrolled atmospheric emissions	Maintenance Program Following relevant operational procedures Compliance with *Environment Protection (Air Quality) Policy 1994*.	No uncontrolled atmospheric emission.
	10.2 To minimise the generation of dust.	Incident reports. Compliance with EMS Procedures (vehicle movement, dust suppression, etc).	No reasonable complaints received. No dust related injuries recorded.

OBJECTIVE	GOAL	MEASURE / HOW	OBJECTIVE ACHIEVED
11. To adequately protect cultural heritage sites and values during operations and maintenance	**11.1** To ensure that identified cultural sites are not disturbed unless by agreement	Consultation with relevant heritage groups if operations occurring outside known surveyed areas. Records of site locations on operations GIS. Use of Disturbance checklist prior to undertaking maintenance works. Site examined for cultural heritage material prior to work involving off-easement disturbance or in an area of archaeological potential or in an area identified as being of known medium to high archaeological sensitivity. Any new sites identified are recorded in Land Management System and reported to appropriate authority.	No impact to known sites without approval under the *Aboriginal Heritage Act 1988* or the *Heritage Places Act 1993*. No reasonable complaints received.

Appendix B:
Goal Attainment Scaling Criteria for Borrow Pit Construction and Restoration

Table 2-1: Goal Attainment Scaling (GAS) Criteria for Borrow Pit Construction and Restoration

Objectives	Goals	Goal Exceeded +2	Goal Exceeded +1	Goal Attained 0	Minor Shortfall -1	Significant Shortfall -2
CONSTRUCTION						
Minimise impacts on vegetation	**Perennial vegetation clearance minimised**	No trees or other vegetation removed	No trees were removed, only other vegetation	Trees and other vegetation were removed where removal could not have been avoided	Trees with trunk diameters between 20 & 50cm were removed	Trees with trunk diameters >50cm were removed
Minimise visual impacts	**Site pit appropriately**	Borrow pit not visible from the road	Borrow pit shielded from road by utilizing screening vegetation or landform	Borrow pit more than 10m from track or 50m from public road Visible from road due to lack of screening vegetation	Borrow pit less than 10m from track or less than 50m from public road	Borrow pit less than 5m from track or less than 20m from public road

RESTORATION						
Minimise impacts on vegetation	**Acceptable revegetation after rainfall**	Vegetation type and density indistinguishable from surrounding landscape	Vegetation type and density only slightly distinguishable from surrounding landscape	Perennial grasses and shrubs revegetated, type consistent with surroundings. Some bare patches still present Vegetation cover uniform over base and sides of pit	Revegetation localised on the base of the pit but none or very little on the sides of the pit	No revegetation evident
Minimise impact on soil	**Minimise erosion**	No erosion anywhere on the pit	Insignificant erosion along the slides of the pit	Minor erosion along the slides of the pit	Moderate erosion	Severe erosion evident
Minimise visual impacts	**Borrow pit effectively re-contoured and ripped**	Pit contours indistinguishable from surrounding landscape. Access ripped	Pit contours blend well into surrounding landscape, although still evident	Pit slides battered and ripped along the contour, but pit outline visible Topsoil and vegetation respread over disturbed area	Pit slides battered but not ripped	No re-contouring of pit has occurred – pit slides are very steep Topsoil and vegetation not respread