

Statement of Environmental Objectives

Pipeline Licence No. 3&4



Document Number: S-31-107-SEO-G-001

October 2009

Prepared by:

Epic Energy 26 High St Dry Creek SA 5094

DOCUMENT CONTROL SHEET ENV 540 - PL3&4 Statement of Environmental Objectives Approved by Prepared Reviewed Comment Date Reference Rev by by ENV540-SEO 14-01-04 ZB/KD KΒ Internal Draft to Epic Energy Α ENV540-SEO 0 20-02-04 ZB/KD KΒ Issued to PIRSA Edited & re-issued to PIRSA ENV540-SEO 1 ZB/KD ZΒ Epic 24-05-04 ENV540-SEO 2 26-10-09 R Zhu C. D'Cruz G. Balmer 5 Yearly Review ENV540-SEO 3 07-01-14 **DMTIRE DMTIRE** Incident definition update

Contents

1	Introduction		
	1.1	Background	1
	1.2	Purpose of SEO	2
2	Env	vironmental Objectives	2
3	Ass	sessment Criteria	4
4	Rep	porting	5
	4.1	Definitions	5
	4.2	Reporting Requirements	6
5	Def	finitions	8
6	Glos	ssary	10
7	References1		

i

Appendices

Appendix A: Objectives and Assessment Criteria

1 Introduction

This Statement of Environmental Objectives (SEO), for the operation of Pipeline Licence No.3 & 4 (South East Pipeline System), has been prepared by Epic Energy in accordance with the requirements of Section 99 of the Petroleum Act 2000.

1.1 Background

The South East Pipeline network (SEP) was constructed by the Pipeline Authority of South Australia (PASA) in 1990, and acquired by Epic Energy in 1995. The pipeline transports natural gas from the Katnook gas fields and the SESA Pipeline south of Penola to consumers near:

Penola. [SAFRIES factory site]

Mount Gambier. [Mount Gambier domestic supply]

Millicent.[Kimberley Clark paper mill]

Nangwarry. [Cater Holt & Harvey mill.]

Details of Pipeline Licence 3 & 4 and associated infrastructure are provided below.

	Pipeline Licence 3 _ Safries Pipeline
	Pipeline Licence 4 _ Katnook to Kimberley Clark Pipeline.
	Mount Gambier lateral.
Licences	Nangwarry Lateral.
Licence description	Pipelines
	Katnook to Tantanoola [Kimberley Clark] Pipeline (46.1km)
	Mount Gambier Lateral [18.9 km]
	Safries Lateral [4.5 km]
	Nangwarry Lateral [11.5 km]
	Facilities
	Metering/Regulation Stations
	Scraper Stations
	Mainline Valves
	Communications
	Cathodic Protection
	Pipeline Markers
Location	Refer to Figure 1.
Activities covered by this SEO.	All regulated activities relating to the operation of the South East Pipeline System.
	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 pipeline construction projects.

1.2 Purpose of SEO

The intent of this SEO is to outline the environmental objectives to which the pipeline operating 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.3&4 (Epic 2004) and are in keeping with the objectives of the Petroleum Act 2000, which include:

To minimise the environmental damage from the activities involved in the construction or operation of transmission pipelines for transporting petroleum;

To establish appropriate consultative processes involving people directly affected by regulated activities and the public generally;

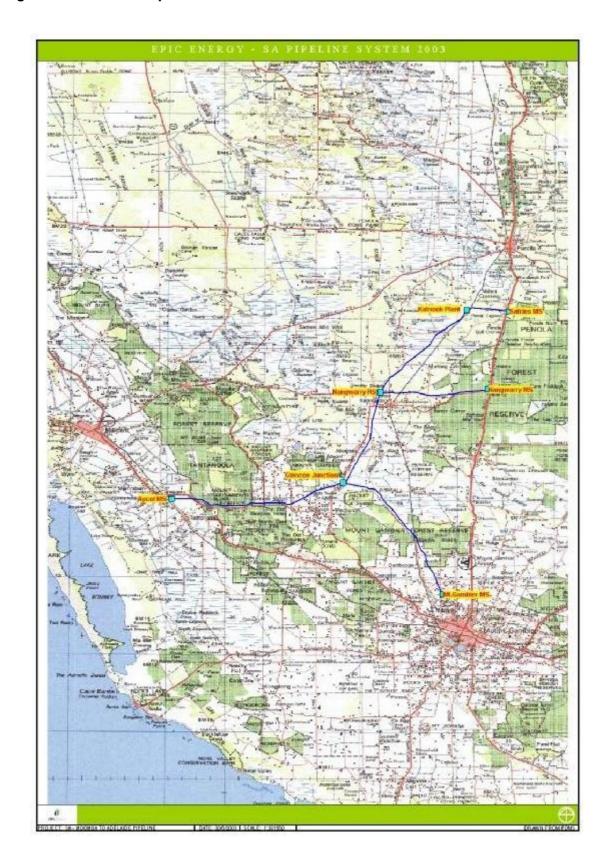
To promote adherence to AS2885 as a primary means of achieving public, environmental and safety objectives;

To protect the public from risks inherent in regulated activities.

This SEO takes account the previous Declarations of Environmental Factors and Codes of Environmental Practice approved under the Petroleum 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, while operational impacts are negligible in comparison. As stated above, this SEO applies to pipeline operations only.

Figure 1: Location of Pipeline



2 Environmental Objectives

Potential environmental hazards and consequences associated with the operation of Pipeline Licence No.3 and 4 facilities have been identified in the Pipeline Licence No.3 and 4 Environmental Impact Report (Epic 2004) 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 License 3 & 4 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 Manage vegetation on the pipeline easement so that it does not interfere with the integrity of the pipeline	
	3.3 To minimise additional clearing of native vegetation as part of operational activities	
	3.4 To ensure maintenance activities are planned and conducted in a manner that minimises impacts on native fauna	
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 as a result 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	

Objective	Goal
	7.2 To adequately protect public safety during maintenance
	7.3 To avoid fires associated with pipeline maintenance activities
	7.4 To prevent unauthorised activity on the easement that may adversely impact on the pipeline integrity
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

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 remnant vegetation shall be cleared);
- 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—2007 Pipelines—Gas and liquid petroleum);

Appendix A tabulates the objectives and the appropriate assessment criteria.

4 Reporting

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

4.1 Definitions

The following descriptions have been provided to help clarify and elaborate on the expanded definitions to Section 85(1) of the Petroleum Act 2000 and Regulation 32(1) of the Petroleum 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 pipeline) activities

Serious Incidents

- 1. A person is seriously injured or killed.
- 2. An imminent risk to public health or safety arises.
- 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 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.
 - Detection of a declared weed, animal/plant pathogen or plant pest species that has been introduced or spread as a direct result of activities.
 - Any removal of rare, vulnerable or endangered flora and fauna without appropriate permits and approvals³.
- Security of natural gas supply is prejudiced or an imminent risk of prejudice to security of natural gas supply arises⁴.
- An event that results in a rupture of a pressure containing asset or facility.
- A regulated activity⁵ being undertaken in manner that involved or will involve a serious risk to the health or safety of a person emanating from an immediate or imminent exposure to a hazard⁶.
- Activity on a pipeline easement where the pipeline is contacted and repair action is required⁷.
- An uncontrolled gas release resulting in the activation of emergency response and/or evacuation procedures of an area in or adjacent to the gas release, and/or fire or explosion.

Reportable Incidents

- An escape of petroleum⁸, processed substance, a chemical or a fuel that affects an area that has not been specifically designed to contain such an escape⁹ (other than a serious incident).
- An event that has the potential to compromise the physical integrity of an asset or facility. For example:
 - Activity on a pipeline easement with equipment that has been identified⁷ as exceeding the pipeline's penetration resistance, determined in accordance with Australian Standard (AS) 2885.
 - b) Identification of a through-wall defect on a pipeline 10 or plant component (other than a serious incident).
 - c) Identification¹¹ of a partial through-wall defect (e.g. through visual inspection, inline inspection, non-destructive testing) that requires repair or replacement action, or a reduction of the Maximum Allowable Operating Pressure, to maintain safe operation (other than a serious incident).
 - Activity on a pipeline easement with equipment or vehicles that have been identified? as exceeding allowable stress limits, determined in accordance with AS2885.
 - e) An unapproved¹² excursion outside of critical design or operating conditions/parameters.
 - Failure of a critical procedural control in place to reduce a credible threat to low or as low as reasonably practicable (ALARP).¹³
- Unauthorised activity on a pipeline easement where the pipeline is contacted but repair action is not required.
- Malfunction or failure of critical plant or equipment that had (or still has) potential to cause a serious incident.
- 5. Any non-compliance with SEO objectives.

¹ As per the definition in Section 36 of the Work Health and Safety Act 2012.

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 Regulated activity as defined in Section 10 of the *Petroleum and Geothermal Energy Act 2000*.

⁶ Resulting in the issuing of a prohibition notice by SafeWork SA pursuant to Section 195 the Work Health and Safety Act 2012.

⁷ For the case where a detailed assessment is required to determine this, DMITRE recommends the incident be reported initially and amended at a later date if required.

In gaseous, liquid or solid state, as per Petroleum and Geothermal Energy Act 2000 definition.

⁹ 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.

10 As par Patrology and Contain a Contain a gas escape.

As per *Petroleum and Geothermal Energy Act 2000* definition, the term 'pipeline' includes tanks, machinery and equipment necessary for, or associated with, operation of the pipeline.

¹¹ For reporting purposes, the incident is considered to have occurred at the time that a decision is made to repair or replace the defect, or reduce the Maximum Allowable Operating Pressure.

¹² "Approval" as per AS2885 definition. Note that there may be situations where excursions are allowable under AS2885.

As per the Safety Management System process articulated in AS 2885.1-2012, or similar risk assessment process.

4.2 Reporting Requirements

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

5 Definitions

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

Areaeological 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 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 approximate 20m wide directly above the buried pipeline. 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). Minimise To reduce as far as possible, considering all other factors e.g. requirements for safe operations and accessibility. 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 Land Land Land Land Land Land Land Lan		<u> </u>	
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) For the purpose of this SEO, an easement is considered to be land approximate 20m wide directly above the buried pipeline. 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). 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 (including marine surveys for pipeline in marine areas) Easement Patrolling / Inspections (foot, vehicle, aerial) Vegetation Control Facilities (Main Line Valves, Access Tracks, Cathodic Protection Beds, Meter Stations)			
surrounding land/area condition of the easement is similar to that of adjacent land (i.e. soil, vegetation, landform) For the purpose of this SEO, an easement is considered to be land approximate 20m wide directly above the buried pipeline. 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). 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 (including marine surveys for pipeline in marine areas) Easement Patrolling / Inspections (foot, vehicle, aerial) Vegetation Control Facilities (Main Line Valves, Access Tracks, Cathodic Protection Beds, Meter Stations)	Archaeological Potential	likely to contain occurrences of cultural material on the basis of	
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 Clearing of large vegetation between pipeline markers to maintain a clear line of sight clearance Clearing of large vegetation between pipeline markers to maintain a clear 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). 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 (including marine surveys for pipeline in marine areas) Easement Patrolling / Inspections (foot, vehicle, aerial) Vegetation Control Erosion Control Erosion Control Facilities (Main Line Valves, Access Tracks, Cathodic Protection Beds, Meter Stations)		condition of the easement is similar to that of adjacent land (i.e. soil,	
Landholder	Easement		
Landuse Use of land eg: grazing, cropping, access, industrial, residential, environmentally sensitive area, recreational 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). 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 (including marine surveys for pipeline in marine areas) Easement Patrolling / Inspections (foot, vehicle, aerial) Vegetation Control Erosion Control Facilities (Main Line Valves, Access Tracks, Cathodic Protection Beds, Meter Stations)	Infrastructure		
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). Minimise To reduce as far as possible, considering all other factors e.g. requirements for safe operations and accessibility. 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 Facilities (Main Line Valves, Access Tracks, Cathodic Protection Beds, Meter Stations)	Landholder	Owner or occupier of the land.	
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). 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 (including marine surveys for pipeline in marine areas) Easement Patrolling / Inspections (foot, vehicle, aerial) Vegetation Control Erosion Control Facilities (Main Line Valves, Access Tracks, Cathodic Protection Beds, Meter Stations)	Landuse		
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 (including marine surveys for pipeline in marine areas) Easement Patrolling / Inspections (foot, vehicle, aerial) Vegetation Control Erosion Control Facilities (Main Line Valves, Access Tracks, Cathodic Protection Beds, Meter Stations)	Line of sight clearance	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	
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 Facilities (Main Line Valves, Access Tracks, Cathodic Protection Beds, Meter Stations)	Minimise		
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 Facilities (Main Line Valves, Access Tracks, Cathodic Protection Beds, Meter Stations)	Pipeline operations		
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 Facilities (Main Line Valves, Access Tracks, Cathodic Protection Beds, Meter Stations)		Pipeline	
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 Facilities (Main Line Valves, Access Tracks, Cathodic Protection Beds, Meter Stations)		Dig ups	
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 Facilities (Main Line Valves, Access Tracks, Cathodic Protection Beds, Meter Stations)		Pigging & Integrity Testing	
Inspection and Testing Pipeline surveys (including marine surveys for pipeline in marine areas) Easement Patrolling / Inspections (foot, vehicle, aerial) Vegetation Control Erosion Control Facilities (Main Line Valves, Access Tracks, Cathodic Protection Beds, Meter Stations)		Welding	
Pipeline surveys (including marine surveys for pipeline in marine areas) Easement Patrolling / Inspections (foot, vehicle, aerial) Vegetation Control Erosion Control Facilities (Main Line Valves, Access Tracks, Cathodic Protection Beds, Meter Stations)		Cathodic Protection	
Easement Patrolling / Inspections (foot, vehicle, aerial) Vegetation Control Erosion Control Facilities (Main Line Valves, Access Tracks, Cathodic Protection Beds, Meter Stations)		Inspection and Testing	
Patrolling / Inspections (foot, vehicle, aerial) Vegetation Control Erosion Control Facilities (Main Line Valves, Access Tracks, Cathodic Protection Beds, Meter Stations)		Pipeline surveys (including marine surveys for pipeline in marine areas)	
Vegetation Control Erosion Control Facilities (Main Line Valves, Access Tracks, Cathodic Protection Beds, Meter Stations)		Easement	
Erosion Control Facilities (Main Line Valves, Access Tracks, Cathodic Protection Beds, Meter Stations)		Patrolling / Inspections (foot, vehicle, aerial)	
Facilities (Main Line Valves, Access Tracks, Cathodic Protection Beds, Meter Stations)		Vegetation Control	
Meter Stations)		Erosion Control	
Storage and use of diesels, oils and chemicals			
		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.
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
EPA Environment Protection Authority

EIR Environmental Impact Report prepared in accordance with Section 97 of

the Petroleum Act 2000 and Regulation 10.

PIRSA Primary Industries and Resources, South Australia

Planning SA Department of Transport, Urban Development and the Arts

SEO Statement of Environmental Objectives prepared in accordance with

Section 99 and 100 of the Petroleum Act 2000 and Regulations 12 and

13.

7 References

Australian Pipeline Industry Association [APIA] 2000. *Code of Environmental practice Part B – Onshore Pipeline Operations*

Epic Energy 2004. *Pipeline Licence No.3&4 Environmental Impact Report.* Prepared by Ecos Consulting (Aust).

Epic Energy 2004. *Moomba to Adelaide Pipeline – Statement of Environmental Objectives.* April 2003.

Petroleum Group (PIRSA) 2000. *Criteria for Classifying the Level of Environmental Impact of Regulated Activities: Requirements under Part 12 Petroleum 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 Criteria¹

OBJECTIVE	GOAL	MEASURE / HOW	OBJECTIVE ACHIEVED
1. To avoid unnecessary disturbance to 3 rd party infrastructure, landholders (including Native Title Claimants or	GOAL 1.1 To minimise disturbance or damage to infrastructure / land use and remediate where disturbance cannot be avoided	MEASURE / How Incident reports. Records of communications with adjacent landholders / 3 rd 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.	OBJECTIVE ACHIEVED No reasonable landholder complaints.
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.	
	1.2 To minimise disturbance to landholders	Records of communications with adjacent landholders / 3 rd 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.

¹ 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.	The extent of soil erosion on the easement is consistent with surrounding land.
		Inspections undertaken as part of regular patrols, following specific works, following significant storm events.	
		Preventative measures implemented and monitored in susceptible areas.	
	2.2 To prevent soil inversion	Annual land survey to look for soil discolouration, success of vegetation return as an indicator.	Vegetation cover is consistent with surrounding land.
		Disturbance checklist signed off to indicate top soil/subsoil are	No evidence of subsoil on surface (colour).
	stockpiled separately and soil profiles appropriately reinstated following the re-instatement of works/excavations.	No landholder complaints.	
3. To maintain native vegetation	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).	Species abundance and distribution on the easement .
cover on the easement where practicable		Disturbance checklist (including timed photos) signed off to indicate adequate steps undertaken to facilitate regrowth.	Note: assessment of the consistency with surrounding areas will take into account that
pracacable		Follow-up rehabilitation work undertaken where natural regeneration has been inadequate.	regrowth is a time and rainfall dependent process.
	3.2 Manage vegetation on the	Annual land easement survey to review vegetation regrowth.	No pipeline interference due to vegetation cover.
	pipeline easement so that it does not interfere with the	Records demonstrating compliance with AS2885.	
	integrity of the pipeline	Vegetation removed in accordance with the <i>Native Vegetation Act 1991</i> and <i>Development Act 1993.</i>	

OBJECTIVE	GOAL	MEASURE / HOW	OBJECTIVE ACHIEVED
	3.3 To minimise additional clearing of native vegetation as	Annual land survey to look for evidence of disturbance to vegetation on easement (apart from access tracks).	Vegetation clearance is limited to previously disturbed areas or areas assessed to be of low
	part of operational activities	Use of Disturbance checklist and photo points before, during & after any excavation or land disturbance activity.	sensitivity, unless prior regulatory approval obtained.
		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 practicable approval obtained under <i>Native Vegetation Act 1991</i> for any clearance of native vegetation.	
	3.4 To ensure maintenance activities are planned and	Use of Disturbance checklist and photo points before, during & after any excavation or land disturbance activity.	Vegetation clearing is limited to previously disturbed areas or areas assessed to be of low sensitivity,
	conducted in a manner that minimises impacts on native fauna	In event of pipeline repair, open trenches are monitored daily and not left open for more than 72 hours.	unless prior regulatory approval obtained.
4. To not cause the spread of weeds and	4.1 To endeavour to control weeds and pathogens at a level that is at least consistent with	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).	The presence of weeds and pathogens on the easement is consistent with or better than adjacent land.
pathogens	adjacent land	Records of outbreaks found, weed control activities and photomonitoring of significant outbreaks.	No new outbreak or spread of weeds reported.
		Where appropriate, closure of access tracks.	
5. To minimise the impact of the	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.	For excavations, surface drainage profiles restored. For existing easement, drainage is maintained to
pipeline operations on surface water		Observations also to be undertaken following significant storm events.	pre-existing conditions or better.
resources		Use of Disturbance checklist and photo points before, during and after excavations, CP installation, construction activities, etc.	

OBJECTIVE	GOAL	MEASURE / HOW	OBJECTIVE ACHIEVED
6. To avoid land or water	6.1 To prevent spills occurring, and if they occur minimise their impact	Evidence of soil discolouration, vegetation or fauna death during patrols.	No soil or water contamination as a result of pipeline activities.
contamination		Incident / Spill reports.	No land or water contamination as a result of spills during pipeline operation activities.
		Use of spill protection methods where work is completed within or adjacent to environmentally sensitive areas.	during pipeline operation activities.
		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.	
	6.2 To remediate and monitor areas of known contamination arising from pipeline operations6.3 To prevent the spread of contamination where the easement intersects known contaminated sites	Incident / Spill reports.	Contamination confined to known area.
		Active remediation methods implemented where it is determined that contamination is spreading or level of contamination is not decreasing.	Level of contamination continually decreasing, ultimately to meet EPA guidelines.
		Use of groundwater monitoring bores.	
		Use of soil farms for remediation.	
		Use of Disturbance checklist and photo points before, during & after excavations, CP installation, construction activities, etc.	No evidence of movement of contaminated material along easement (i.e. vegetation death, soil
		Identification of contaminated sites along easement and establishment of monitoring points.	discolouration, subsidence).

OBJECTIVE	GOAL	MEASURE / HOW	OBJECTIVE ACHIEVED
	6.4 To ensure that rubbish and waste material is disposed of in	Regular patrols or annual survey undertaken to look for evidence of rubbish, spills (soil discolouration).	No evidence of rubbish or litter on easement or at facilities.
	an appropriate manner.	Waste disposal records, chemical manifests. Appropriately licensed contractors used for any hazardous waste disposal and records are maintained for all hazardous waste disposal.	Waste material is contained and disposed of in accordance with EPA approved procedures.
		Use of Disturbance checklist and photo points before, during & after excavations, CP installation, construction activities, etc.	
	6.5 To prevent impacts as a result of waste water disposal	Water disposed of in a manner that prevented discharge or runoff to watercourses or environmentally sensitive areas.	No evidence of impacts to soil, water and vegetation as a result of water disposal (ie. soil erosion, dead
		Water discharged onto stable ground, with no evidence of erosion as a result of discharge.	vegetation, water discoloration).
		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.	
	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	7.1 To adequately protect public	Job Hazard Analysis.	No injuries or incidents involving the public.
the risk to public health and safety	safety during normal operations	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.	

OBJECTIVE	GOAL	MEASURE / HOW	OBJECTIVE ACHIEVED
	7.2 To adequately protect public	Job Hazard Analysis'.	No injuries or incidents involving the public.
	safety during maintenance	Records of communications with adjacent landholders prior to and during maintenance work including advice on the nature and schedule of maintenance activities.	Emergency procedures implemented and personnel trained.
		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.	
	7.3 To avoid fires associated	Incident reports.	No pipeline related fires.
	with pipeline operation and maintenance activities	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.	
	7.4 To prevent unauthorised	Inspection / Patrol reports and records.	No unauthorised activity on the easement that has
	activity on the easement that may adversely impact on the pipeline integrity	Comprehensive landholder and other stakeholder pipeline awareness program and records of communications with these.	the potential to impact on the pipeline integrity.
		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.	

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	Emergency response procedures are effectively implemented in the event of an emergency.
		associated documentation.	Emergency response exercises are aligned with credible threats and consequences identified in the risk assessment.
		Records of regular emergency response training for all personnel and review of procedures.	
		Link between ER exercises and 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.	Operational activities comply with noise regulations,
		Monitoring results, where deemed necessary (e.g. frequent complaints).	under the <i>Environment Protection (Noise) Policy</i> 2007.
			No complaints received.
10. To minimise atmospheric emissions	10.1 To eliminate uncontrolled atmospheric emissions	Maintenance Program	No uncontrolled atmospheric emission.
		Following relevant operational procedures	
		Compliance with Environment Protection (Air Quality) Policy 1994.	
	10.2 To minimise the generation of dust.	Incident reports.	No complaints received.
		Compliance with EMS Procedures (vehicle movement, dust suppression, etc).	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	Consultation with relevant heritage groups if operations occurring outside known surveyed areas. Records of site locations on operations GIS.	No impact to known sites without approval under the Aboriginal Heritage Act 1988 or the Heritage Places Act 1993.
		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.	