

Statement of Environmental Objectives



for
Pipeline Preliminary Survey Activities
in South Australia

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1 Introduction

1.1 Purpose

Preliminary survey work for proposed pipeline development projects is a regulated activity under the *Petroleum Act 2000* (the Act) and as such a Licence can only be issued following the approval of a Statement of Environmental Objectives (SEO). Once the SEO is approved it must be reviewed at least once in every five years. If, as a result of a review, the Minister considers that the SEO should be revised, the Minister will undertake the revision and then submit the statement for consideration under the Act.

As preliminary survey work is generally short term, small scale and low impact, it is considered that preparation of a SEO for each proposed pipeline development may result in unnecessary expense and delays for proponents and regulators. PIRSA have proposed that a State-wide SEO would streamline the approval of most preliminary survey work.

The document has been prepared to meet the requirements of Sections 99 and 100, of the South Australian *Petroleum Act 2000* (the Act) and Regulations 12 and 13 of the *Petroleum Regulations 2000*.

1.2 Scope

PIRSA have developed a fit for purpose SEO which applies to most preliminary survey activities to be conducted by proponents and their contractors within South Australia, namely associated with:

- Ecological survey (eg. flora and fauna);
- Heritage survey (aboriginal and non-aboriginal);
- Geotechnical surveys; and
- Cadastral survey.

The intent of this SEO is to outline the environmental objectives to which these activities must conform and the criteria upon which the achievement of these objectives will be assessed. Objectives have been developed from an environmental impact assessment documented in the accompanying Environmental Impact Report (Ecos 2001).

This SEO is limited to the State of South Australia. Once this SEO is gazetted, additional environmental approval for preliminary survey activities is not required, provided that the proposed activities fall within the scope described in this document. However, in all cases, a Preliminary Survey Licence must be obtained.

1.3 Definition

In the Act, environment is broadly defined to include its natural, social, cultural and economic aspects. The environmental objectives outlined in the SEO incorporate all these aspects.

This SEO relates to transmission pipelines 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; and
- A part of a pipeline.

Under the Act a PSL authorises a licensee to carry out a survey, environmental evaluation, or other form of assessment preparatory to the carrying out of regulated activities on land. A PSL may also authorise incidental matters such as marking out the proposed route of a pipeline.

2 Environmental Objectives and Assessment Criteria

2.1 Environmental Objectives

The objectives of the *Petroleum Act 2000* include:

- To minimise environmental damage from the activities involved in exploration for petroleum and other resources; and
- To protect the public from risks inherent in regulated activities.

The broad objective of this SEO is to manage and facilitate rehabilitation of the impacts of preliminary survey activities that have, or are likely to have, only a short to moderate term adverse consequence on the biological diversity or cultural features of a region or on other land users.

Potential environmental hazards and consequences associated with the preliminary survey activities were identified in the EIR (Ecos 2001). Environmental objectives in regard to these potential hazards are listed below.

1. To minimise disturbance to landowners/managers.
2. To minimise damage to crops and pasture.
3. To minimise disturbance to stock.
4. To prevent disturbance to native fauna.
5. To minimise generation of dust.
6. To avoid the introduction of weeds or disease.
7. To avoid or minimise damage to native vegetation and wildlife habitat.
8. To avoid damage or unnecessary disturbance to cultural heritage sites.
9. To minimise visual impacts.
10. To minimise soil disturbance.
11. To minimise impact to surface water, groundwater and drainage patterns.
12. To minimise the impact on the environment of waste handling and disposal.

13. To minimise the risk of fire

14. To minimise erosion.

2.2 Assessment Criteria

The criteria for measuring the achievement of the above environmental objectives are outlined in Table 1. Each statement in Table 1 will be assessed as to whether it has been adhered to and comments on any variances will be recorded.

2.3 Mitigation Strategies

In addition to the defined assessment criteria outlined in Table 1, proponents shall implement the following general management procedures:

Awareness Program

All personnel involved with field-based preliminary survey activities will be provided with a copy of Table 1 of this SEO. Proponents shall ensure that all personnel are adequately aware of relevant environmental objectives, impact mitigation strategies (as outlined in the EIR) and assessment criteria.

Implementation Strategies

Proponents and contractors shall develop site specific mitigation strategies. In undertaking activities proponents need to be mindful of their obligations under relevant legislation, including, but not limited to:

- *Aboriginal Heritage Act 1988;*
- *Animal and Plant Control Act 1986;*
- *Environment Protection Act 1993;*
- *Environment Protection and Biodiversity Conservation Act 1999;*
- *Forestry Act 1950;*
- *Heritage Act 1993;*
- *National Parks and Wildlife Act 1972;*
- *Native Vegetation Act 1991;*
- *Pastoral Land Management and Conservation Act 1989; and*
- *Water Resources Act 1997.*

In order to avoid disturbance to potentially significant flora and fauna species and/or cultural heritage sites ecological and heritage surveys be conducted prior to geo-technical and land/cadastral surveys.

Contractual Obligations

All contracts with companies undertaking preliminary survey activities for the proponent shall include a requirement to:

- Operate in a manner consistent with the proponents Environmental Policy; and
- To meet assessment criteria outlined in this SEO.

Table 1: Environmental Objectives and Assessment Criteria

Environmental Objectives	Comment	Assessment Criteria
1. To minimise disturbance to landowners/managers.	The criteria used for assessing the achievement of this objective has been developed on the basis of the current understanding of the risks from access to third party safety and property. Communication and the establishment of good relations with landowners/managers and community (where necessary) by the proponent is the key objective to minimise disturbance to as low as practicably possible.	<ul style="list-style-type: none"> ▪ The project has a nominated person with specific responsibility for maintaining contact with all potentially affected landowners/managers. ▪ All landowners/managers are consulted prior to preliminary survey activities and their specific requirements are recorded and addressed appropriately. ▪ All reasonable landowner requirements are incorporated into management strategies. ▪ Landowners/managers are provided with information regarding the scope, schedule and duration of preliminary survey activities. ▪ The number of site visits are restricted to as few as practicable (under normal circumstances this will be four or less). ▪ Landowner complaints are recorded and reported to the licensee.
2. To minimise damage to crops and pasture.	South Australia has numerous areas of high rural productivity and diversity, with many communities dependent on the livelihood derived from agricultural practices. Surveys typically pose only a minor and very short term disturbance to agricultural or grazing practices. Nevertheless, measures should be undertaken to limit disturbances.	<ul style="list-style-type: none"> ▪ The number of site visits are restricted to as few as practicable (under normal circumstances this will be four or less). ▪ Existing tracks are used where available. ▪ The area utilised for excavation is restricted to the smallest practicable (ie. approx. 20 m² per site). ▪ Disturbance is restricted to the proposed construction right-of-way where practicable (right-of-way width is likely to vary from between 10 to 25 metres). ▪ Topsoil is kept separate from subsoil. ▪ The soil profile and contours are restored to as near as possible to their undisturbed state as soon as practicable and to the landowners satisfaction. ▪ Landowner complaints are recorded.
3. To minimise disturbance to stock.	Livestock may be at risk of injury from collision with vehicles or escape from unclosed gates. Prior liaison with landowners/managers regarding stock movements and personnel/contractor education programs normally reduces the risk of interfering with stock.	<ul style="list-style-type: none"> ▪ The number of site visits are restricted to as few as practicable (under normal circumstances this will be four or less). ▪ Landowners/managers are provided with adequate prior notice of proposed land access (as per requirements of Part 10 of the Act). ▪ Vehicles are driven at appropriately slow speeds to avoid undue disturbance. ▪ Gates are left as found. ▪ Landowner complaints are recorded.

Environmental Objectives	Comment	Assessment Criteria
4. To prevent disturbance to native fauna.	Native fauna may be disturbed by survey activities, particularly noise generated by movement of vehicles and survey personnel. Impact is considered to be of negligible to low consequence and expected to be limited to duration of the site visit.	<ul style="list-style-type: none"> ▪ The number of site visits are restricted to as few as practicable (under normal circumstances this will be four or less). ▪ Vehicles are driven at appropriately slow speeds to avoid undue disturbance. ▪ Plan / rationalise preliminary survey activities to ensure the number of site visits is as few as practicable. ▪ Clearing native vegetation as part of survey activities avoided. ▪ Excavation holes checked regularly for wildlife. ▪ Undertake ecological survey prior to geo-technical and land/cadastral survey and identify any "no-go" areas.
5. To minimise generation of dust.	Given that the majority of South Australia receives a low, seasonal rainfall and at times experiences drought conditions dust generation is likely. The issue of dust management is important to residents. As well as minimising the effects of dust from traffic movement, the main objectives are to minimise the disturbance to landowners/managers and reduce the loss of topsoil in off-road areas.	<ul style="list-style-type: none"> ▪ The number of site visits are restricted to as few as practicable (under normal circumstances this will be four or less). ▪ Vehicles are driven at appropriately slow speeds to avoid undue disturbance.
6. To avoid the introduction of weeds or disease.	A potential source of weeds or pest introduction is from vehicles and equipment brought in from other regions or interstate. The most effective technique to prevent the introduction and spreading of such species is to ensure that vehicles and equipment are appropriately cleaned prior to entry into a new region. In some cases specific quarantine procedures apply to properties and roadsides within the state.	<ul style="list-style-type: none"> ▪ Identify local weed and disease management issues prior to the commencement of preliminary survey activities. ▪ Management procedures in place to prevent the spread of identified weeds/diseases/pathogens. ▪ Ensure all equipment and vehicles are free of soil and vegetative matter prior entry to and exit from properties and roadsides. ▪ The number of site visits are restricted to as few as practicable (under normal circumstances this will be four or less). ▪ All landowners/managers are consulted prior to preliminary survey activities and their specific requirements are recorded. ▪ Planning has taken account of season / climates, as some pathogen born diseases (e.g. dieback) are transported during particular conditions.

Environmental Objectives	Comment	Assessment Criteria
7. To avoid or minimise damage to vegetation and wildlife habitat.	Survey works normally have an insignificant impact on vegetation communities or fauna habitats. Due to the declining nature of remnant vegetation and the subsequent loss of available habitat, it is important to monitor the achievement of this objective.	<ul style="list-style-type: none"> ▪ Clearing native vegetation as part of land survey is prevented where avoidable in native vegetation areas. Where demonstrated to be unavoidable a location specific environmental management plan is developed and implemented. ▪ Soil excavations are not conducted in areas of native vegetation. ▪ Survey is undertaken by appropriately trained and experienced personnel. ▪ Any sites of significance (due to size, density and/or presence of threatened species) are recorded for subsequent avoidance during construction. ▪ Any areas of clearance are rehabilitated using local seed sources, where available, and appropriate methods. ▪ Preliminary survey activities not conducted within any areas of intact vegetation without prior consultation with relevant government departments. ▪ Samples of native vegetation are collected by qualified botanists or appropriately trained and experienced personnel under appropriate permits from the Department of Environment and Heritage.
8. To avoid damage or unnecessary disturbance to cultural heritage sites.	The aim of the objective is to ensure that any sites of cultural (Aboriginal or Non-Aboriginal) heritage significance are identified and protected. Many sites are recorded on registers held by the Department of Environment and Heritage and the Department of State Aboriginal Affairs. To ensure the best possible protection of artefacts and sites, it is important that sites be identified during survey activities. Any recorded sites should be submitted to DOSAA for inclusion on the cultural heritage register.	<ul style="list-style-type: none"> ▪ Survey is undertaken by appropriately trained and experienced personnel. ▪ The proponent has a mechanism in place to appropriately report and respond to any sites discovered during pipeline survey activities. ▪ Any sites are recorded for subsequent avoidance during construction.
9. To minimise visual impacts.	The visual impact of survey works is an insignificant and temporary impact. Standard field techniques normally achieve objective outcomes.	<ul style="list-style-type: none"> ▪ Marker pegs are limited to those essential for identifying the proposed alignment. ▪ Excavations are restricted to areas away from general public view, where practicable. ▪ Excavations are restored as soon as practicable.

Environmental Objectives	Comment	Assessment Criteria
10. To minimise soil disturbance.	The repercussions of soil disturbance can potentially be interrelated with other aspects of the environment e.g. erosion, dust emissions, rehabilitation success, weed invasion, encroachment etc. Wide temporal and spatial variations in soil conditions occur throughout the State. The main impact to soil is caused from vehicle movement in off-road locations and sub-surface excavations. The monitoring of achieving minimal soil disturbance is considered important.	<ul style="list-style-type: none"> ▪ The area of excavation is restricted to the smallest practicable (approx. 20 m² per site). ▪ Disturbance is restricted to the proposed construction right-of-way where practicable (right-of-way width is likely to vary from between 10 to 25 metres). ▪ Topsoil is kept separate from subsoil. ▪ Vehicles use existing road tracks where practicable. ▪ The soil profile and contours are restored to as near as possible to their undisturbed state as soon as practicable and to the landowners satisfaction.
11. To minimise impact of surface water, groundwater and drainage patterns.	Due to the minimal impact, expected low traffic volume, light weight equipment type, and careful selection of access tracks, there should be minimal impact to surface water, groundwater and drainage patterns as a result of survey activities.	<ul style="list-style-type: none"> ▪ Access tracks are located to avoid any diversion of water during flood inundation. ▪ Areas of inundation, which may result in bogging, or creation of heavy wheeltrack rutting (more than 200mm deep) are avoided. ▪ Vehicles parked away from watercourses or sensitive ecological environments (minimum 50m).
12. To minimise the impact on the environment of waste handling and disposal.	Wastes refer to all wastes with the exception of the Listed Wastes in Schedule 1 Part B of the <i>Environment Protection Act 1993</i> . On completion of survey activities, proponents should aim to leave the smallest 'footprint' possible.	<ul style="list-style-type: none"> ▪ All rubbish is removed from survey site ▪ All vehicle oil spills are managed appropriately.
13. To minimise the risk of fire.	The primary risk of fire is associated with the use of vehicles in off road situations.	<ul style="list-style-type: none"> ▪ Diesel vehicles are used where practicable. ▪ Fire extinguishers and/or knapsacks are kept in all vehicles. ▪ Vehicles are not parked on, or driven through, long grass where avoidable. ▪ Requirements of the landowner/manager are met. ▪ All access to be prohibited on days declared Total Fire Ban. ▪ All requirements of the Country Fires Act 1989 have been met. ▪ Personnel do not smoke while conducting survey activities.
14. To minimise erosion.	In areas where rehabilitation of eroded areas may further exacerbate the problem (eg. gibber), other erosion control measures should be considered and implemented.	<ul style="list-style-type: none"> ▪ Any areas of erosion are rehabilitated or managed to prevent further erosion. ▪ The soil profile and contours are restored to as near as possible to their undisturbed state as soon as practicable and to the landowners satisfaction. ▪ Any areas of excavation have been restricted to the smallest practicable.

Conditions and Requirements

Section 100(1)(c) of the Act requires a proponent to list any additional conditions and requirements to be complied with in order to achieve the stated objectives. There are no further conditions or requirements relating to preliminary survey activities.

A list of all landowners who are likely to be affected by preliminary survey activities and/or given a notice of entry shall be submitted to PIRSA prior to any work being undertaken.

3 Reporting

Section 100(1)(d) of the Act requires an SEO to impose reporting obligations on a person carrying out regulated activities.

Regulation 12(2) requires an SEO to identify events that could arise from regulated activities that could cause a serious incident or a reportable incident within the meaning of Section 85 of the Act. Section 85 of the Act defines a serious incident as an incident arising from activities conducted under a licence in which:

1. a person is seriously injured or killed; or
2. an imminent risk to public health or safety arises; or
3. serious environmental damage occurs or an imminent risk of serious environmental damage arises; or
4. security of natural gas supply is prejudiced or an imminent risk of prejudice to security of natural gas supply arises.

Reportable incidents are incidents (other than a serious incident) arising from activities conducted under a licence issued under the *Petroleum Regulations 2000*.

Serious Incidents

Pursuant to regulation 12(2) the incidents (relevant to preliminary survey activities) listed below are considered to be serious incidents under Section 85 (1) of the Act as they have the potential to cause serious environmental harm:

- Any disturbance to sites of Aboriginal or European heritage significance.
- Removal of rare, vulnerable or endangered flora and fauna species (without appropriate permits and approvals).
- Any spill of oil or hazardous material which poses a significant threat to the surrounding grazing land, area of environmental significance, surface water run-off or sub-surface water.
- Any incident where disease and/or weeds may have been introduced that poses a significant threat.

Reportable Incidents

Pursuant to regulation 12(2) the incidents (relevant to preliminary survey activities) listed below are considered to be reportable incidents under Section 85 (1) of the Act:

- Any spill of oil or hazardous material outside sumps and bunded areas designed to contain such spills.
- Justified complaint from a landowner as a result of preliminary survey activities.
- Any incident where disease and/or weeds may have been introduced, but would not pose a serious threat.

References

The following documents were used as part of the preparation of the SEO:

Ecos (2001). *Preliminary Survey Licence – South Australia, Environmental Impact Report*. Unpublished Report to PIRSA.

Abbreviations

EIR	Environmental Impact Report prepared in accordance with Section 97 of the <i>Petroleum Act 2000</i> and Regulation 10.
PIRSA	Primary Industries and Resources, South Australia
PSL	Preliminary Survey Licence issued in accordance with Section 10 of the <i>Petroleum Act 2000</i> .
SEO	Statement of Environmental Objectives prepared in accordance with Section 99 and 100 of the <i>Petroleum Act 2000</i> and Regulations 12 and 13.