

SEA Gas Project



Supplement to the South Australian Environmental Impact Report and Statement of Environmental Objectives

SOUTH EAST AUSTRALIA



December 2001

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Supplement to the South Australian Environmental Impact Report and Statement of Environmental Objectives



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Preface

The proposed SEA Gas Project requires a variety of regulatory approvals under South Australian and Victorian legislation. A joint *Environment Effects Report / Environmental Impact Report* (EER/EIR) and Statement of Environmental Objectives (SEO) were prepared in support of applications for a Victorian Pipeline Permit and a South Australian Pipeline Licence under the Victorian *Pipelines Act 1967* and the South Australian *Petroleum Act 2000*. The EER/EIR was available for public comment from Saturday 27th October until Friday 7th December 2001.

This document is the *Supplement to the Environmental Impact Report and Statement of Environmental Objectives*, and has been prepared by SEA Gas in response to submissions received from South Australian stakeholders. The Supplement serves two main purposes:

- to provide responses to individual submissions, and
- to assist the Minister in considerations regarding the grant of the Pipeline Licence.

Further information regarding the SEA Gas Project can be obtained from the SEA Gas Project Web Page (www.seagas.com.au) or by contacting:

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1 Introduction

This document provides responses to issues raised in public submissions regarding the South Australian *Environmental Impact Report* for the SEA Gas Project.

A total of 21 submissions were received by PIRSA Petroleum Division. Submissions were forwarded to SEA Gas for response. Each submission was reviewed and issues relating to the EIR and potential environmental impacts which required a response identified. These responses are listed in Section 2. Copies of the original submissions are included in Appendix 1.

A number of minor changes will be made to the *Statement of Environmental Objectives* as a result of suggestions made in the submissions. These changes are outlined in Section 3.

2 Response to Submissions

Submissions were received from the following:

- Aboriginal Legal Rights Movement Inc.
- Australian Heritage Commission
- Coast Protection Board
- Country Fire Service
- Department for Environment and Heritage
 - National Parks and Wildlife (Protected Area Systems)
 - Biodiversity Assessment
 - Mount Gambier Office
- Department of Human Services
- Department of State Aboriginal Affairs
- Department of Water Resources - Resource Assessment
- Environment Protection Agency
- Forestry SA
- Lacedpede/Tatiara Soil Conservation Board
- Lewis, P.
- Office of the Technical Regulator
- PIRSA Petroleum Group
- Rural City of Murray Bridge
- SA Landcare Committee
- South East Catchment Water Management Board, and
- Transport SA.

Responses to the issues raised in these submissions are outlined in the following table. Where submissions raised no issues of concern, this too is indicated.

No.	Agency or Individual	Issue	Response
1.	Aboriginal Legal Rights Movement Inc.	Is SEA Gas going to compulsorily acquire land along the proposed route (pursuant to sections 50-52 of the Petroleum Act (SA) 2000), or will SEA Gas P/L simply enter into pipeline easements with all landowners along the proposed route?	SEA Gas intends to negotiate easements over all parcels of land traversed by the pipeline. Where negotiations are unsuccessful, Section 52 of the <i>Petroleum Act 2000</i> provides a process for acquiring easements under the <i>Land Acquisition Act 1969</i> .
2.		The first step in assessing a site involves consultation with the traditional owners...	SEA Gas recognises the need and benefits of establishing sound working relationships with traditional owners and will continue to consult with Aboriginal heritage and Native Title groups (refer SEO Objective 8a, p22).
3.		Need for appropriate training for machinery operators to avoid sites of Aboriginal significance (including objects).	The EER/EIR makes commitments to "ensure that all personnel are adequately aware of the required cultural heritage management procedures". Appropriate training procedures will be incorporated into the Construction Environmental Management Plan (refer SEO Objective 8a, p22).
4.		The proposed Construction Project Phase (number 8.5 on page 101 of the Environmental Impact Report) "to obtain all necessary approvals for unavoidable site disturbance" may be unsatisfactory. The standard ALRM Native Title Unit Work Area Clearance Agreement is about avoiding site disturbances, rather than merely seeking approval for unintentional site disturbance.	SEA Gas shall take all practicable steps to avoid site disturbance, including minor route variations and consultation with heritage groups to identify and avoid sites (refer SEO Objective 8a, p22). However, following detailed survey work, SEA Gas may need to submit an application under Section 23 of the <i>Aboriginal Heritage Act 1988</i> to disturb a site. In these circumstances SEA Gas intends to work with the relevant groups to seek approval for site disturbance. The SEO has been modified to include a reference to the Act (see 3.1 following).
5.	Australian Heritage Commission	The Commission agrees that the pipeline will not affect the heritage values of the Reedy Creek Area. If mitigation measures for sedimentation, erosion and runoff outlined in the EER/EIR are adequately implemented, indirect effects will be negligible.	SEA Gas will implement the mitigation measures outlined in the EER/EIR and SEO.
6.		The commission recommends that where areas of native vegetation are to be cleared, these areas be replanted with appropriate species from locally collected seed stocks.	SEA Gas will develop and carry out site-specific rehabilitation procedures, and will offset loss of native vegetation by carrying out suitable revegetation, in consultation with DNRE or DEH (EIR p92, SEO Objectives 7a and 7b, p19). Suitable revegetation includes using appropriate species from locally collected seed.

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7.		The proponent should note that the Register of the National Estate is not a comprehensive inventory of places of national estate value, and that as yet unidentified places of national estate significance may be adversely affected by the proposal.	SEA Gas aims to avoid or minimise impacts to all such places of significance. Prior to construction, environmental advisors will coordinate further survey of the pegged easement to identify areas of environmental sensitivity and implement appropriate mitigation measures, in consultation with relevant authorities.
8.		The Commission recommends ongoing consultation with, and involvement of, indigenous organisations for the duration of the Project.	SEA Gas shall continue to consult with and involve relevant indigenous organisations during appropriate phases of the Project (SEO Objective 8a, p21).
9.		A number of sites of historic heritage significance are within 1km of the pipeline: three RNE historic places (Tintinara Woolshed and Outbuildings, Hynam Woolshed and Dunrobin Homestead) and a further five historic sites nominated for entry in the RNE (Hynam Homestead, Mount Crawford Cemetery, Glen Gillian (Homestead), Glen Gillian Road Bridge and Torrens Island Quarantine Station). The Commission would wish to ensure that the proposed pipeline avoids or minimises any impact on these RNE sites, and would appreciate further consultation if the proposed works were to impact any of these places.	The proposed SEA Gas pipeline route avoids impacts to these places. The EIR and SEO make a commitment to avoid destruction of known or new historical heritage sites (SEO Objective 9a, p22). However, if further proposed works are likely to impact any of these places, the Commission will be consulted and appropriate mitigation measures agreed.
10.		<p>In addition to the listed measures to mitigate impacts to historic heritage values, the commission suggests that two further clauses should be included in the EIR:</p> <ul style="list-style-type: none"> ▪ where places are recognised in the various state and local government heritage registers, advice would be sought from the relevant heritage authority, and ▪ when no feasible alternative can be found to an adverse impact to a historical heritage site, SEA Gas would consult with relevant Commonwealth, State and local heritage agencies to develop measures to minimise any impacts. 	<p>SEA Gas have made the commitment to “work in close liaison with Heritage Victoria, Heritage SA and local historical societies regarding the management of historical heritage issues” (EIR p104, SEO Objective 9a, p22).</p> <p>As part of this commitment, SEA Gas will:</p> <ul style="list-style-type: none"> ▪ seek advice from relevant heritage authorities where places likely to impacted by the pipeline are listed in various state and local government heritage registers, and ▪ when no feasible alternative can be found to an adverse impact to a historical heritage site, SEA Gas will consult with relevant agencies to develop measures to minimise any impacts.

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11.		The reference to Commonwealth Approvals in Section 2, <i>Legislative Framework</i> , should include obligations relating to the <i>Australian Heritage Commission Act 1975</i> .	SEA Gas will undertake construction and operation of the Project in accordance with obligations under the <i>Australian Heritage Commission Act 1975</i> .
12.	Coast Protection Board	Monitoring, management and mitigation measures for acid sulphate soils should be developed to include effects on dolphins and other marine life, impacts on samphire wetlands and seagrass meadows, and restoration of areas affected during construction. The Board recommends that the mitigation plans and measures be examined and certified by Dr Rob Fitzpatrick, at CSIRO.	<p>The Construction Environmental Management Plan will be developed during the detailed design phase, and will include measures for survey, monitoring, management and mitigation of acid sulphate soils (refer SEO Objectives 1a and b, Pages 3 and 16). Mitigation plans and measures for acid sulphate soils will be developed in consultation with relevant experts.</p> <p>The Port River will be horizontally directionally drilled, and impacts to marine habitats or species are not expected.</p>
13.		The Board requests that Mr Doug Fotheringham, Office for Coast and Marine, DEH be included in the officers contacted when determining the final alignment adjacent Barker Inlet. More detailed vegetation surveys are needed in the area, including assessment of seagrass species, samphire communities and their distribution.	<p>SEA Gas will consult with the Office for Coast and Marine (DEH) and other relevant authorities regarding the final alignment in this area (refer SEO Objective 7a and 7b, p19). More detailed vegetation surveys of the proposed route on Torrens Island have been carried out since the printing of the EER/EIR. Impacts to seagrass species are not expected (see 12 above).</p> <p>SEA Gas will incorporate the data from the surveys into the Construction Environmental Management Plan to ensure appropriate mitigation measures are implemented during all phases of the Project, particularly in environmentally sensitive areas.</p>

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14.		Land at Torrens Island and surrounding areas is low-lying and areas are subject to sea water flooding. The infrastructure needs to be designed to prevent flooding damage during extreme surge events now and in the future. Detailed design should either avoid the flooding hazard or include protection measures and should be provided to the Coast Protection Board for assessment. An Operational Environmental Objective should be developed to reflect these issues (ie erosion, sea water flooding, land subsidence).	<p>The meter station on Torrens Island will be located on high ground. Final specifications for location and design of structures on Torrens Island will consider these threats, and specify systems coatings appropriate to the environment. The pipeline and above-ground structures will be subject to a detailed risk assessment to ensure such threats are identified and accommodated. SEA Gas will consult with the Coast Protection Board regarding these issues.</p> <p>The Operational Environmental Objective 32.a (SEO, p11) deals with <u>all</u> threats to pipeline integrity, and states that operational and maintenance requirements will be incorporated to ensure risk level associated with threats is sufficiently dealt with, in accordance with the requirements of AS 2885.1.</p>
15.		No reference has been made to the Environment Protection Act (this is required under the Major Projects provisions of the Development Act). The EPA should be contacted for details.	SEA Gas have and will continue to consult with the EPA. The SEA Gas Project shall be undertaken in accordance with the <i>Environment Protection Act 1993</i> . The EER/EIR and SEO commit to Project noise and air emissions complying with regulatory requirements under the Act (EIR p13, SEO Objectives 6a, p18 and 22a, p27).
16.		Relevant sections within DEH need to be contacted regarding Conservation Parks and impacts to migratory birds, possible shipwreck sites and use of Crown Land.	Ongoing consultation with DEH regarding the route will be undertaken during the design and construction phase.

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17.	Country Fire Service	<p>This type of pipeline has presented few concerns to the Service. The main concerns have been leakages (various causes), pumping station incidents, hazardous material spillage, (threatening life/property/environmental assets), and industrial accidents requiring rescues. The CFS is aware that the project considers leakages as counterproductive, and this meets the concerns on any potential causes of fire or gas clouds. Given this framework, and the stable nature experienced from such pipelines, the CFS therefore has no objection to the concept of this pipeline.</p> <p>The CFS would welcome involvement at the appropriate time with response planning, training, and familiarisation with facilities.</p>	<p>SEA Gas will consult with the CFS during appropriate phases of the Project. In particular, SEA Gas will liaise with the CFS regarding response planning, training, and familiarisation with facilities, as indicated in the SEO (Objective 35a, p30).</p>
18.	Department for Environment and Heritage (DEH) - National Parks and Wildlife (Protected Area Systems)	<p>There are a number of significant patches of vegetation not identified by the EIS, which may be impacted upon by the proposal (19 locations given).</p>	<p>At this stage of the project, SEA Gas have identified areas of environmental sensitivity, determined broad mitigation strategies for the construction of the pipeline, and determined appropriate regulatory agencies to consult in regard to these issues. Areas of environmental sensitivity which require further survey work and development of specific management strategies include watercourse crossings, patches of significant vegetation and Transport SA roadside significant sites. This work will be undertaken during the detailed design phase prior to construction, in consultation with relevant authorities.</p> <p>Impacts on native vegetation will be minimised by following mitigation strategies outlined in the EIR (p91) and SEO (Objectives 7a and 7b, p19), which include:</p> <ul style="list-style-type: none"> ▪ conducting further survey work during the detailed design phase ▪ selecting a final alignment with input from suitably qualified ecologists and in consultation with DEH officers, with the aim of minimising and where practicable avoiding clearing remnant

No.	Agency or Individual	Issue	Response
			<p>vegetation (for example by using existing easements or gaps in vegetation)</p> <ul style="list-style-type: none"> ▪ minimising the construction width in areas of higher ecological significance ▪ developing and implementing site-specific rehabilitation procedures ▪ indicating areas of reduced easement width on specific Alignment Sheets ▪ offsetting loss of native vegetation by carrying out suitable revegetation, in consultation with DEH, and ▪ incorporating these strategies into the Construction Environmental Management Plan. <p>SEA Gas will work in close liaison with DEH regarding management of ecological issues, including management at the sites identified in the submission (refer SEO Objectives 7a and 7b, p19).</p> <p>The likely impacts on the regionally or state threatened vegetation associations identified in the submission are as follows:</p> <ul style="list-style-type: none"> ▪ Redgum on roadside and redgum woodland near SA border – final alignment through these areas will be selected to utilise existing gaps in the vegetation. ▪ Pink gum (2 locations) – trees are scattered, with limited, degraded and grazed understorey. The alignment avoids the need for significant tree clearance. ▪ Native pine (362730 6090930) – the pipeline has been aligned use existing gaps and cleared areas to avoid impacts to the patches of native pine at this location. ▪ <i>E. porosa</i> over <i>Lomandra effusa</i> (334775 6135200) – site will be subject to further assessment, but impacts are likely to be minimal. Aerial photography indicates trees are few and scattered, and tree clearance should be avoidable. Inspection of similar woodland in nearby paddocks indicates grazed <i>Lomandra</i> understorey is likely to be sparse and degraded. <p>The heritage agreements identified in the submission (HA 929, 693</p>

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			and 361) have been avoided by the pipeline, and no impacts are anticipated.
19.		There are watercourse crossings without ecological descriptions and a description of proposed works and proposals to minimise impact and rehabilitate site (5 locations given, including Naracoorte Creek and River Murray). What is the ecological significance of the River Murray crossing?	<p>The Project crosses a large number of watercourses, and the EER/EIR describes the general crossing techniques and mitigation strategies. Site specific management strategies will be determined during the detailed design phase, and incorporated into the Construction Environmental Management Plan. SEA Gas will work in close liaison with Catchment Water Management Boards, DEH and PIRSA in regard to the management of surface water issues (refer SEO Objectives 4a and 4b, Pages 4 and 17-18).</p> <p>The River Murray will be crossed by horizontal directional drilling (HDD) at Jervois. This will avoid in-stream impacts. There are few conservation values associated with the cleared farmland and irrigated dairy pastures at the HDD sites adjacent to the river.</p>
20.		The pipeline is proposed to finish in additions to Torrens Island Conservation Park that will be proclaimed in 2002. The department objects to the pipeline being in the proposed park additions and an alternative route should be able to be found along the adjacent road reserve.	<p>The SEA Gas pipeline route has been refined from the preliminary alignment that was provided digitally to DEH, that showed the route terminating in the middle of the proposed additions to the park.</p> <p>It now runs along the western edge of the proposed park additions (titles D55734 A12 and D55734 Q306). It is located immediately adjacent to the existing road embankment and the Wasleys Loop gas pipeline. It continues northwards, parallel to this existing infrastructure, out of the proposed park additions, and terminates outside the park, on the north-western corner of the old Quarantine Station.</p> <p>The pipeline will be located as close as safely possible to the existing pipeline, and right-of way width reduced to 15m, to minimise impacts on this area. The samphires along the proposed route through this area have been moderately degraded by vehicular traffic. Any decrease in conservation value of the proposed park additions due to pipeline construction will be minimal.</p>

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			SEA Gas will work in consultation with DEH to determine an acceptable final alignment along the edge of the proposed park, and to determine acceptable impact mitigation and remediation measures.
21.	DEH - Biodiversity Assessment	The main issues appear to be the spread of weeds and diseases (such as Phytophthora). The company has indicated it intends to develop a Phytophthora management protocol. This should be done in conjunction with DEH. The requirement could be incorporated in the SEO ... " develop a comprehensive pathogen management procedure in consultation with DEH Officers, that details specific requirements for..."	The Phytophthora management protocol will be developed in consultation with DEH, and the suggested wording added to SEO Objectives 7a and 7b (see Section 3.1 following).
22.	DEH - Mount Gambier	The Construction and Operation Environmental Objectives seem adequate for protection of conservation assets in the South East Region. Imperative that further consultation undertaken with DEH prior to selection of final alignment. Areas of particular concern – Morambro, Naracoorte and Mosquito Creek Crossings; Black Range (west of Mt Monster; saline wetlands in Tintinara/Coonalpyn area.	Further consultation will be carried out with DEH regarding these and other sensitive areas (refer SEO Objectives 4a and 4b, p18 and 7a and 7b, p19).
23.		Need to consult with South Eastern Water Conservation and Drainage Board in regard to routes of the Northern Catchment Drains.	Consultation will be carried out (refer SEO Objectives 4a and 4b, p18).
24.	Department of Human Services	No concerns raised.	
25.	Department of State Aboriginal Affairs	Need to record location of Aboriginal heritage sites and submit to DOSAA.	Sites located will be recorded and submitted to DOSAA. This has been added to the SEO under Objective 8a (see Section 3.3 following).

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26.		It should be noted that Aboriginal heritage consists of more than just shallow artefact scatters. The Aboriginal Heritage Act 1988 defines "Aboriginal site" as an area of land that is of significance to Aboriginal archaeology, anthropology or history.	Although not defined in the EER/EIR, the term "Aboriginal site" is used to define an area of land that is of significance to Aboriginal archaeology, anthropology or history. The SEO Objective 8a has been modified to include reference to anthropological and historical sites (see Section 3.4 following).
27.	Department of Water Resources - Resource Assessment	The table of subsequent environmental approvals (EER/EIR Table 2-3) should include a reference to the need for issue of permits for some activities by the Department for Water Resources and Catchment Water Management Boards, under the <i>Water Resources Act 1997</i> .	<p>Table 2-3 in the EIR lists the <i>Water Resources Act 1997</i> in relation to approvals for sourcing water from natural waterbodies for horizontal directional drilling activities. SEA Gas acknowledge that there may be additional permits required for some activities under the Act, such as flow diversions for crossings of any prescribed watercourses.</p> <p>SEA Gas will work in close liaison with Catchment Water Management Boards and the Department for Water Resources (refer SEO Objectives 4a and 4b, p18), and all necessary permits required under the <i>Water Resources Act</i> will be obtained. SEO Objectives 4a and 4b have been modified to include a reference to obtaining necessary permits under the Act (see Section 3.8 following).</p>
28.		The EIR refers to Construction Environmental Management Plans which are still to be prepared. Plans dealing with watercourse crossings of major watercourses (eg Morambro Creek, River Murray, River Torrens and South Para River) should be reviewed by DWR.	SEA Gas will develop plans for major watercourse crossings in consultation with DWR (refer SEO Objectives 4a and 4b, p18).

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29.		<p>The proposed pipeline route passes through the catchment area of Bool and Hacks Lagoon, which is a Ramsar site. Spillage in this area has the potential to eventually flow (sometimes via complex paths due to surface and ground water interaction) into this environmentally sensitive area. It is recommended (as suggested in the EIR Appendix IV Table 4.2) that potential risks be evaluated, and consideration be given to increasing pipe wall thickness in this area. Consideration should also be given to reviewing/developing a contingency plan in the event of pipeline failure.</p>	<p>The detailed risk analysis will ensure that pipe wall thickness is increased in any areas where there is a risk of damage or a risk of impact to sensitive areas. Other measures that will be used to protect the integrity of the pipeline in sensitive areas include increased pipeline depth, plus the measures detailed in response 35 for general protection of the pipeline.</p> <p>The pipeline has a negligible likelihood of impacting these wetlands, for the following reasons:</p> <ul style="list-style-type: none"> ▪ the wetlands are more than 15km from the pipeline ▪ the natural gas in the pipeline has a very low solubility in water, as it comprises mostly methane (approximately 95%) with propane, ethane and butanol making up the remainder of the gas ▪ any leaks are likely to be detected (see response 55) ▪ in the event of an undetected leak, the gas mixture is extremely unlikely to be transported over 15km through groundwater or surface water, but would escape to the atmosphere ▪ in the unlikely event of a hole or rupture in the pipeline, the gas mixture would be released at high velocity and form a lighter-than-air mixture which would rise into the atmosphere.
30.		<p>The proposed pipeline route also passes through the catchment area of the Coorong and Lakes Alexandrina and Albert Ramsar site. Although there may be a significant time lag associated with any spillage, there is still a risk of impact on this environmentally sensitive area that should be assessed.</p>	<p>See previous response (#29).</p>
31.		<p>All of the procedures and practices designed to ensure protection of surface and ground water resources during the construction phase must be stringently adhered to when working in the catchment areas of the environmentally sensitive wetlands.</p>	<p>These procedures and practices will be adhered to and will be detailed in the Construction Environmental Management Plan.</p>

No.	Agency or Individual	Issue	Response
32.		The <i>Water Resources Act 1997</i> is incorrectly referred to in the reports in several places as the <i>Water Resources Act 1967</i> .	The reference should be to the <i>Water Resources Act 1997</i> .
33.		The report refers to the Tintinara Coonalpyn Moratorium area. The prescription of the Tintinara Coonalpyn area was gazetted on 2 November 2000. It is now called the Tintinara Coonalpyn Prescribed Wells Area (Page 55).	Correction noted.
34.		The discussion of <i>Disturbance to groundwater infrastructure</i> discusses DWR monitoring wells, but does not discuss the numerous existing private production wells. These wells must be considered with respect to the final alignment and any associated facilities (EIR pA4-18 Table 5.5 only discusses <u>new</u> wells and dams).	<p>The final alignment will avoid damage to <u>all</u> existing groundwater infrastructure. The SEO Objective 2.3 (p3) refers to avoiding damage to "groundwater infrastructure" in general, and does not make a distinction between monitoring wells and private production wells.</p> <p>The location of private production wells have been identified in discussions with landholders, and will be avoided.</p> <p>Table 5.5 in Appendix IV of the EIR considers only new wells and dams as it deals with threats to pipeline integrity posed by future developments.</p>

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35.		<p>The table <i>Location Specific Threats</i> (EIR pA4 Table 5.3) includes potential well drilling and dam construction. However, it is not clear how contractors would become aware of the existence of the pipeline.</p>	<p>Table 11.7 (EIR main document) and Tables 4.2 and 5.5 (EIR Appendix IV) outline the procedures to protect the pipeline against risks posed by potential well drilling and dam construction. They include:</p> <ul style="list-style-type: none"> ▪ notification of councils, telecom/water/power utilities or major agricultural/civil contractors which may present a threat to the pipeline ▪ informing relevant licence issuing government authorities (eg DWR) of the pipeline route ▪ landholder-SEA Gas easement contracts, which prohibit potential pipeline threatening activities on the easement such as digging, tree planting or building before consultation with SEA Gas ▪ installation of marker signs and marker tape along the pipeline ▪ incorporation of the Project in a one-call network for efficient processing of public enquiries, and ▪ ongoing landholder liaison throughout Project development, construction and operation, combined with an automated title notification system (which highlights any change in ownership along the pipeline route).
36.		<p>The discussion related to spill prevention and response (SEO p24) refers to potential contamination of surface water. This should be extended to potential contamination of shallow groundwater, particularly in the south east of South Australia.</p>	<p>SEA Gas will implement spill prevention and response measures to mitigate the risk of potential contamination of surface water and groundwater. SEO p24 states that there shall be "no soil or water contamination at the completion of construction", which is inclusive of groundwater and surface water.</p> <p>The Conditions listed on p24 cover the major routes by which hazardous materials may enter groundwater during construction (for example, avoiding the storage or drainage of hazardous material onto the ground or onto watercourses or floodplains, and keeping the materials and equipment required to respond to a hazardous spill readily available).</p>

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37.		There is no specific reference to Groundwater Dependent Ecosystems. If these exist, in addition to the ecological values that have been identified, they should be defined, potential impacts identified, and the response defined.	<p>There is limited information available about groundwater dependent ecosystems (subterranean aquatic ecosystems that support a specialised fauna) in south-east South Australia.</p> <p>Measures outlined in the EIR and SEO (Objectives 2a and 2b) to mitigate impacts to shallow groundwater will also mitigate impacts to any such ecosystems that may exist along the pipeline route. These include measures to prevent changes to hydrological conditions, and to prevent groundwater contamination. Trench spoil is returned to the trench <i>in situ</i> as soon as practicable after construction, to prevent foreign material from entering the trench.</p> <p>Due to the nature of pipeline construction activities and operational conditions, no impacts to deep water aquifers (and any ecosystem they may support) are likely to occur.</p>
38.	Environment Protection Agency	Dust generation may arise from earthworks and vehicle movement. Providing control strategies outlined in the document are undertaken with particular attention during the drier months, dust impacts should be minimal.	Dust control strategies outlined in the EIR and SEO (Objective 5a, p17) will be incorporated into the Construction Environmental Management Plan, and adhered to.
39.		Air quality emission testing of the compressor station should be carried out in the first six months of operation, and compared with the limits outlined in the <i>Environment Protection (Air Policy) 1994</i> and the level predicted in the EIR. If the levels are higher than those used to predict ground level concentrations, a reassessment should be undertaken to ensure that ground level concentrations do not exceed the limits in the National Environment Protection Measure for Air.	Emissions from the compressor station will be monitored during commissioning, and in the first six months of operation, as required by the EPA (refer SEO Objective 21a, p27).

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40.		Noise from the compressor station and other pipeline equipment not associated with construction activities (eg mainline valves and scraper stations) must not exceed 35dB(A)Leq within 20m of any residential property when measured for the worst case noise propagation condition. All measurements must be in accordance with procedures set out in the <i>Environment Protection (Industrial Noise) Policy, 1994</i> .	<p>Noise levels from the compressor station and other pipeline equipment will meet EPA requirements. In rural areas, night-time noise levels from pipeline sources such as the compressor station, and pressure reduction / gas control equipment will not exceed 35dB(A) within 20m of any existing residential property. In commercial or industrial areas (such as the proposed meter station at Gepps Cross), noise emissions will comply with relevant levels outlined in the <i>Environment Protection (Industrial Noise) Policy, 1994</i>.</p> <p>Monitoring will be carried out to ensure noise emissions do not exceed allowable noise levels in accordance with the procedures set out in the <i>Environment Protection (Industrial Noise) Policy, 1994</i>.</p> <p>The SEO Objective 22a has been modified to include meeting EPA requirements for noise emissions from <u>all</u> pipeline infrastructure (see Section 3.5 following).</p>
41.		As construction of the pipeline is a regularly moving operation with various transient activities it is not anticipated that construction noise will prove a major issue. EPA recommends that all reasonable steps are taken during construction to minimise noise levels so that the proponent complies with the general environmental duty under Section 25 of the <i>Environment Protection Act 1993</i> .	SEA Gas will follow the measures outlined in the EIR and under SEO Objective 6a to minimise noise impacts, and will comply with the general environmental duty under Section 25 of the Act to "take all reasonable and practicable measures to prevent or minimise any resulting environmental harm".
42.		<p>Should the EPA receive noise complaints regarding construction noise or compressor station noise the proponent will be notified accordingly and a solution will be negotiated.</p> <p>In addition to the listed mitigation measures, it is recommended that the proponent provide residents with the name and telephone number of the on site construction manager.</p>	<p>SEA Gas acknowledges this noise complaint procedure.</p> <p>Consultation with affected landholders will be ongoing, and will ensure that they are provided with adequate contact information - refer SEO Objectives 6a (p18), 22a (p27) and 33a (p30).</p>

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43.	Forestry SA	During consultation between Forestry SA and SEA Gas, it was agreed that the pipeline corridor through Mt Crawford Forest would use existing firebreaks and tracks... it was recognised that the pipeline easement width would need to be reduced, similar to what is proposed in areas of high ecological significance, where the width can be reduced to 15m. Although the actual easement widths would be identified as part of individual alignment sheets, should the reduced widths of easements on Forestry SA land be specifically defined in the <i>Statement of Environmental Objectives</i> and/or the <i>Environment Impact Report</i> ?	SEA Gas will reduce the easement width through this area where necessary. Easement widths will be determined in consultation with Forestry SA. This has been added to SEO Objective 10a (see Section 3.6 following). Areas of reduced easement width are identified during the detailed design phase, and are most effectively highlighted in individual alignment sheets and referred to in the Construction Environmental Management Plan.
44.		Although Forestry SA is shown in Table 12-3 as a part of PIRSA Regional Office consultation, Forestry SA is a separate legal entity.	Comment noted.
45.	Lacepede / Tatiara Soil Conservation Board	The pipeline will be laid through some very fragile sandy soils which need to be stabilised following this type of disturbance. To prevent the risk of severe wind erosion, the Lacepede Tatiara Soil Conservation Board would like to recommend that following the laying of the pipeline, the surface be stabilised by the spreading of clay over the area disturbed.	A range of measures to mitigate wind erosion have been proposed, including limiting ground disturbance and vegetation clearing to the minimum extent necessary, and limiting the period between clear-and-grade and restoration to the minimum practicable in areas more susceptible to water or wind erosion. SEA Gas aims to reinstate soils to pre-existing conditions (refer SEO Objective 5a, p15). Restoration in areas containing fragile sandy soils would include respreading of previously cleared vegetation over the cleared area, and prompt sowing of sterile grasses or crops to stabilise soils. Restoration measures will be developed in consultation with DEH, PIRSA, Soil Conservation Boards and other relevant agencies, and detailed in the Construction Environmental Management Plan.

No.	Agency or Individual	Issue	Response
46.		Another concern is that the machinery used in the project could spread weeds along the pipeline route. We recommend that the machinery be thoroughly cleaned when travelling from one property to another.	<p>The spread of weeds has been identified as a potential impact in the EIR, and mitigation measures specified to address this issue. These measures include pre-construction surveys for weeds and pathogens (EIR p93, SEO Objectives 7a and 7b, p21), and development of weed, pest and disease control and management protocols (EIR p93 and 117, SEO Objectives 10a and 10b, p23). These protocols will specify requirements for washdown of vehicles and equipment at an appropriate frequency.</p> <p>These protocols will be detailed in the Construction Environmental Management Plan and, where appropriate, on specific alignment sheets.</p>
47.	Lewis, P.	With Origin Energy having a “foot” in both markets by being an established retailer on the one hand and an equal partner in a competitive supplier, how can SA have a competitive market?	<p>The pipeline owner SEA Gas Pty Ltd is a separate and independent company, and will be operated as a stand-alone enterprise, independent from its partners.</p> <p>By ensuring diversity of gas supplies, that is, from both Victoria and from Moomba, competition between producers will be established for the first time in SA.</p> <p>As the pipelines are open-access other retailers are also free to enter the market place and provide competition.</p>
48.		The list does not contain any mention of “Flora and Fauna” Ecology has a different meaning in my dictionary. (SEO Page 2).	In the context of this report, “Ecology” is used to encompass flora and fauna issues.
49.		“Rejection” should surely read “reinjection” (Page 17)	“Rejection” should read “reinjection”.
50.		The Murray River does not extend from Roma in Qld. Its source is in the Great Dividing Range. The Murray is the defined border between NSW and Vic. (Page 60)	This should read “the Murray River system” and is taken to include the rivers and tributaries in the Murray Darling drainage basin.

No.	Agency or Individual	Issue	Response
51.		The field survey may not reveal endangered and/or threatened species. For example, many Australian native orchids grow, flower, die off within a few months and not reveal its presence although underground its tubers have missed seasonal species (such as orchids).	<p>As well as searching for threatened species, the field survey assessed habitats for likely presence of threatened species. Consequently, a number of areas have been identified as potentially containing threatened species, such as orchids.</p> <p>Further survey work will be carried out at optimal times (such as spring) to search for such species (refer EIR p92, SEO Objectives 7a and 7b, p19). Some of this work has already been carried out as part of ongoing assessment.</p>
52.		2800 pipe sections 100 deliveries. If these figures are correct then each delivery truck will carry 28 lengths of pipe 240 meters long. This is an engineering feat that should at least be the subject of a risk assessment. (Page 122)	There will be approximately 37 000 pipe sections, and approximately 1000 deliveries.
53.	Office of the Technical Regulator	<p>Will transported gas be odourised along the pipeline route or outside the (applied for) pipeline license?</p> <p>If so, the impact of odourising needs to be addressed.</p>	<p>Gas will be odourised prior to entering the proposed pipeline system, at the Iona Gas Plant (under the control of TXU) and the Minerva Gas Plant (under the control of BHPP). Odourisation facilities along the pipeline route will not be required.</p> <p>Impacts of the release of odourised gas from the pipeline will not be significant, as pipeline design will minimise the potential for loss of gas to the atmosphere. Pressure controlling functions will be managed without the use of pressure safety valves with discharge openings to the atmosphere.</p> <p>Releases will occur during planned blowdown activities and in the event of failure of the primary pressure containing mechanisms.</p> <p>SEA Gas's designers and contractors will be required to undertake gas dispersion modelling studies for blowdown/vent points and to provide facilities that effectively disperse any released vapours to safe areas, having minimal impact upon the public. Operating and maintenance procedures and practices will include minimising the level and frequency of venting requirements.</p>

No.	Agency or Individual	Issue	Response
54.		Ch8 EER/EIR Noise Emissions: Does not specifically address noise emissions from pressure reduction/metering facilities or pressure relief devices along the route. We are of the opinion that a quantitative analysis of this type of noise emissions is warranted.	<p>Noise emissions from meter stations at Gepps Cross and Torrens Island, and from pressure relief devices along the route will be designed to comply with EPA requirements, and changes have been made to the SEO Objective 22a to reflect this (see Section 3.5 following).</p> <p>SEA Gas's designers and contractors will be required to quantitatively assess the pipeline system and in particular pressure reduction / gas control equipment for noise during the detailed design phase. Appropriate mechanisms (which may include silencers) will be employed to mitigate noise levels at these facilities.</p> <p>Emissions at pressure relief valves will be infrequent (occurring primarily during testing, maintenance and emergency shutdowns) and of short duration.</p>

No.	Agency or Individual	Issue	Response
55.		<p>SEO Operational Objective Goal 34.3: "To adequately protect public safety during uncontrolled releases and other unplanned". Does this refer to events and incidences?</p> <p>How will this goal be achieved? The public or operator may be unaware of an event, particularly if gas is not odorised.</p>	<p>This should read "and other unplanned incidents" and will be corrected (see Section 3.7 following).</p> <p>Detection of uncontrolled releases will be achieved by number of procedural measures, including:</p> <ul style="list-style-type: none"> ▪ real time monitoring of pipeline capacity ▪ transients and leak detection system, and ▪ regular patrolling of the pipeline. <p>Patrolling activities will include visual and audible detection methods for determining minor leaks and the use of portable gas detectors at above-ground facilities. The odorisation of the gas will also contribute to leak detection capabilities.</p> <p>Protection of the public during uncontrolled but detected releases will be achieved by appropriate notification (such as signage, public addresses through the media) and temporary physical barriers will be erected to prevent the public entering an unsafe area. The extent of a release will be appropriately mitigated whilst remedial action and repairs are underway. Procedures and practices will be developed and implemented in accordance with the risk assessment requirements of AS2885 and will form part of the emergency response plan.</p>

No.	Agency or Individual	Issue	Response
56.		<p>SEO Section 6.2 refers to security of gas supply as a serious incident.</p> <p>Please advise how will incidents affecting security of gas supply be managed.</p>	<p>The SEA Gas Project enhances security of supply by providing a second major gas supply from an alternate source. An incident on the SEA Gas line which temporarily interrupted supply from Victoria, would not be likely to threaten the security of supply to Adelaide which would continue to be supplied from Moomba.</p> <p>On detection of an incident or impending incident that may impact the security of gas supplies for power generation or other purposes of significance, the pipeline operator will alert the relevant parties and take such measures as are within its control to mitigate the severity or consequences of the incident. Detailed management practices and emergency response procedures will be developed as part of the Project's design / threat identification / risk assessment requirements.</p>
57.	PIRSA Petroleum Group	Need to consult with Phylloxera and Grape Industry Board in regard to Phylloxera management, particularly in regard to the new Henty Wine Region in southwest Victoria, which is in the process of establishment as a Phylloxera Exclusion Zone.	Machinery operating in wine-growing regions will comply with requirements (eg for washdown and inspection) outlined in the Board's <i>Phylloxera Prevention Protocol</i> (refer EIR p116 and SEO Objectives 10a and 10b, p7 and 23). Management strategies will be developed in consultation with the Phylloxera and Grape Industry Board.
58.		<p>The objectives to be achieved by the emergency response plan need to be set eg</p> <ul style="list-style-type: none"> ▪ to minimise the risk of deaths, injuries and property damage; ▪ to minimise risk to emergency service personnel and equipment; ▪ to adequately inform all stakeholders in a timely manner; ▪ to identify and maintain effective liaison with all relevant emergency services 	These issues are covered by SEO Objective 35a (<i>Emergency Response</i>).
59.	Rural City of Murray Bridge	No concerns raised.	

No.	Agency or Individual	Issue	Response
60.	SA Landcare Committee	No concerns raised. Suggestion- There may be some benefit in contacting local environmental groups while construction is occurring to inform them of SEA Gas' environmental practices. Would manage community concerns and may add value to the practices being implemented through the use of local knowledge.	SEA Gas will consult with local environmental groups during the design and construction phases of the Project (refer SEO Objective 16a, p8 and p25).
61.	South East Catchment Water Management Board	No concerns raised.	
62.	Transport SA	Eight roadside sites of significance are likely to be impacted on by the project. If it is not possible to undertake alignments in the immediate vicinity of these areas then measures to minimise impacts by SEA Gas pipeline to these sites should be undertaken, in line with commitments made in EIR. Appropriate rehabilitation of these areas will include the return of topsoil, mulching and resspreading of vegetation and implementation of adequate erosion prevention measures. Weed control in native vegetation areas is a high priority.	The final alignment of the pipeline will avoid impacts to roadside significant sites where practicable, and appropriate rehabilitation of significant roadside sites will be undertaken. These sites will be indicated on the specific alignment sheets, and mitigation measures detailed in the Construction Environmental Management Plan. SEA Gas will consult with Transport SA in the determination of appropriate mitigation measures. SEO Objectives 7a and 7b have been modified to include consultation with TSA concerning significant roadside sites (see Section 3.9 following).
63.		A range of information regarding Phytophthora control and contaminated land, aboriginal heritage and acid sulphate soils along the proposed Port River Expressway are available to aid SEA Gas.	SEA Gas thanks TSA for this information, and will incorporate it into planning for the SEA Gas Project.

3 Changes to the Statement of Environmental Objectives

The changes listed below have been made to the Statement of Environmental Objectives in response to issues raised in the submissions.

3.1 Aboriginal Heritage Act (Issue 4)

Construction Assessment Criteria for Objective 8a (Indigenous Heritage) (Page 22) has had the Condition modified to refer to the *Aboriginal Heritage Act 1988* as follows (inserted text underlined):

- "Obtain appropriate authorisation under the *Aboriginal Heritage Act 1988* for unavoidable site disturbances necessary to permit the construction of the pipeline"

3.2 Pathogen Management Procedures (Issue 21)

Construction Assessment Criteria for Objectives 7a and 7b, under "Spread of animal and plant pathogens" (Page 21) have been modified to read as follows (inserted text underlined):

"Develop a comprehensive pathogen management procedure in consultation with DEH and other relevant authorities, that details site specific requirements for..."

3.3 Notification of DOSAA of new Aboriginal heritage sites (Issue 25)

Construction Assessment Criteria for Objective 8a (Indigenous Heritage) (Page 21) has had the Condition added

- "Notify Aboriginal Affairs Victoria and the Department of State Aboriginal Affairs of the location of any new Aboriginal heritage sites recorded"

3.4 Definition of Aboriginal Site (Issue 26)

Objective 8a, under Construction Environmental Objectives (Page 6) has been modified as follows:

- added Potential Impact: "Damage to land that is of significance to Aboriginal anthropology or history"
- added SEO Objective 8.7 "To avoid damage to sites of significance to Aboriginal anthropology or history"

3.5 Noise from Pipeline Operations (Issues 40 and 54)

Objective 22a, under Operation Environmental Objectives (Page 10) has been modified to read (inserted text underlined):

"to meet regulatory requirements for noise emissions from the Compressor Station and other pipeline infrastructure".

Operation Assessment Criteria for Objective 22a (Noise Emissions) (Page 27) have been modified:

- added Assessment Criterion: "Noise emissions from pipeline infrastructure to meet regulatory requirements", and
- added Condition: "Design pipeline infrastructure to meet relevant noise levels outlined in the *Environment Protection (Industrial Noise) Policy, 1994*".

3.6 Reduced Easement Width on Forestry SA Land (Issue 43)

Construction Assessment Criteria for Objective 10a and 10b (Land Use) (Page 23) has had the Condition added:

- "Reduce the right-of-way width where necessary through Mt Crawford Forest in consultation with Forestry SA"

3.7 Public Safety During Unplanned Incidents (Issue 55)

Goal 34.3, under "Unplanned Incidents" (Page 12) has been corrected to read as follows (inserted text underlined):

"To adequately protect public safety during uncontrolled releases and other unplanned incidents".

3.8 Permits under the *Water Resources Act 1997* (Issue 27)

Construction Assessment Criteria for Objectives 4a and 4b (Water Crossings) (Page 18) has had the Condition added:

- "Obtain necessary permits under the *Water Resources Act 1997*"

3.9 Consultation with TSA regarding Roadside Sites (Issue 62)

Construction Assessment Criteria for Objectives 7a and 7b (Ecology) (Page 19) has had the Condition added:

- "Consult with Transport SA regarding management of significant roadside vegetation sites"

4 Conclusion

The SEA Gas Project is an important new strategic energy supply development for south-eastern Australia, which aims to protect future gas supplies for both South Australia and Victoria. Central to the SEA Gas Project is the construction and operation of a 670km gas transmission pipeline from Port Campbell to Adelaide, that will complete the Adelaide-Melbourne-Sydney high pressure gas transmission links.

This document provides a supplement to the Environment Effects Report / Environmental Impact Report (EER/EIR) and Statement of Environmental Objectives (SEO) which were available for public comment from Saturday 27th October until Friday 7th December 2001. This supplement addresses issues raised in South Australia during the public consultation period.

SEA Gas is committed to responsible environmental management, and to fulfilling the responsibilities made in the EER/EIR and SEO. In managing potential impacts, SEA Gas is committed to working closely with all relevant authorities and landholders.

SEA Gas believes that all potential environmental impacts associated with the Project can be effectively managed and is committed to meeting this objective.

Appendix 1

Submissions to PIRSA