

SOUTH EAST AUSTRALIA



## South East Australia Gas Pty Ltd

### 2004 ANNUAL REPORT

South Australian Pipeline Licence  
(PL 13)



## Port Campbell to Adelaide Natural Gas Transmission Pipeline

Document No. REG-RE-001

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*2004 Annual Report ( PL13 ) – Port Campbell to Adelaide Pipeline*

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## TABLE OF CONTENTS

1.0	PURPOSE .....	5
2.0	INTRODUCTION .....	5
3.0	SCOPE .....	6
4.0	TECHNICAL ASPECTS.....	8
5.0	OPERATIONAL ACTIVITIES CONDUCTED DURING 2003/2004.....	9
5.1	Risk Management Review .....	9
5.2	Training .....	9
5.3	Patrol Activities.....	9
5.4	Maintenance.....	9
5.5	Operations & Maintenance Activities .....	10
5.6	Coating Integrity Survey.....	12
5.7	Cathodic Protection.....	12
5.8	Electrical and Instrumentation.....	13
5.9	Mechanical .....	14
5.10	Gas Compression Facilities .....	14
5.10.1	Coomandook Gas Compression Facility .....	14
5.10.2	Miakite (Vic) Gas Compression Facility.....	15
5.10.3	Yallamurray (SA) Gas Compression Facility .....	15
5.11	Noise Surveys .....	15
6.0	Incident Reporting.....	16
7.0	Land Management.....	17
7.1	Land Tenure.....	17
7.2	Landholder Liaison.....	17
7.3	Asset Management .....	18
7.4	Pipeline Awareness.....	18
7.5	Pipeline Location and Referral Services.....	18
8.0	Environmental Management.....	19
8.1	Post Construction Environmental Management .....	19
8.2	Compliance with Statement of Environmental Objectives.....	20
9.0	SEA Gas Operations Staff Training.....	20
10.0	Emergency Response .....	21

---

*2004 Annual Report ( PL13 ) – Port Campbell to Adelaide Pipeline*

---

10.1	SEA Gas Pre Commissioning Desktop Exercise.....	21
10.2	Pre Commissioning Emergency Response Exercise .....	21
10.3	Victorian Gas Industry Exercise.....	21
10.4	State Counter Terrorism Exercise.....	22
10.5	Operations Emergency Response Exercise.....	22
10.6	Response to Moomba Incident .....	22
11.0	Regulatory Compliance .....	22
12.0	Risk Management.....	23
13.0	Management System Audits.....	23
13.1	Construction Audits & Reporting.....	23
13.2	Environmental Audits .....	24
13.3	Health and Safety Audits .....	24
14.0	Reports Issued during the 2003/2004 Licence Year .....	24
15.0	Volume of Product Transported.....	24
16.0	Proposed Operational Activities for 2004/2005 Licence Year.....	24
17.0	Statement of Expenditure .....	25
18.0	Notification of SEA Gas Change of Address .....	26
19.0	Appendix A – SEA Gas Pipeline Safety Brochure .....	27
20.0	Appendix B – Assessment of Compliance with SEO Objectives .....	29
21.0	Appendix C – Transported Gas Volumes & Expenditure Details (Limited Distribution).....	34

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2004 Annual Report ( PL13 ) – Port Campbell to Adelaide Pipeline

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## LIST OF ABBREVIATIONS

“	Inches
AC	Alternating Current
APIA	Australian Pipeline Industry Association
AS2885	Australian Standard 2885 – Pipelines, Gas and Liquid Petroleum
CP	Cathodic Protection
DCVG	Direct Current Voltage Gradient
KP	Kilometre Point
KPag	Kilo Pascals (gauge pressure)
MLV	Main Line Valve
MPa	Megapascal
mm	Millimetres
PJ	Petajoule
PSI	Pounds per Square Inch
SCADA	Supervisory Control And Data Acquisition
SCLJV	Spie Capag Lucas Joint Venture
SEA Gas	South East Australia Gas Pty Ltd
μ	Micron
SEO	Statement of Environmental Objectives
UPS	Uninterrupted Power Supply
HDD	Horizontal Directional Drill

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*2004 Annual Report ( PL13 ) – Port Campbell to Adelaide Pipeline*

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## **1.0 PURPOSE**

This report details compliance and operational performance in relation to the South Australian portion of the South East Australia Gas Pty Ltd (SEA Gas) Pipeline, in accordance with the requirements of South Australian Pipeline Licence No. 13, the South Australian Petroleum Act 2000 and associated Regulations to that Act.

This report primarily highlights operational compliance requirements (inclusive of construction, commissioning and operational activities) along the South Australian section of the Port Campbell to Adelaide Natural Gas Transmission Pipeline up to 30 June 2004. References are made to engineering operations & maintenance activities along the length of the pipeline, where State delineation is not deemed necessary.

## **2.0 INTRODUCTION**

In June 2000, the South Australian Government called for expressions of interest for the provision of a new gas supply into the State. The development concept preferred by the Government was construction of a transmission pipeline to access gas from the Otway Basin offshore field in Victorian.

On the 1 March 2001 the South Australian Government and the development alliance signed a key facilitation agreement for the project. As part of this agreement the proponents were required to build a pipeline with an initial capacity of at least 45PJ/annum with the potential for the capacity to be increased to 60PJ/annum, and to complete the project by January 2004.

The project participants secured construction finance; no public or Government funds were required.

South East Australia Gas Pty Ltd (SEA Gas) is a joint venture company established specifically to develop the SEA Gas project, with International Power, Origin Energy and TXU owning the company equally.

Following a public tender process construction of the pipeline was awarded to the SPIE-Capag Lucas joint venture, which commenced construction during 2002.

SEA Gas commenced formal operations on 1 January 2004, playing a major role in significantly increasing the security of natural gas supplies to the South Australian marketplace. This was brought to the forefront following a major fire at Santos' Moomba gas processing facility in the early hours of New Year's Day, which significantly restricted the amount of natural gas able to be delivered to the State. Fortuitously, the SEA Gas pipeline was in the final stages of commissioning and was able to be brought into operation that same day to deliver much needed natural gas, transporting over 80% of Adelaide's gas requirements.

The Hon. John Howard, Prime Minister of Australia, officially opened the SEA Gas pipeline on Monday 15 March 2004, during a formal ceremony held at a local gas off take and metering facility.

### 3.0 SCOPE

The SEA Gas pipeline is approximately 680km long (Ref. Figure 1 – SEA Gas Pipeline Route), commencing at the Minerva Gas Plant, north east of Port Campbell in south-western Victoria and terminating at the Pelican Point off take and metering facility north of Adelaide.

Fabricated of welded steel (API 5L X70) construction and featuring a Trilaminate protective coating, the pipeline is buried throughout its length, with above ground Mainline Valves, Compression and Metering Stations installed at intervals along the pipeline.

The South Australian section of the pipeline from the Victorian/South Australian border to the Pelican Point Off take Station situated northwest of Adelaide is 422km long and features twin 355mm (14”) diameter pipelines for the first 225km (from the border to the Coomandook Compressor Station) with the remaining 197km (from the Coomandook Compressor Station to Pelican Point Off take Station) consisting of a single 457mm (18”) diameter steel pipeline, MLV’s and three customer metering and delivery points at Cavan, Torrens Island and Pelican Point.

The SEA Gas Project was constructed in accordance with the requirements of AS 2885 and the *APIA Code of Environmental Practice (1998)* and is operated and maintained in accordance with the requirements of AS 2885.

2004 Annual Report ( PL13 ) – Port Campbell to Adelaide Pipeline

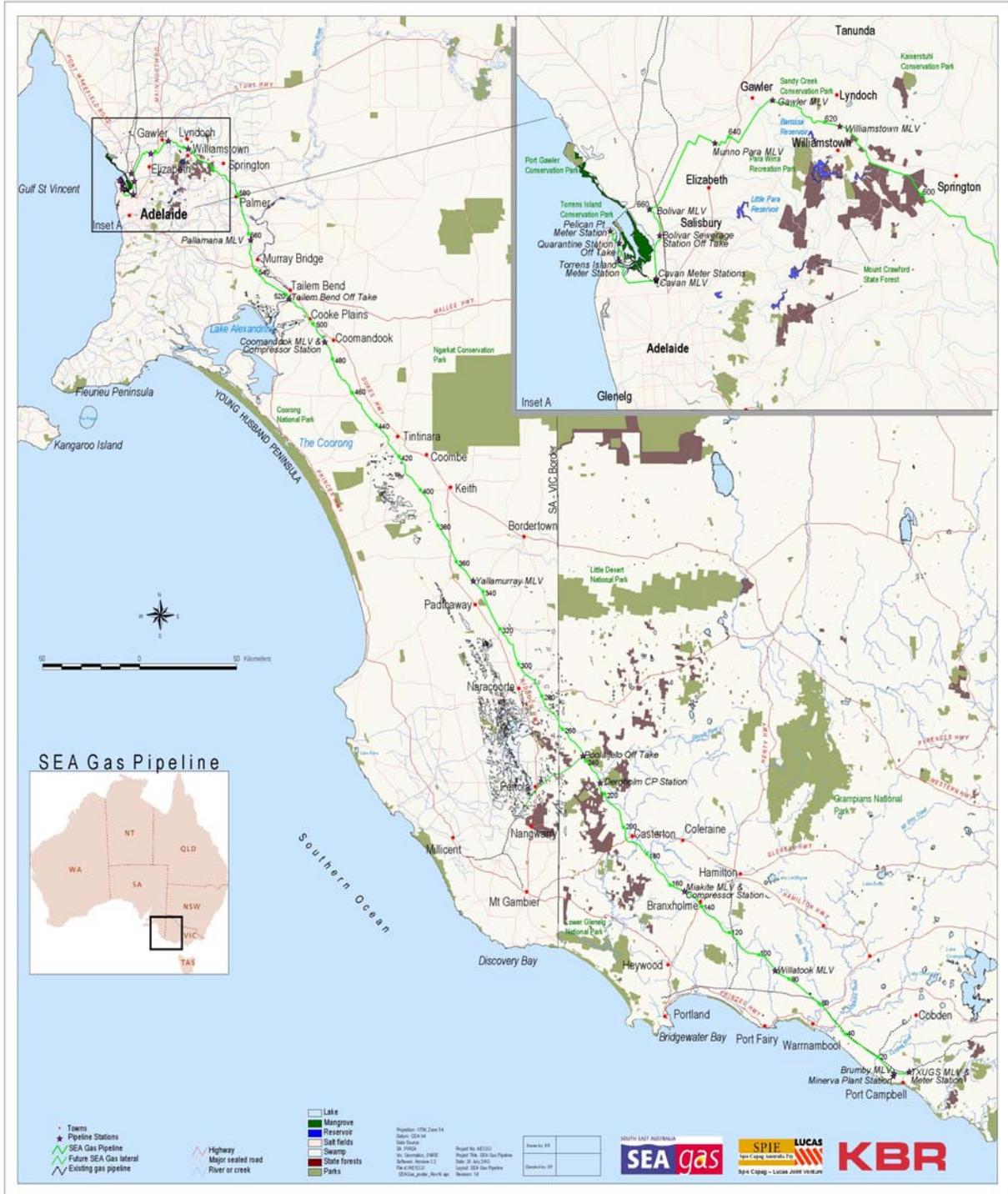


Figure 1 – SEA Gas Pipeline Route

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*2004 Annual Report ( PL13 ) – Port Campbell to Adelaide Pipeline*

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## 4.0 TECHNICAL ASPECTS

Table 1 – SEA Gas Pipeline Design & Construction Data

Construction Commencement:	October 2002
Commissioned to Gas:	11 – 14 December 2003
Operational:	1 January 2004
Officially Opened:	15 March 2004
AS2885 Design Life:	80 years
Pipeline Length:	686km
Pipeline Diameters (OD):	355mm (14") 457mm (18")
Pipeline Wall Thicknesses:	
➤ 355mm (14") Standard Wall	7.92mm
➤ 355mm (14") Heavy Wall	9.8mm
➤ 457mm (18") Standard Wall	10.2mm
➤ 457mm (18") Heavy Wall	12.7mm
<i>Note - heavy wall pipe installed at special crossings (eg - beneath roads, railways and rivers)</i>	
Pipe Grade:	API 5L Grade X70
Maximum Allowable Operating Pressure (MAOP):	15,306 kPag (2,220 PSI)
Hydrostatic Test Pressure:	21,275 kPag (3,086 PSI)
Trilaminate Coating:	
<i>Note – additional 'special' coatings include Concrete and Fusion Bonded Epoxy</i>	
	<ul style="list-style-type: none"> <li>➤ Fusion Bonded Epoxy Internal (50μ) &amp; External (150μ)</li> <li>➤ Co-polymer Adhesive (125μ)</li> <li>➤ High Density Polyethylene Jacket (1,000μ)</li> </ul>
Mainline Valves:	
➤ Victoria	4
➤ South Australia	8
Gas Compression Facilities:	
➤ Victoria – Miakite (under construction)	1
➤ South Australia – Coomandook (operational)	1
SA Metering & Off take Stations:	
➤ Cavan (TXU & Origin)	2
➤ Torrens Island (TXU)	1
➤ Pelican Point (International Power)	1

## **5.0 OPERATIONAL ACTIVITIES CONDUCTED DURING 2003/2004**

### **5.1 Risk Management Review**

Design, construction and operational risk assessments were reviewed to reassess operational risks; ensuring appropriate management strategies are in place for each risk aspect. Risk assessment reviews were based on AS2885 requirements, supported by legislative and commercial requirements.

Spie-CAPAG Lucas Joint Venture (pipeline constructor) conducted additional risk assessments, audits, etc, during the construction and pipeline commissioning phases to adequately manage construction and commissioning risks.

SEA Gas has reviewed operational risks based on post construction and operational reviews. Risks have been prioritised and process improvements have been initiated in order to adequately manage emerging risks, arising during post construction, pipeline operations and maintenance activities.

### **5.2 Training**

Both SEA Gas and contract maintenance personnel have been trained in all aspects of pipeline and facility operations and maintenance. Specific training was provided by both the pipeline and compression facility constructors, prior to the commencement of pipeline operations.

Prior to the commencement of pipeline operations, SEA Gas personnel and contractors were inducted and trained in relation to both pipeline operations and specific SEA Gas operations & maintenance and emergency response procedures.

Ongoing weekly site and facility familiarisation features foremost within the SEA Gas training and competency requirements.

### **5.3 Patrol Activities**

Aerial and ground patrols of the pipeline easement and above ground facilities was initiated by SEA Gas operations prior to pipeline and facility commissioning. These activities have been conducted in addition to those conducted by the constructor prior to handing over operation of the pipeline to SEA Gas. This initial work-up period enabled SEA Gas operations personnel and contractors to familiarise themselves with the pipeline and facilities prior to formal handover of operations.

Observations during patrol activities have included fallen marker posts, third party access and activities along the pipeline easement, trench subsidence, erosion and validation of easement regrowth. Post patrol remedial actions were implemented to ensure rectification of any non-complying activity or issue.

### **5.4 Maintenance**

Post construction facility and easement issues have been progressively addressed by the Spie-CAPAG Lucas Joint Venture under the auspices of the SEA Gas Permit to Work System.

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## 2004 Annual Report ( PL13 ) – Port Campbell to Adelaide Pipeline

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Scheduled and unscheduled maintenance, pipeline patrol, pipeline locations (as requested by third party stakeholders planning to conduct activities in the vicinity of the pipeline easement) and emergency response activities have been provided by GasNet Australia in joint partnership with Origin Energy Asset Management, the latter of which predominantly provides services within South Australia.

### 5.5 Operations & Maintenance Activities

Scheduled operations and maintenance activities have been conducted at pre-determined frequencies along the SEA Gas pipeline. The following activities were conducted during the 2003-2004 licence year.

#### Weekly

- Weekly ground patrols were conducted between Pelican Point and Williamstown Main Line Valve. Observations from these patrols were actioned by the maintenance service provider in consultation with SEA Gas, following the patrol.
- Weekly ground patrols were conducted between Port Campbell (Vic) and Willatook Main Line Valve (Vic). Observations from these patrols were actioned by the maintenance service provider in consultation with SEA Gas, following the patrol.
- The maintenance service provider conducted inventory and maintenance management reviews on a weekly basis; corrective actions were addressed in consultation with SEA Gas.
- The maintenance service provider administers the 1100 Freecall Dial Before You Dig, One Call pipeline referral service on behalf of SEA Gas on an ongoing basis throughout the licence year. Of the 322 calls received from Dial Before You Dig up to 30 June 2004, supervision of 16 third party site activities in the vicinity of the SEA Gas pipeline resulted. Specific site location information regarding the location of the SEA Gas pipeline was provided to all enquirers.

#### Monthly

- The maintenance service provider conducted whole of pipeline ground patrols on a monthly basis, observations from these patrols were actioned by the maintenance service provider in consultation with SEA Gas, following the patrol.
- Aerial patrols were flown between Pelican Point and Williamstown Main Line Valve on a monthly basis. Observations arising from these patrols (eg – fallen marker posts, trench subsidence, etc) were actioned by the maintenance service provider in consultation with SEA Gas, following the patrol.
- The maintenance service provider tabled operational and maintenance progress reports for discussion and action at monthly interface meetings held with SEA Gas. Issues pertaining to operations & maintenance, safety and environmental compliance arising from field operations, were actioned at monthly meetings.

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*2004 Annual Report ( PL13 ) – Port Campbell to Adelaide Pipeline*

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- The maintenance service provider undertook odorant sampling on a monthly basis following commissioning to gas of the pipeline; sampling indicated that odorant levels complied with minimum allowable limits (Ref. Gas Regulations 1997 12(3)(b)) prior to entering the Adelaide distribution network. As a precaution, Origin Energy installed a temporary odoriser at the Cavan off-take point to enable injection of odorant in the event that concentrations did not comply with minimum concentrations; this apparatus was disconnected and removed from the facility during May 2004.

### Three Monthly

- Aerial patrol flights were flown between Williamstown Main Line Valve and Port Campbell (Vic) on a quarterly basis. Observations arising from these patrols (eg – fallen marker posts, trench subsidence, etc) were actioned by the maintenance service provider in consultation with SEA Gas, following the patrol.
- The maintenance service provider conducted inspection, maintenance and calibration activities at injection & receipt points (seven sites), Main Line Valves (19 valves at 14 sites) and Scraper Stations (10 sites) along the SEA Gas pipeline. Maintenance activities included:
  - Inspection of facility lighting
  - Air conditioner inspection and maintenance
  - Gas chromatograph calibration
  - Ultrasonic meter accuracy validation
  - Smoke & fire detection system inspection & testing
  - Security system testing
  - Inspection of calibration gas pressures and contents
  - Draining of filters
  - Inspection and testing of water bath heaters
  - Gas leakage inspections and repair
  - Inspection & inventory of spare parts & consumables
  - Fencing repairs as required
  - Signage inspection & reinstatement
  - Inspection of amenities & facilities
  - Weed management

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## 2004 Annual Report ( PL13 ) – Port Campbell to Adelaide Pipeline

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### Annual

- The maintenance provider conducted servicing of all fire extinguishing and detection equipment along the pipeline, with discharged extinguishers and faulty detection equipment repaired or replaced as necessary.

### Unscheduled

- Two regional lateral pipeline connections were installed at KP286 (Naracoorte) and KP520 (Jervois), utilising “hot tap” techniques prior to the introduction of natural gas into the pipeline. The installation of these 50mm Class 900 ball valves by SEA Gas operations personnel was performed in accordance with AS 2885 requirements, risk assessments and approved welding procedures, providing in-field welding and asset modification experience prior to commissioning to gas of the pipeline.
- An additional off take connection point and isolating valve was installed at KP683 (Torrens Island) to enable future connection at this point.

## 5.6 Coating Integrity Survey

Buried sections of the SEA Gas pipeline feature a fusion bonded epoxy coating applied both internally and externally at the point of manufacture, providing corrosion resistance. In addition to this coating, butyl mastic and polyethylene coatings are featured on external pipe surfaces (i.e. - tri-laminate external coating), also applied at the point of manufacture. Buried welded joints feature a double Polyken tape wrap.

At the point of installation into the pipeline trench, coating integrity was confirmed using ‘Holiday’ detection equipment, enabling identification and repair of non-complying coating defects prior to the pipe being installed in the trench and backfilled.

A post construction DCVG Survey of the pipeline was conducted by the constructor prior to commissioning, an assessment of coating integrity, provided sufficient data to identify coating defects greater than 1% voltage IR drop. Excavation and repair of these defects was completed during the licence year, SEA Gas will conduct an additional DCVG survey during the 2004-2005 licence year to confirm coating integrity.

## 5.7 Cathodic Protection

The SEA Gas pipeline features a sectionalised impressed current Cathodic Protection (CP) system to mitigate against corrosion effects, which may arise due to coating defects. The CP system features eight sectionalised areas (three areas in Victoria and five areas in South Australia) separated by insulated joints.

The impressed current CP system was commissioned and interference tested during March 2004. The pipeline is fully protected by the CP system and no significant interference between neighbouring third party infrastructure and the pipeline was measured, when tested by third party corrosion engineers.

Cathodic Protection systems in Victoria (Office of the Chief Electrical Inspector) and South Australia (South Australian Electrolysis Committee) were submitted for registration during March 2004, certification of these systems has now been completed.

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## 2004 Annual Report ( PL13 ) – Port Campbell to Adelaide Pipeline

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Cathodic Protection Systems (CPS) conducted a Potential Survey using Data Loggers during February and March 2004. Despite the telluric activity present on some parts of the pipeline during the testing, the SEA Gas pipeline is cathodically protected in accordance with set criteria as detailed in AS 2832 and AS 2885.

Additional requirements for AC mitigation were identified in the vicinity of Pelican Point and Bolivar, with subsequent AC mitigation measures being installed and commissioned at these sites.

Similar AC mitigation measures have been installed and commissioned within the Victorian section of the SEA Gas pipeline.

### 5.8 Electrical and Instrumentation

Custody transfer metering consists of eight Daniel Senior Sonic and Junior Sonic 4-path ultrasonic flow meters. Custody transfer metering accuracy was verified during commissioning and post-commissioning velocity-of-sound verification calibrations.

Gas chromatography is accomplished using Daniel Danalyzer 570, C9+ gas chromatographs installed within Victoria and C6+ gas chromatographs installed within South Australia. Gas chromatographs have functioned as per manufacturers specifications during commissioning and initial operations, with only minor rectification work to sampling valves being required.

Energy flow rates are calculated within the Bristol Babcock, Control Wave telemetry units.

The SCADA system has been commissioned and is subject to continuous improvement of display parameters as Systems Control operators develop operational experience, and information display requirements to adequately manage remote pipeline operations. SCADA systems and communications serviceability continues to meet project reliability requirements with total downtime of the SCADA system remaining at zero. Communications reliability rates of over 99% have been recorded up to the time of writing.

Remote sites feature either dedicated terrestrial land-lines or satellite up-link telemetry with CDMA backup modem installations. No satellite up-link telemetry unavailability has been experienced to date.

A maintenance regime for electronics and instrumentation equipment and associated systems has been implemented (Ref. Section 5.5) in conjunction with the maintenance service provider. Scheduled maintenance of facilities and systems includes (but is not limited to) the following:

- Transmitter and switch calibrations,
- Battery, UPS and charger testing,
- Smoke, fire detector bump tests and calibrations, and
- Flow meter and Gas Chromatograph challenge testing, etc.

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## 2004 Annual Report ( PL13 ) – Port Campbell to Adelaide Pipeline

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### 5.9 Mechanical

The pipeline construction contractor initiated mechanical rectification work at metering facilities in both Victoria and South Australia. All non-conforming punch list items were been identified as not being critical to the safe operation of the pipeline system.

SEA Gas operations personnel and maintenance service providers have implemented scheduled mechanical maintenance programmes in accordance with maintenance activity schedules. Key maintenance procedures have been developed in conjunction with maintenance service providers to ensure that all safety and operation risks are managed. Continuous improvement of these maintenance procedures and programmes will occur as operational experience is gained during the course of pipeline operations and maintenance activities.

Formative maintenance has included complete filter replacements at all metering facilities in Adelaide (four sites).

Regular updates between the pipeline construction joint venturers and SEA Gas operations staff, has ensured ongoing progression and rectification of all outstanding punch list items. Ongoing assessments of outstanding punch list items and planned upgrades by the construction contractor have been undertaken to ensure that no new safety or operation risks are generated in the course of punch list rectification activities.

The supplier of metering station two-piece-body ball valve assemblies has provided SEA Gas with a redesigned trunnion following concerns regarding the long-term serviceability of these valves. Post commissioning, in service failure of the lower ball trunnion mount was identified in a number of valves, resulted in sealing inconsistencies, thus enabling the valve to pass gas internally.

The manufacturer has since supplied trunnions capable of withstanding greater design loads, which have been installed in all safety critical locations. Additionally the manufacturer has agreed to supply valves capable of withstanding higher design loads at all safety critical locations as required.

Prior to the upgrading of all safety critical valves by the manufacturer, SEA Gas implemented a conservative operational inlet pressure limitation of 8MPa to all Adelaide metering facilities. This restriction has subsequently been lifted, with no current pressure limitations due to component serviceability concerns.

### 5.10 Gas Compression Facilities

The SEA Gas pipeline design features provisions for three (two in SA and one in Vic) gas compression facilities along the length of the pipeline. To date, one facility has been constructed and is operational; a second facility is in the process of being constructed, whilst construction of the third facility remains optional.

#### 5.10.1 Coomandook Gas Compression Facility

Practical completion of the Coomandook (SA) gas compression facility was achieved on 1 March 2004, following a successful commissioning period. Ongoing post-commissioning operations and maintenance activities at this facility

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## 2004 Annual Report ( PL13 ) – Port Campbell to Adelaide Pipeline

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have included rectification of minor mechanical defects prior to operational handover by the facility vendor.

The Coomandook compression facility is operated and monitored remotely from the Adelaide based SEA Gas Systems Control Centre via the SCADA network.

Noise footprint surveys were conducted at Coomandook following commissioning of the gas compression facility, resulting in minimal noise impacts in accordance with SEO objectives.

### 5.10.2 Miakite (Vic) Gas Compression Facility

Construction of a second gas compression facility at Miakite (northwest of Branxholme, Vic) is well progressed, with practical completion scheduled for December 2004. The facility constructor is well on track to achieving earlier completion of this facility, which is essentially a duplicate of the Coomandook facility.

### 5.10.3 Yallamurray (SA) Gas Compression Facility

Construction of a third gas compression facility at Yallamurray (north of Padthaway) in the state's southeast remains a future option based on operational requirements. As yet, there remains no defined construction timeframe for this facility.

## 5.11 Noise Surveys

The pipeline constructor conducted noise emission assessments of all pipeline facilities following commissioning of the SEA Gas pipeline. Results of these assessments indicate that SEA Gas complies with all stated SEO Objectives in respect of manual and continuous background noise emissions.

Extended noise assessment measurements were conducted at each facility and in proximity to the closest nearby residence at Pelican Point Meter Station, Cavan Meter Station and Torrens Island Meter Station

Based on noise measurements at the above facilities, the noise from the SEA Gas pipeline metering stations at Torrens Island Power Station, Cavan and Pelican point Power Station achieve the 45 dB(A) night time criterion at the nearest affected residential areas.

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*2004 Annual Report ( PL13 ) – Port Campbell to Adelaide Pipeline*

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## 6.0 Incident Reporting

A summary of reportable incidents is provided in accordance with the requirements of the South Australian Petroleum Act 2000. These incidents have previously been reported to PIRSA-Petroleum Group during the 2003-2004 licence year in the course of quarterly construction reports.

Table 2 – Reportable Incidents 2003/2004 Licence Year

Overview	Date	KP	Issue	Closeout Action
Alleged Stock Deterioration	24May03	315 - 318	Alleged stock deterioration due to pipeline construction activities	Incident investigated by independent arbiter and subsequently dismissed
Removal of "Old Growth" tree	26Jul03	625.5	Old growth tree removed at Balmoral Road, without prior approval. Incident immediately reported as SEO non-compliance.	Review of contractors clear & grade protocols. Measures implemented to ensure compliance with SEO objectives.
Drilling Mud "Frac Out"	28Aug03	679.6	Escape of drilling mud out of fractured ground during HDD. Mud contained with sand bags and removed from site by waste disposal contractor. EPA & PIRSA notified	Review of Contractor HDD work procedures resulted in more substantial drilling mud containment and bunding procedures being implemented Site restoration and clean-up to 'as found' condition, later verified through site monitoring
Poly Pipe Failure	25Oct03	538	Off ROW landowner complaint that stock had been without water due to failure of water line to stock watering point	Faulty pipeline joiner repaired and stock water supply restored
Explosion in Water Bath Heater Electrical Control Panel	Jan04	682	Water bath heater failure. On site investigation revealed damage to electrical control cabinet due to explosion.	Subject to independent engineering investigation & consultation with heater manufacturer. Subsequent engineering modifications to electrical control cabinet wiring.

## 7.0 Land Management

### 7.1 Land Tenure

South Australian landholders (304) account for 53.0% of all landholders along the SEA Gas pipeline route, tenure of the pipeline by way of registered easements through these properties has now been established.

Two easements compulsorily acquired within SA were resolved; with the compensation in each case having been negotiated, resulting in formalised easements by way of Deed of Settlement through these properties.

Rail track crossings in South Australia have been secured by way of annual occupational licences, whilst tenure within roadside reserves has been secured by way of Section 61 Notices, issued in accordance with the South Australian Petroleum Act 2000.

### 7.2 Landholder Liaison

Ongoing contact was maintained with landholders during the easement acquisition and pipeline construction phases of the project. During the 2003-2004 licence year SEA Gas Land Liaison personnel commenced formal introductory visits amongst landholders in order to develop operational relationships with the intent of ensuring compliance with SEO objectives.

Issues raised by landholders in the course of the visitation programme have progressively been addressed either directly or through the pipeline construction contractor, as in the case of easement restoration.

Two brochures were distributed to landholders during the 2003-2004, licence year:

- A construction update in newsletter form was issued to all landholders during autumn 2003, advising of construction progress in addition to some human-interest stories associated with pipeline construction.
- A Pipeline Safety brochure (Refer to Annex A) was issued to landholders, Councils, contractors and emergency services in preparation for commissioning to gas. This brochure detailed:
  - Restricted activities in the vicinity of the SEA Gas pipeline,
  - How to obtain pipeline location services and references to the 1100 “Dial Before You Dig” asset locations referral service,
  - Information pertaining to safe methods of work in the vicinity of the SEA Gas pipeline, and
  - References to the SEA Gas toll free 1800 808 008 emergency response number and incident management protocols.

In addition to these documents Christmas mail outs to all landholders enabled SEA Gas to update contact details, coupled with development, ongoing operational relationships with landholders and SEA Gas Land Liaison staff.

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## 2004 Annual Report ( PL13 ) – Port Campbell to Adelaide Pipeline

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### 7.3 Asset Management

Land Management by SEA Gas Operations personnel is supported by a proprietary land management software system managed by a leading Adelaide consultant. This system provides automatic notifications, which are triggered by land transactions involving SEA Gas easement holdings. SEA Gas Land Liaison staff made contact with new landowners along the pipeline easement, providing safety information and appraisals of encumbrances and land use changes on properties along the pipeline.

An extensive Geographical Information System (GIS) has also been provided to SEA Gas operations as part of the pipeline construction scope, linking landowner, title references, map references, KP, design details, signage and other asset information.

### 7.4 Pipeline Awareness

Since June 2003, over 100 pipeline awareness sessions have been presented to civil works contractors, earthmovers, agricultural service companies, councils, emergency services, utilities, quarry operators, rail authorities, developers and other interested stakeholders at 20 townships along the SEA Gas pipeline.

Additionally SEA Gas has conducted specific emergency response training sessions for the State Disaster Committee and each emergency Local Service Area (i.e. - Country Fire Service, Metropolitan Fire Service, SA Police, SA Ambulance, State Emergency Service, Councils and disaster recovery groups) operating in the vicinity of the pipeline route.

Consultation with emergency services in South Australia and Victoria during the development of the SEA Gas Emergency Response Plan, enabled these organisations to have an active role in the development of the plan.

### 7.5 Pipeline Location and Referral Services

During the 2003-2004 licence year the pipeline construction contractor managed the Freecall 1100 “Dial Before You Dig” asset locations referral service and responded to enquiries, pending the formal handover of this service to SEA Gas on 1 January 2004.

This referral service has been effective in protecting both the pipeline asset and third party operations within the vicinity of the SEA Gas pipeline in accordance with AS 2885 requirements.

Increased awareness of the SEA Gas pipeline has significantly expanded the use of the 1100 asset referral service by third party stakeholders. The SEA Gas maintenance provider actions requests for asset location information, in-field site locations and supervision of activities within close proximity to the SEA Gas pipeline.

To date, approximately 100 calls are being received each month through the 1100 Dial Before You Dig referral service.

In addition to the 1100 telephone referral service, Dial Before You Dig has launched an internet based “Dig Safe” system, enabling 24 hour accessibility by third parties in relation to asset location enquiries.

## 8.0 Environmental Management

### 8.1 Post Construction Environmental Management

Post construction environmental management of the SEA Gas pipeline was initiated during the 2003-2004 licence year to ensure compliance with SEO objectives and project environmental management guidelines.

A third party assessor conducted post-construction environmental surveys along the SEA Gas pipeline easement, during April and May 2004. In the course of these inspections operational environmental impacts were assessed to ascertain compliance with stated environmental objectives. Specific focus was directed to sites identified both prior to and during pipeline construction as exhibiting environmental significance, in order to ascertain the effectiveness of post construction restoration measures.

The key outcomes of the surveys revealed:

- Little evidence of erosion along the pipeline, minor erosion was observed at Mundulla-Pathway Road (KP338); Mount Road (KP607); track adjacent to Victoria Creek, Blue Rock Corner (KP611); creek east of Sugarloaf Road extension (KP616); and Bentley Road – unmade road reserve (KP634).
- Evidence of recent work to remediate trench subsidence was noted along the easement.
- Watercourse crossings did not exhibit any significant erosion other than that detailed above. Revegetation at these sites was limited due to low rainfall up to the time of the survey.
- Natural regeneration of native plant species was evident at some sites where native vegetation was cleared for construction, particularly on Torrens Island. However, at the majority of sites, natural regeneration was either not evident, or is not likely to be vigorous enough to out-compete weeds from neighbouring farmland. To replace native vegetation on the easement at these sites, supplementary plantings to enhance regeneration or full-scale revegetation will need to be undertaken.
- The presence of weeds (including thistles) on the easement was noted at several locations, most of which appeared to have not yet been reseeded. Bathurst Burr was noted at Reedy Creek and African Love Grass and Bridal Creeper was present at Homestead Road, although weeds along the easement were less common than on land adjacent to the pipeline easement.
- The status of reseeded areas along the easement was variable. Successful reseeded areas were recorded in a number of areas (particularly in the Naracoorte area, however reseeded areas were yet to be completed at many sites along the pipeline easement. Some reseeded areas were quite bare, although it could not be determined whether this was due to reseeded failure or dry seasonal conditions and grazing pressure. Ongoing monitoring and landholder liaison will be important in this regard.

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## 2004 Annual Report ( PL13 ) – Port Campbell to Adelaide Pipeline

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- Topsoil appears to have been well preserved and reinstated for most of the pipeline's length in South Australia. Minor instances of soil inversion where soil colour varied slightly over the trench-line were noted at some locations.

During the survey monitoring points were installed at defined locations in order to measure the success of regrowth along the pipeline easement. Due to seasonal influences, post construction restoration and rehabilitation activities along the pipeline easement will require ongoing assessment and monitoring to ensure compliance in accordance with SEO Objectives for the SEA Gas pipeline.

A revegetation plan which features net gain offset planting at sites off the pipeline easement has been prepared by SEA Gas. Pending endorsement of the plan by key stakeholder, it is anticipated that revegetation works will commence in the latter half of 2004.

Repair of trench subsidence and erosion has been completed in a timely manner following the survey in order to minimise further impacts to the environment, neighbouring landholders, third party land use and SEA Gas operations. SEA Gas has implemented a repair strategy for future trench subsidence and erosion events in consultation with the pipeline constructor.

Post construction restoration of directional drilling sites, construction campsites, hydrostatic test water disposal sites, watercourse crossings and contour banks along the pipeline easement is progressing well, with anticipated completion by the end of June 2004.

### 8.2 Compliance with Statement of Environmental Objectives

An assessment of compliance in accordance with the SEA Gas pipeline Statement of Environmental Objectives for the 2003-2004 licence year is detailed at Annex B.

In general SEA Gas fulfilled its objectives as detailed in the Statement of Environmental Objectives for the pipeline, however during the course of pipeline construction, the construction contractor inadvertently removed an old growth tree (Ref. Section 6.0 Table 2) in the course of clear and grade operations.

### 9.0 SEA Gas Operations Staff Training

Extensive training for SEA Gas Operations personnel was conducted, both by way of constructor specific training and 'in house' & external training providers. Staff training included but was not limited to the following areas:

- Senior First Aid Training (or re-certification) for all operations group personnel,
- Permit to Work & Authorised Permit Issuing Officer,
- Lightning Water Bath Heater Operation & Maintenance,
- SEA View Geographical Information System,
- Bristol Babcock RTU,

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2004 Annual Report ( PL13 ) – Port Campbell to Adelaide Pipeline

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- Gas Compression Facility Operations & Maintenance,
- Media Awareness and Management,
- Cathodic Protection And Corrosion Mitigation, and
- Defensive Driver Training

## 10.0 Emergency Response

In the course of the 2003-2004 licence year, SEA Gas and its contractors conducted five emergency response exercises. A full mobilisation exercise has been scheduled for the 2004-2005 licence year, enabling SEA Gas to fulfil its legislative obligations in accordance with subregulation 31(3) of the Petroleum Regulations 2000.

### 10.1 SEA Gas Pre Commissioning Desktop Exercise

An internal desktop emergency response exercise was conducted by SEA Gas on 28 November 2003. This exercise simulated an aircraft impacting the Pallamana, Main Line Valve (located in the vicinity of Pallamana aerodrome), with ensuing gas leakage and facility damage. Subsequently incident management actions by the exercise team included isolation of the pipeline and post incident recovery strategies.

This exercise enabled refinements to the SEA Gas Emergency Response Manual, incident management procedures and internal communications protocols prior to commissioning of the SEA Gas pipeline by the construction contractor.

### 10.2 Pre Commissioning Emergency Response Exercise

Prior to commissioning of the pipeline and facilities, the construction contractor conducted an emergency response exercise (a scenario based at the Williamstown Main Line Valve) on 2 December 2003, involving SEA Gas operations personnel. The exercise scenario simulated an instrument line failure, subsequently causing simulated eye injury to commissioning personnel and valve damage precluding isolation.

As a result of this exercise, minor improvements to emergency preparedness ensued, with subsequent improvements having been incorporated in the SEA Gas Emergency Response Manual.

### 10.3 Victorian Gas Industry Exercise

During March 2004, SEA Gas participated in the Victorian Gas Industry exercise (*Exercise Dingo*). The scenario depicted malicious damage to the Victorian gas transmission network by a terrorist faction, resulting in curtailment of gas supplies into the Victorian distribution network. Participation within this exercise highlighted the need for increased communication between gas regulators, shippers and gas suppliers, in relation to cross border pipeline operations.

As a result of this exercise SEA Gas has been incorporated into the draft Manual of Gas Emergency Procedures, under the Gas Act 1997. Additional cross border implications which are being addressed, include interactions within the context of the State (SA) Disaster Plan.

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## 2004 Annual Report ( PL13 ) – Port Campbell to Adelaide Pipeline

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### 10.4 State Counter Terrorism Exercise

During March 2004, SEA Gas participated in the State counter terrorism exercise (Exercise Mercury 04), simulating a terrorism action on the State's administrative centre. Participation within this exercise, albeit to a limited extent, highlighted the need for independent communications, coordination of SEA Gas activities with Government agencies and an ability to conduct extended operations under heightened security.

It is anticipated that the 2005 counter terrorism exercise will require extended operations and potentially heightened SEA Gas involvement based on expanded scenarios.

### 10.5 Operations Emergency Response Exercise

A partial mobilisation emergency response exercise (*Exercise Coorong*) was conducted by SEA Gas on 25 May 2004. This exercise simulated third party damage to a water transmission pipeline located at Evanston South, adjacent to the SEA Gas pipeline and subsequent damage and gas leakage. This exercise incorporated mobilisation to site of SEA Gas and maintenance service provider personnel and equipment, based on progressive escalation of the scenario. Third party observers were engaged in specific role plays to provide a realistic scenario during the exercise.

As a result of the exercise revised risk management and procedural protocols have been recommended for implementation to enable effective management of incidents involving the SEA Gas pipeline.

### 10.6 Response to Moomba Incident

SEA Gas was actively involved in responding to the Moomba gas crisis on 1 January 2004. Rapid mobilisation of resources within SEA Gas and its contractors in response to the gas supply crisis provided a rare 'real life' opportunity to mobilise the SEA Gas Emergency Response Plan.

At the height of the gas supply crisis, SEA Gas was in the process of commissioning its pipeline, the subsequent diversion of commissioning resources enabled SEA Gas to bring forward pipeline operations facilitating sole supply of natural gas into South Australia via the newly commissioned SEA Gas pipeline.

## 11.0 Regulatory Compliance

During the 2003-2004 licence year, design, manufacture, construction, commissioning to gas, operation and maintenance of the SEA Gas pipeline was conducted in accordance with applicable Acts & Regulations, AS2885, pipeline licence conditions and relevant environmental management criteria.

Construction non-compliances, whilst remaining the responsibility of the constructor to rectify, have been identified, documented and, where these were identified as being significant (i.e. 'serious' or 'reportable' incidents as defined in the SA Petroleum Act 2000) have been reported to PIRSA as required.

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## 2004 Annual Report ( PL13 ) – Port Campbell to Adelaide Pipeline

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Incidents have been overviewed by SEA Gas as the licence holder and have been actioned and closed-out (Ref. Section 5.0).

### 12.0 Risk Management

Pre-construction, construction and operational risk assessments were conducted during 2003. These assessments included inputs from experienced gas industry personnel, providing an insight into potential risks and management strategies. Subsequent risk analysis and mitigation strategies formed the basis for the Victorian Gas Safety Case (i.e. – a prerequisite for the Victorian pipeline licence), coupled with enabling SEA Gas operations personnel to develop necessary policies, procedures and work instructions to safeguard against the likely effects of defined risks upon operational activities.

Events that remain as credible operational risk elements (i.e. – reduced to As Low as Reasonable Practicable - ALARP) include:

- Unauthorised third party activities or unauthorised land use changes,
- Unauthorised use of heavy machinery in the vicinity of the pipeline, and
- Heightened security alerts in light of the Australian Government's counter terrorism advices.

SEA Gas has implemented the following risk management strategies to maintain defined risks to ALARP, measures include:

- Aerial and ground monitoring of easement activities,
- Security patrols & electronic surveillance of facilities,
- Permit to Work System,
- Pipeline and Safety Awareness programme,
- Land ownership and use notification system,
- Landholder & stakeholder contact programme,
- Participation in state forums for external threat management,
- 1100 Dial Before You Dig & Dig safe internet based asset information systems,

### 13.0 Management System Audits

#### 13.1 Construction Audits & Reporting

During the 2003-2004 licence year SEA Gas in conjunction with third parties conducted the following internal and external operational audits:

- Safety Audits conducted by external auditor,
- Allianz Insurers audit of Spie-Capag Lucas Joint Venture,
- Victorian Office of Gas Safety Audit, and
- Weekly meetings, monthly and quarterly reports to PIRSA-Petroleum Group

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## 2004 Annual Report ( PL13 ) – Port Campbell to Adelaide Pipeline

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Post audit recommendations and corrective actions have progressively been incorporated into operations and maintenance protocols with a view to continuously reviewing and improving systems of work.

### 13.2 Environmental Audits

During the 2003-2004 licence year, ECOS Consulting conducted environmental monitoring and audits in the course of pipeline construction to assess compliance with SEO and construction environmental management plan.

Reportable incidents and operational issues relating to audits and inspections were communicated to PIRSA in the course of quarterly reporting. Corrective actions were deemed appropriate and were employed to ensure regulatory compliance.

### 13.3 Health and Safety Audits

During the 2003-2004 licence year, external Health and Safety audits of pipeline construction activities were conducted, indicating that the construction contractor complied with applicable South Australian and Victorian, Occupational Health, Safety & Welfare requirements.

In addition to external audits, SEA Gas conducts quarterly facility, building and motor vehicle safety audits. Corrective actions arising from these audits are actioned in a timely manner to minimise operational risks.

## 14.0 Reports Issued during the 2003/2004 Licence Year

The following reports were issued and forwarded to PIRSA-Petroleum Group, during 2003/2004 licence year:

- PL 13 Annual Report for 2002/2003 (forwarded March 2003),
- Reports by Constructor (forwarded monthly),
- 2003 Quarterly Report (period May – September 2003),
- 2003 Quarterly Report (period September – December 2003),
- Submission of Reportable Incidents, and
- Final Annual Report for Preliminary Survey Licence No. 9 (PSL9)

## 15.0 Volume of Product Transported

Information relating to volume of product (natural gas) transported by SEA Gas is provided as “Commercial In Confidence” and is not for public disclosure.

Refer to Appendix C (Commercial In Confidence – Restricted Distribution).

## 16.0 Proposed Operational Activities for 2004/2005 Licence Year

In accordance with its regulatory compliance obligations, SEA Gas proposes to conduct the following activities during the 2004/2005 licence year.

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*2004 Annual Report ( PL13 ) – Port Campbell to Adelaide Pipeline*

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- Scheduled maintenance activities at main line valve, metering, and regulation facilities,
- Close-out of all post-construction punch list items,
- Commissioning of the Miakite (Vic) gas compression facility,
- Cathodic Protection system monitoring,
- Ongoing restoration and rehabilitation of the pipeline easement, including revegetation by way of plantings in accordance with net gain offset commitments,
- Environmental monitoring and landholder contacts,
- Scheduled aerial and ground patrols of the pipeline easement,
- Ongoing pipeline and safety awareness seminars and emergency response training for emergency services, other utilities and safety critical stakeholders,
- Bi-annual full mobilisation, Emergency Response & Crisis Management Exercise, and
- Development of ongoing (with others) regional supply opportunities.

## **17.0 Statement of Expenditure**

Information relating to SEA Gas expenditure is provided as “Commercial In Confidence” and is not for public disclosure.

In accordance with subregulation 33(5) of the Petroleum Regulations 2000, members of the public are not entitled to inspect a statement of expenditure provided under subregulation 33(3).

Refer to Appendix C (Commercial In Confidence – Restricted Distribution).

## 18.0 Notification of SEA Gas Change of Address

The following information details change of address notification for South East Australia Gas Pty Ltd (ABN 73 096 437 900):

Formerly: C/- Level 6, 68 Grenfell Street, Adelaide SA 5000,

Now: C/- Level 4, 70 Hindmarsh Square, Adelaide SA 5000.

The grantees of Pipeline Licence, No. PL 13 are thus South East Australia Gas Pty Ltd (ABN 73 096 437 900) C/- Level 4, 70 Hindmarsh Square, Adelaide, SA 5000, as agent for and on behalf of the SEA Gas Partnership (ABN 81 366 072 976), a partnership of:

OE SEA Gas SPV2 Pty Ltd (ACN 095 483 453); and

OE SEA Gas SPV3 Pty Ltd (ACN 095 483 462),

All of C/- Level 13, 1 King William Street, Adelaide, SA 5000;

ANP SEA Gas SPV2 Pty Ltd (ACN 099 332 368); and

ANP SEA Gas SPV3 Pty Ltd (ACN 099 332 395),

All of C/- Level 37, Rialto North Tower, 525 Collins Street, Melbourne, Victoria; and

TXU SEA Gas SPV1 Pty Ltd (ACN 095 483 444); and

TXU SEA Gas SPV2 Pty Ltd (ACN 099 332 331),

All of 385 Bourke Street, Melbourne, Victoria

## 2004 Annual Report ( PL13 ) – Port Campbell to Adelaide Pipeline

### 19.0 Appendix A – SEA Gas Pipeline Safety Brochure

**WE VALUE YOUR OBSERVATIONS**

SEA Gas strives for continuous improvement. We encourage you to contact us with any suggestions or observations regarding the pipeline or facilities. Further, interference or damage to the pipeline could put electricity supplies, hospitals and other essential services at risk. Reporting of observations or minor issues today may lessen the potential for a significant incident in the future.



Please use our **Toll Free Number 1800 808 008** to report any observations, which may include:

- Damaged or fallen marker posts
- Erosion, washouts or trench subsidence
- Unauthorised access to property or facilities
- Vandalism to facilities, pipeline or marker signs
- Unusual activities
- Flooding
- Fallen trees over the pipeline easement
- Accidental damage to the pipeline or facilities
- Work or developments along the pipeline easement.

**IN AN EMERGENCY**

1 Call SEA Gas immediately on our Toll Free Number

1800 808 008

2 Tell the SEA Gas Controller the state of the situation as best you can.

3 Notify emergency services (i.e. - Police, Fire Service, Ambulance).

4 In the event of gas leakage, evacuate everyone to position at least 700 metres upwind of the leak.

5 Eliminate any possible sources of ignition.



DO NOT ATTEMPT TO EXTINGUISH ANY GAS FIRES. PROTECTION OF LIFE IS THE MAIN PRIORITY.

Printed on recycled paper

**SEA GAS NATURAL GAS PIPELINE**



PIPELINE SAFETY

WARNING

DO NOT DIG  
TWO HIGH PRESSURE  
GAS PIPELINES

SEA GAS PIPELINE  
IN CASE OF EMERGENCY PHONE  
1800 808 008  
PIPELINE

SEA GAS - THE ENERGY LINK

## 2004 Annual Report ( PL13 ) – Port Campbell to Adelaide Pipeline

### NATURAL GAS

#### CLEAN, GREEN AND EFFICIENT

Natural gas is transported in the SEA Gas pipeline from Port Campbell in southwest Victoria to Adelaide, South Australia. Natural Gas provides a reliable and competitive source of energy to homes and industrial and commercial users. Natural gas is more efficient and has substantially less impact on the environment than more traditional sources of energy.



#### SOUTH EAST AUSTRALIA GAS PTY LTD

South East Australia Gas Pty Ltd (SEA Gas) operates the 680km long high pressure SEA Gas pipeline. TXU, International Power and Origin Energy own the pipeline. A dedicated control centre located in SEA Gas' Adelaide-based head office monitors and manages day-to-day pipeline operations and activities along the pipeline, utilising the latest remote monitoring technology. The SEA Gas pipeline is designed, constructed and operated in accordance with Australian Standards and Legislative Requirements, at operating pressures that can be greater than 15,000 kPa (which is over 70 times the pressure of an average car tyre)

#### PIPELINE EASEMENTS

The pipeline easement is the area within which the pipeline is located. Pipeline easements can be as much as 25 metres wide. However, in order to minimise impacts on landowners and the environment, SEA Gas has, wherever possible, minimised the width of the easement in which we operate. The prime focus is to safeguard the pipeline from interference, thereby providing a safe operating environment.

Severe penalties can be imposed against persons who endanger the safe operation of a pipeline and the lives of others, by interfering with or damaging the pipeline or facilities.

#### RESTRICTED PIPELINE ACTIVITIES

To ensure your safety and that of the pipeline and the surrounding environment, SEA Gas must be consulted in relation to the following activities:

- Directional boring or drilling
- Installation of fence or strainer posts near the pipeline (some types of fencing may be approved)
- Construction of sheds, dwellings or other structures
- Construction of dams, swimming pools, ponds or tanks
- Planting of trees on the easement.

#### PIPELINE REGULATED ACTIVITIES

Please advise SEA Gas on our toll free number (1800 808 008) prior to undertaking any of the following activities along the pipeline route:

- Excavations or earthworks of any type, other than agricultural cultivation or ripping to a depth not exceeding 400mm
- Crossing of the pipeline by pipes, drains or other services
- Installation of power lines or poles nearby
- Construction or alteration of roads, access tracks or driveways near to the pipeline

- Construction of any structure
- Construction of dams, or temporary flooding of the area
- Blasting or seismic activities within 1km of the pipeline
- Crossing the pipeline with heavy vehicles, at other than designated crossing points.

SEA Gas can provide free advice in relation to any proposed activity in the vicinity of the pipeline.

#### FREE PIPELINE LOCATIONS SERVICE

SEA Gas offers a free on site pipeline locations service for all landholders, tenants, contractors and utilities. Before you commence any work in the vicinity of the pipeline, please discuss your intended operations with SEA Gas on our toll free number: 1800 808 008.

SEA Gas also supports the 1100 Pipeline Referral Service (Dial Before You Dig Service). This combination provides both peace of mind and a safe working environment.



#### MARKER POSTS

Pipeline marker posts only serve to indicate that there is a high-pressure pipeline nearby. Use our free onsite locations service to confirm the precise location of the pipeline before you dig or operate on the easement.

#### PIPELINE PATROLS

In addition to ground observation, SEA Gas operates regular aerial pipeline patrols to ensure that no unauthorised activities affect the safe operation of the pipeline.

SOUTH EAST AUSTRALIA



2004 Annual Report ( PL13 ) – Port Campbell to Adelaide Pipeline

(refer to [http://www.pir.sa.gov.au/pages/petrol/environmental\\_reg/documents/sea\\_gas\\_pipeline/seo\\_final\\_seagas\\_nov2002.pdf](http://www.pir.sa.gov.au/pages/petrol/environmental_reg/documents/sea_gas_pipeline/seo_final_seagas_nov2002.pdf))

**20.0 Appendix B – Assessment of Compliance with SEO Objectives**

Issue	Relevant Operational Environmental Objectives (Per November 2002 SEO Document)	Comments	Compliance (YES / NO)
Soils & Terrain	17.a To appropriately minimise & manage adverse impacts to the soils & terrain of the easement.	Ongoing pipeline easement monitoring and timely repair of trench subsidence & erosion.  Drilling Mud “Frac Out” (Ref. Section 5.0 Table 2) containment & clean up.  Environmental monitoring of sites.	YES  YES  YES
	17.b To appropriately monitor rehabilitation of soils & terrain on the easement.	Ongoing monitoring of easement restoration through regular landholder contacts & easement patrols. Environmental monitoring of sites.	YES
Groundwater	18.a To appropriately minimise & manage adverse impacts to shallow groundwater resources.	No groundwater contamination arising from operational activities along the pipeline easement.	YES
Surface Water	19.a To appropriately minimise & manage adverse impacts to surface water resources.	No surface water contamination arising from operational activities along the pipeline easement.	YES
	19.b To appropriately monitor rehabilitation of surface drainage patterns on easement.	Surface drainage patterns reinstated to an ‘as-found’ condition following pipeline construction. Environmental monitoring of sites.  No disruption to third party users of surface waters.	YES  YES
Watercourse Crossings	20.a To appropriately monitor rehabilitation of watercourse crossing locations.	Environmental monitoring of watercourse crossings for long-term site stability. Identified instability repaired in a timely manner.	YES
Air Emissions	21.a To appropriately minimise & manage adverse impacts to air quality as a result of operations.	No nuisance dust or emissions to air from operation of equipment, pipeline and associated infrastructure.	YES
		Compressor Station complies with EPA requirements	YES

2004 Annual Report ( PL13 ) – Port Campbell to Adelaide Pipeline

Issue	Relevant Operational Environmental Objectives (Per November 2002 SEO Document)	Comments	Compliance (YES / NO)
Noise Emissions	22.a To meet regulatory requirements for noise emissions from the Compressor Station & other pipeline infrastructure.	No noise impacts from vehicle operations and equipment.  No noise impacts associated with pipeline operations and associated infrastructure.	YES  YES
Greenhouse Gas Emissions	23.a To appropriately manage greenhouse emissions from associated processing plants and pipelines.	Minimisation of greenhouse gas emissions and recording of emissions.	YES
Ecology	24.a To appropriately minimise & manage adverse impacts to ecological values of the easement.  24.b To appropriately monitor rehabilitation of the easement.	Construction contractor inadvertently removed old growth tree (Ref. Section 5.0 Table 2) in the course of clear and grade operations.  Management of easement revegetation in consultation with landholders and agricultural best practice.  Environmental monitoring of broad acre and native vegetation regrowth.	NO  YES  YES
Indigenous Heritage	25.a To appropriately minimise & manage adverse impacts to identified Indigenous heritage sites.	Indigenous heritage sites and culturally significant vegetation was not impacted during construction and operation.  Appropriate protocols in place for management of cultural heritage sites and materials, in the course of operational activities.	YES  YES
Historical Heritage	26.a To appropriately minimise & manage adverse impacts to identified historical heritage sites.	No damage to built heritage.  Appropriate protocols in place for management of historical heritage sites and materials, in the course of operational activities.	YES  YES

2004 Annual Report ( PL13 ) – Port Campbell to Adelaide Pipeline

Issue	Relevant Operational Environmental Objectives (Per November 2002 SEO Document)	Comments	Compliance (YES / NO)
Land Use	27.a To appropriately minimise & manage adverse impacts to land use activities during operations.  27.b To appropriately monitor land use productivity post construction.	No adverse effects to stock, agricultural productivity during operations.  No disturbances to landowner assets & infrastructure during operations.  No adverse impacts to recreational values or residential and industrial activities.  Post construction environmental monitoring of agricultural areas.	YES  YES  YES  YES
Visual Amenity	28.a To appropriately minimise & manage adverse impacts on visual amenity.  28.b To appropriately monitor easement rehabilitation to minimise long term visual amenity impacts.	No adverse impact to visual amenity. Progressive revegetation of easement.  Post construction environmental monitoring.	YES  YES
Third Party Infrastructure	29.a To minimise & where practicable avoid impacts to transport networks, private property & to public utilities.  29.b To appropriately monitor reinstated third party infrastructure.	Post construction repairs of road infrastructure.  No unacceptable disturbance to local traffic conditions & access.  No damage to identified public utilities. Timely repair of unidentified asset infrastructure (Ref. Section 5.0 Table 2).  No compromise to public or employee safety.	YES  YES  YES  YES

2004 Annual Report ( PL13 ) – Port Campbell to Adelaide Pipeline

Issue	Relevant Operational Environmental Objectives (Per November 2002 SEO Document)	Comments	Compliance (YES / NO)
Waste Disposal	30.a To effectively minimise & manage all waste generated during operations & to dispose of all waste in an appropriate manner.	<p>No environmental effects arising from construction or operational wastes.</p> <p>Waste materials disposed of in appropriate manner. SEA Gas employees conversant with waste minimisation and disposal protocols.</p> <p>In-house waste minimisation &amp; recycling initiatives implemented.</p>	<p>YES</p> <p>YES</p> <p>YES</p>
Spill Response	<p>31.a To prevent, minimise &amp; manage spills occurring during operations.</p> <p>31.b To appropriately monitor remediated spill locations (where applicable).</p>	<p>Hazardous materials and fuel storage and distribution in accordance with approved protocols.</p> <p>Personnel trained in spill prevention &amp; response procedures.</p> <p>No spills in the course of construction and operational activities.</p>	<p>YES</p> <p>YES</p> <p>YES</p>
Public Safety & Risk	32.a To incorporate operational & maintenance requirements in line with AS 2885.1 to ensure risk level associated with threats is sufficiently dealt (i.e. - As Low As Reasonably Practicable).	Operational risks managed in accordance with AS 2885.1 mitigation protocols.	YES
Stakeholder Consultation	33.a To identify & satisfy stakeholders need for information by establishing two-way communication & resolution of issues during operations.	Active landholder and third party stakeholder consultation.	YES
Unplanned Incidents	34.a To minimise & manage the occurrence of third party damage to the pipeline, risks to public health & safety	<p>Adequate management of third party operations in accordance with AS 2885.1 requirements.</p> <p>Scheduled inspection of pipeline markers by ground and aerial patrols and timely repair where necessary.</p>	<p>YES</p> <p>YES</p>

2004 Annual Report ( PL13 ) – Port Campbell to Adelaide Pipeline

Issue	Relevant Operational Environmental Objectives (Per November 2002 SEO Document)	Comments	Compliance (YES / NO)
	34.b To minimise & manage adverse impacts to air quality & public amenity.  34.c To adequately ensure the security of production or supply of natural gas.	Public safety managed during scheduled gas venting associated with maintenance activities. Unplanned incidents managed in accordance with emergency response plan.  Management of fire risks in accordance with engineering and risk management protocols.  Security of supply integral through scheduled operations & maintenance activities.	YES  YES  YES
Emergency Response	35.a To ensure that all emergency responses are immediate, to reduce the severity of any emergency gas release & to follow existing procedures whilst maintaining public & personnel safety as a priority.  35.b To adequately ensure the security of production or supply of natural gas.	Emergency response initiatives practiced through annual exercise, which exceed the minimum legislative requirement.  Management of public & employee safety paramount and featured foremost within emergency response plan.  Security of supply integral through scheduled operations & maintenance activities.	YES  YES  YES

## **21.0 Appendix C – Transported Gas Volumes & Expenditure Details (Limited Distribution)**

Distribution of Appendix - C is limited to Primary Industries & Resources South Australia – Petroleum Group, as the information contained therein is Commercial In Confidence.

Information contained therein pertains to Volume of Product Transported (Ref. Section 14.0) and Statements of Expenditure (Ref. Section 16.0) for the 2003 - 2004 licence year.