

Introduction:

This report is issued in accordance with the requirements of the South Australian, Pipeline Regulations 2000, regulation 33 and concerns the regulated activities conducted under Petroleum Production Licence 21 (PPL21) at the 'Caroline 1' Well. The report covers the period 1 January 2005 to 31 Dec 2005.

Reg 33 (2) a - Summary of Regulated Activities:

Activities conducted under the licence within the report period included;

- Processing and distribution of Carbon Dioxide, approx. 14,597t
- Routine maintenance and minor plant improvements. The minor improvements included safety related items and minor process equipment upgrades.

Reg 33 (2) b - Compliance with the Petroleum Act and Regulations 2000, the licence and statement of environmental objectives;

Operations at the Caroline 1 Well and associated processing plant have been conducted generally in accordance with the requirements of the Petroleum Act & Regulations 2000.

With regard to the environmental objectives the following table details progress towards those objectives and their assessment criteria. Refer also to the Air Liquide, Statement of Environmental Objectives, issued June 2001.

Environmental Objective	Comments
Avoid groundwater and soil contamination - General	
Chemicals, fuels and oils stored in a contained area on a flat, impermeable surface.	All items stored correctly
Sulphuric acid stored in a contained area.	Portable bund in situ.
Spill response station maintained.	In compliance
Environmental incident reporting integrated into existing incident reporting systems.	No incidents reported.
Appropriate training in spill response and reporting for employees and contractors undertaken.	All site personnel have been trained in spill containment.

Environmental Objective	Comments
Material Safety Data Sheets and spill response procedures posted in appropriate work areas.	All MSDS' are current.
In the event of a spill, appropriate spill response procedures to be followed and the incident reported to the Plant Manager (as per Safety Training Manual).	No spills to report.
Waste volumes recorded and continually reviewed to ensure that waste generation (as a percentage of CO2 production) is not increasing.	Losses are recorded daily. A loss reduction program has been implemented – main items in program are: <i>Optimisation of 'non-condensibles' vent,</i> <i>The regeneration of activated carbon towers which was stopped in 2004 was recommenced due to some process and purity problems becoming apparent,</i>
Waste generation reviewed and opportunities for reduction identified and documented (by March 2001).	Replacement of Silica Gel complete.
Use of silica gel phased out and waste generation below 800 kg/year for moisture removal stage of CO2 purification (by March 2001). New product, KC Trockenperlen, has double life of old silica gel.	Replacement of Silica Gel with KC Trockenperlen complete.
Strategy developed for continued waste reduction	Refer above 'Waste volumes ...' which provides details of loss reduction strategy. In addition reduced plant throughput has reduced solid waste production proportionally.

Environmental Objective	Comments
Contracts with licensed waste disposal contractors maintained (i.e. spent KC Trockenperlen, activated carbon, Puraspec, sewage, hydrocarbon, and general rubbish).	Contract in place with Cleanaway.
Monitor wellhead pressure and diesel system. Assess casing integrity every two years.	Daily monitoring of pressure in outer casing confirms the integrity of the casing.
Conduct soil analysis in the vicinity of the disused waste pits by March 2001.	Samples and analysis were performed in March 2001 and the results indicated no contamination.
Minimise air emissions	Maintenance program has been implemented and records are kept.
Reduce CO2 losses by 5% by December 2001	Average losses for 2005 were 16.8%. Previous averages were: 2004 - 16.5%, 2003 - 26.5%, 2002 - 21.6%, 2001 - 27.6%
Freon gas (R12) phased out by June 2002.	Complete.
Provide a safe working environment for employees, contractors and third parties.	Based on the results of; monitoring of well head by expert consultant, monitoring of wellhead pressure, monitoring of diesel system, safe operation has been achieved. Air Liquide is committed to a zero accidents policy.

Environmental Objective	Comments
Avoid groundwater and soil contamination - Hydrocarbon Waste	
<p>Hydrocarbon waste is stored in bunded tank. Sludge removed annually.</p>	<p>Contract with Cleanaway in place.</p>
<p>Hydrocarbon tank and bunded area inspected for spills and leaks</p>	<p>Daily checks have been conducted, and maintenance works performed confirm the integrity of the tank and bunded area</p>
<p>Procedure for hydrocarbon tank and bund maintenance and inspection to be documented.</p>	<p>Confirmed and recorded in daily logs</p>
<p>Hydrocarbon storage tanks and bund to be maintained in a structurally sound condition.</p>	<p>Based on inspections and maintenance conducted the integrity of the storage tanks and bunds is confirmed.</p>
Avoid groundwater and soil contamination - Produced Formation Water	
<p>Sprinkler system is relocated periodically to avoid creation of soakages and areas of die-off.</p>	<p>Daily check.</p>
<p>A checklist for inspection of grassed areas, "effluent" tanks, hydrocarbon storage tank and bunds developed and implemented.</p>	<p>Daily check.</p>
<p>Liquid waste sampled and analysed for hydrocarbon content, salinity and pH levels every six months.</p>	<p>Tests have been conducted to schedule and all results are within ANZECC guidelines.</p> <p>Additional testing and analysis has been performed at the request of the EPA – further works at the request of the EPA are to be conducted.</p>

Environmental Objective	Comments
Water quality monitoring data (hydrocarbon content, salinity and pH) and inspections of discharge (irrigation) water (i.e. signs of “die-off” or surface hydrocarbons on grassed areas) recorded.	Continuous, no indications of die-off or surface hydrocarbons.
Water quality data to be assessed as per ANZECC guidelines for agriculture.	Nalco service agreement in place.

Reg 33 (2) c – Actions to rectify non-compliance with the Act

Air Liquide are currently working with the EPA and PIRSA regarding the control measures and the potential for ground water contamination due to formation water disposal. Based on available water salinity data, history of water disposal practices and site observations Air Liquide believes that there is no threat of non-compliance with the Petroleum Act or the Environment Protection Act as a result of current practices and as such no specific compliance actions are in proposed.

Air Liquide is continuing to work cooperatively with the EPA on this matter and will undertake further investigative works as agreed with the EPA.

Reg 33 (2) d – Summary of management system audits

The following management system audits were conducted:

- Health, Safety and Environment audit conducted by Air Liquide Risk Management and Safety Manager, August 2004.

Reg 33 (2) e – List of Reports and Data generated

The following table identifies the reports and data relevant to the Petroleum Act 2000 generated during the reporting period;

Report	Status
Production Reports (reg 45 (1)).	Submitted with Royalty return.
Royalty returns.	Submitted each month.

Reg 33 (2) f – Incidents reported to the Minister

There have been no incidents reported to the minister during the reporting period.

Reg 33 (2) g – Foreseeable Threats

There are no reasonably foreseeable threats to the facilities that require reporting.

Reg 33 (2) h – Operations planned for next year

The proposed operations for the year 1 January 2006 to 31 December 2006 involve continued safe and efficient production of carbon dioxide. The expected quantity of finished product is 13,000t which is a reduction of 12% compared to the previous year. The reduced production is due to depletion of the resource. No down-hole works are planned.

Reg 33 (2) i – Estimated production volume

The estimated production volume for the period 1 Jan to 31 Dec 2005 is 13,000t.

Reg 33 (2) j – Development Activities

No development activities are planned for the period 1 January 2006 to 31 December 2006.

Reg 33 (3) – Statement of Expenditure

A statement of expenditure on regulated activities conducted under the licence for the reporting period is attached to this report.

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Mark Bennett, Air Liquide Australia Limited