



SFL 4

Annual Report

Licence Year 1

4 October 2013 to 3 October 2014

Onshore Cooper Basin

South Australia

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1 Introduction

The Annual Report for Special Facilities Licence No. 4 (SFL 4) details the work conducted during Licence Year 1 which corresponds to the period 4 October 2013 to 3 October 2014 and has been prepared to comply with the Regulation 33 of the *Petroleum and Geothermal Energy Act 2000* (the Act).

2 Permit Summary

SFL 4 was granted on 4 October 2013 for a period of 21 years to Beach Oil and Gas Pty Ltd holding 60% interest and Senex Energy Limited holding 40% interest. The Licence is located in the onshore Cooper Basin, South Australia and authorises the licensee to operate and maintain the Lycium to Moomba oil pipeline and associated facilities.

3 Regulated Activities

Pursuant to Regulations 33(3) (a), an annual report must include:

“A summary of the regulated activities conducted during the licence year.”

Regulated activities included the operation and maintenance of the Lycium to Moomba oil pipeline and associated activities.

The operation, maintenance, testing of the pipeline is carried out in accordance with the requirements of AS 2885 Pipelines – Gas and Liquid Petroleum (AS 2885). The Lycium to Moomba pipeline was constructed from Glass Reinforced Epoxy (GRE), a composite material inert to the effects of corrosion. The mainline valves installed along the Lycium to Moomba Pipeline were installed in pits preventing contact between the soil and the valve. Further corrosion mitigation is not necessary. Prior to the pipeline entering service, each joint was hydrotested by the manufacturer, then subject to a field hydrotest and follow up leak test in accordance with AS 2885. Overpressure protection is provided by design and equipment selection, control systems and mechanical relief devices. A SCADA monitoring system is installed on the pipeline which provides remote real time crude transmission data and leakage detection. Additionally, Beach Energy field staff conduct regular inspections of the pipeline. The Lycium to Moomba pipeline was included in Beach Energy’s Fitness For Purpose Report 2013 which is currently under review, awaiting approval from the Department of State Development.

4 Compliance Issues

Pursuant to Regulations 33(3) (b) & (c), an annual report must include:

“A report for the year on compliance with the Act, these regulations, the licence and any relevant statement of environmental objectives;” and

“A statement concerning any action to rectify non compliance with obligations imposed by the Act, these regulations or the licence, and to minimise the likelihood of recurrence of any such non-compliances.”

4.1 Licence and Regulatory Compliance

The licensee complied with the *Petroleum and Geothermal Energy Act 2000*, the *Petroleum and Geothermal Energy Regulations 2013* and the *Licence Conditions for SFL 4*.

There were no incidences of non-compliance with the *Beach Energy Statement of Environmental Objectives, Cooper Basin Petroleum Production Operations, November 2009*, during the current reporting period. A summary of compliance with the SEO is provided in Appendix 2.

4.2 Management System Audits

Pursuant to Regulation 33(3) (d) an annual report must include:

“a summary of any management system audits undertaken during the relevant licence year including information on any failure or deficiency identified by the audit and any corrective actions that have, or will be taken”.

There were no management system audits specific to SFL 4 that were conducted during reporting period.

4.3 Report and Data Submissions

Pursuant to Regulation 33(3) (e)(i) an annual report must include:

“A list of all reports and data relevant to the operation of the Act generated by the licensee during the licence year”.

Quarterly Incident Reports (Regulation 32)

Report / Data	Date Due	Date Submitted	Compliant
3rd Quarter 2013	31 October 2013	31 October 2013	Compliant
4th Quarter 2013	31 January 2014	31 January 2014	Compliant
1st Quarter 2014	30 April 2014	30 April 2014	Compliant
2nd Quarter 2014	31 July 2014	31 July 2014	Compliant

Beach Energy Fitness for Purpose Report (Regulation 30)

FFP Report 2013	20 February 2014	7 April 2014	Compliant*
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*An extension was granted by Department of State Development for the completion of this report.

4.4 Incidents

Pursuant to Regulation 33(3) (f), an annual report must include:

“In relation to any incidents reported to the Minister under the Act and these Regulations during the relevant licence year –

- (i) an overall assessment and analysis of the incidents, including the identification and analysis of any trends that have emerged; and*
- (ii) an overall assessment of the effectiveness of any action taken to rectify non-compliance with obligations imposed by the Act, these regulations or the licence, or to minimise the risk of recurrence of any such non-compliance”.*

During the reporting period there were no serious incidents or reportable incidents in SFL 4 as defined in section 85(1) of the *Petroleum and Geothermal Energy Act 2000*.

4.5 Threat Prevention

Pursuant to Regulation 33(3) (g) an annual report must include:

“a report on any reasonably foreseeable threats (other than threats previously reported on) that reasonably presents, or may present, a hazard to facilities or activities under the licence, and a report on any corrective action that has, or will be taken”.

Beach is not aware of any new threats within SFL 4.

4.6 Future Work Program

Pursuant to Regulation 33(3) (h) an annual report must include:

“unless the relevant licence year is the last year in which the licence is to remain in force – a statement outlining operations proposed for the ensuing year”.

Ongoing operation and maintenance of the Lycium to Moomba oil pipeline and associated facilities.

4.7 Pipeline Licence

Pursuant to Regulation 33(3) (k) an annual report must include:

“in the case of a pipeline licence – the volume of any regulated substance transported through the pipeline during the relevant licence year”.

6,825,369.6 Sbbbls were transported through the Lycium to Moomba Oil Pipeline.

5 Expenditure Statement

Pursuant to Regulation 33(4) under the Act, an annual report must contain:

“An annual report must be accompanied by a statement of expenditure on regulated activities conducted under the licence for the relevant licence year, showing expenditure under each of the following headings:

drilling activities;
seismic activities;
technical evaluation and analysis;
other surveys;
facility construction and modification;
operating and administration expenses”.

An expenditure summary for SFL 4 in Licence Year 1 is presented in Appendix 1.

Appendix 2

Compliance with the Beach Energy Statement of Environmental Objectives – Cooper Basin Petroleum Production Operations (November 2009)

Objectives/ Goals	Assessment Criteria	Compliant / Non-compliant	Comments
1. To avoid unnecessary disturbance to 3rd party infrastructure, landholders or land use.			
1.1 <i>To minimise disturbance or damage to infrastructure / land use and remediate where disturbance cannot be avoided.</i>	Where disturbance is unavoidable or accidental, infrastructure or land use is restored to as is reasonably appropriate to the original undisturbed condition or as agreed with the landholder	Compliant	The pipeline right of way was initially rehabilitated following the installation of the pipeline and vegetation regrowth has occurred. Rehabilitation will be undertaken in consultation with the landowner and to the satisfaction of the regulator when the operational life of the flowline ceases.
1.2 <i>To minimise disturbance to landholders</i>	No unresolved reasonable landholder/3 rd party complaints Landholder activities not restricted or disturbed as a result of activities unless by prior arrangement.	Compliant	There has been no unresolved landholder or 3 rd party complaints during the reporting period. The Lycium to Moomba Flowline is at least 20 kms from the nearest dwelling, which is inhabited only periodically. Landholder activities have not been disturbed or restricted by the operation of the pipeline. Regular liaison with landowner provides advance warning of any significant developments or activities.

Objectives/ Goals	Assessment Criteria	Compliant / Non-compliant	Comments
2. To maintain soil stability / integrity			
2.1 To remediate erosion as a result of production operations in a timely manner	The extent of soil erosion is consistent or less than surrounding land.	Compliant	<p>No significant erosion has been noted along the flowline right of way.</p> <p>Topsoil was respread during the reinstatement of the pipeline right of way and vegetation is consistent with expectations for the time of year and rainfall rates.</p> <p>Rehabilitation will be undertaken in consultation with the landowner and to the satisfaction of the regulator when the operation of the flowline ceases.</p>
2.2 To prevent soil inversion	<p>Vegetation cover is consistent with surrounding land</p> <p>No evidence of significant subsoil on surface (colour)</p>	Compliant	<p>The flowline does not pass through salt lakes, steep tableland areas or wetlands.</p> <p>The flowline traverses dune-field environments. , activities are carefully controlled to minimise impact on these areas.</p> <p>All vehicle movements are restricted to the designated monitoring track along the right of way.</p>

Objectives/ Goals	Assessment Criteria	Compliant / Non-compliant	Comments
<p>2.3 To minimise and remediate soil disturbance</p>	<p>No production activities undertaken on salt lakes, steep tableland land systems or wetlands land systems (as defined in the EIR).</p> <p>Abandoned areas (e.g. borrow pits) are remediated and rehabilitated to be reasonably consistent with the surrounding area</p> <p>0, +1 or +2 GAS criteria for borrow pit construction and rehabilitation are attained.</p>	<p>Compliant</p>	<p>The flowline does not pass through salt lakes, steep tableland areas or wetlands.</p>
<p>3. To minimise disturbance to native vegetation and native fauna.</p>			
<p>3.1 To maintain regrowth of native vegetation on reinstated areas to be consistent with surrounding area</p>	<p>Species abundance and distribution on the reinstated areas was consistent with the surrounding area</p> <p>Note: assessment of the consistency with surrounding areas will take into account that</p>	<p>Compliant</p>	<p>On-ground assessments of vegetation variety were conducted along pipeline corridors by experienced personnel before operations were undertaken</p> <p>Topsoil and stripped vegetation were respread during the reinstatement of the right of way and following rains resulted in the emergence of seedlings along sections of the flowline corridors, consistent with surrounding area.</p>

Objectives/ Goals	Assessment Criteria	Compliant / Non-compliant	Comments
	<p>regrowth is a time and rainfall dependent process</p> <p>0, +1 or +2 GAS criteria for borrow pit construction and rehabilitation are attained (Appendix B).</p>		
<p><i>3.2 To minimise additional clearing of native vegetation as part of production activities</i></p>	<p>Vegetation clearing is limited to previously disturbed areas or areas assessed to be of lowest sensitivity</p> <p>No rare, vulnerable or endangered flora removed without appropriate permits</p> <p>No production activities undertaken on salt lakes, steep tableland land systems or wetlands land systems (as defined in the EIR)</p> <p>0, +1 or +2 GAS criteria for borrow pit construction and rehabilitation are attained.</p>	<p>Compliant</p>	<p>During the construction phase, areas with low vegetation density were chosen for the route of the flowline, where possible. Some of the flow line route was reconsidered to avoid/minimise the removal of established trees. All efforts were made to preserve established / significant trees.</p> <p>No further vegetation clearing was undertaken during the reporting period.</p>

Objectives/ Goals	Assessment Criteria	Compliant / Non-compliant	Comments
3.3 To achieve a significant environmental benefit for native vegetation clearance	Significant environmental benefit for native vegetation clearance approved by PIRSA (where delegated authority applies) or Native Vegetation Council. Significant environmental benefit obligations satisfied / implemented.	Compliant	Significant Environmental Benefit offset obligations, arising from the disturbance of Native Vegetation associated with all production related activities, are agreed with the regulator and obligations are met on a financial year basis.
3.4 To ensure production activities are planned and conducted in a manner that minimises impacts on native fauna	Vegetation clearing is limited to previously disturbed areas or areas assessed to be of lowest sensitivity No rare, vulnerable or endangered fauna removed without appropriate permits 0, +1 or +2 GAS criteria for borrow pit construction and rehabilitation are attained .	Compliant	In addition to fauna escape ramps and branches placed in the trenches to minimise risk of fauna entrapment, fauna handling experts were on site throughout the construction phase of the flowline to assist in the removal and safe relocation of any fauna inadvertently trapped in the trench. Covers have been installed on all inspection pits on the flowline to minimise fauna entrapment.
3.5 To minimise disturbance of aquatic habitats (specifically wetlands, permanent waterholes and flowing water courses)	Works in aquatic habitats (e.g. flowing watercourses) has been approved by DSD	Compliant	The flowline is several kilometres from the nearest significant watercourse (Cooper Creek), which flows only during large flood events.

Objectives/ Goals	Assessment Criteria	Compliant / Non-compliant	Comments
4. To prevent the introduction or spread of weeds, pathogens and pest fauna.			
4.1 To ensure that weeds, pathogens and pest fauna are controlled at a level that is at least consistent with adjacent land.	<p>The presence of weeds and pathogens is consistent with or better than adjacent land</p> <p>No new outbreak or spread of weeds reported</p>	Compliant	<p>No new outbreak or spread of weeds reported during the reporting period.</p> <p>Operations personnel regularly undertake inspections of operational areas including flowline corridors. There have been no reports of weed outbreaks</p>
5. To minimise the impact of the production operations on water resources			
5.1 To maintain current surface drainage patterns.	<p>For excavations, surface drainage profiles area restored to as is reasonably consistent with surrounding area</p> <p>For existing easements, drainage is maintained similar to pre-existing conditions.</p>	Compliant	<p>Refer to comments for Section 3.5 above regarding the locations.</p> <p>An inspection of the flowline corridors has revealed that surface drainage profiles have been restored to be consistent with adjoining land.</p>

Objectives/ Goals	Assessment Criteria	Compliant / Non-compliant	Comments
<p>5.2 To minimise impact to aquifers / groundwater volumes and flow patterns.</p>	<p>Volume of water produced is recorded.</p> <p>No uncontrolled flow to the surface (i.e. no free flowing bores)</p> <p>Note: the “Cooper Basin Drilling and well Operations” SEO provides detail on aquifer issues</p>	<p>Compliant</p>	<p>There has been no uncontrolled flow of fluids to the surface during the reporting period.</p>
<p>6. To avoid land or water contamination</p>			
<p>6.1 To prevent spills occurring and if they occur minimise their impact.</p>	<p>No evidence of any spills or leaks to areas not designated to contain spills</p> <p>In the event of a spill, the spill was:</p> <ul style="list-style-type: none"> ▪ Contained ▪ Reported ▪ Cleaned-up ▪ Cause investigated and corrective ▪ and/or preventative action implemented 	<p>Compliant</p>	<p>There have been no spills or leaks along the flow-line corridor, during the reporting period.</p>

Objectives/ Goals	Assessment Criteria	Compliant / Non-compliant	Comments
	Compliance with the Environment Protection Act, Australian Standard 1940 and the Australian Dangerous Goods Code.		
6.2 To remediate and monitor areas of known contamination arising from production activities (salinisation, hydrocarbons, other production chemicals).	Contamination restricted to known areas and remediation strategies investigated and implemented where practical. Level of hydrocarbon contamination continually decreasing, ultimately to meet Environment Protection Authority (EPA) guidelines ¹ .	Compliant	In the event of loss of containment, resulting in contamination to ground, all contaminated soil would be remediated in situ or stock piled to be removed to a licenced waste facility.

¹ Soil Health Index (SHI) study is currently being undertaken by Santos, in consultation with DSD and EPA. The results of this study will provide a proforma for establishing site-specific bench marks for soil remediation.

Objectives/ Goals	Assessment Criteria	Compliant / Non-compliant	Comments
<p>6.3 To ensure that rubbish and waste material is disposed of in an appropriate manner</p>	<p>No evidence of rubbish or litter on easements or at facilities.</p> <p>No evidence that waste material is not contained and disposed of in accordance with Beach approved procedures.</p> <p>Evidence of waste tracking certificates for prescribed wastes.</p> <p>Evidence of compliance with any waste disposal licence conditions (e.g. EPA permits)</p>	<p>Compliant</p>	<p>All waste material has been and continues to be disposed of in accordance with Beach approved procedures.</p>
<p>6.4 To prevent impacts as a result of hydrotest water and waste water (e.g. washdown water) disposal.</p>	<p>No evidence of impacts to soil, water and vegetation as a result of water disposal (i.e. soil erosion, dead vegetation, water discoloration)</p>	<p>Compliant</p>	<p>Hydrotest water was returned to production interceptor ponds during the testing phase, therefore there has been no evidence of impacts to soil, water or vegetation as a result of water disposal.</p>
<p>6.5 To ensure the safe and appropriate disposal of grey water (sullage, sewage).</p>	<p>Wastewater disposed of in a manner that minimises risk to the environment and public health</p> <p>Compliance with Environment Protection Act</p>	<p>Compliant</p>	<p>Hydrotest water was returned to interceptor ponds during the installation testing phase.</p>

Objectives/ Goals	Assessment Criteria	Compliant / Non-compliant	Comments
<p>6.6 To minimise impacts as a result of produced formation water treatment and disposal and restrict to defined areas.</p>	<p>Water monitoring results indicated levels of Total Petroleum Hydrocarbons (TPH) below 30mg/L in bunded holding ponds and 10mg/L in bunded and / or freeform evaporation ponds</p> <p>No evidence of overflow of product from interceptor pit.</p> <p>No evidence of hydrocarbon contamination immediately adjacent to bunded ponds.</p>	<p><i>Not Applicable to this activity</i></p>	
<p>6.7 To minimise impacts as a result of land treatment units and restrict to defined areas</p>	<p>Periodic reports as required detail quantity, level of contamination and proposed ongoing operation of the Land Treatment Unit</p>	<p><i>Not applicable to this activity</i></p>	
<p>7. To minimise the risk to public health and safety</p>			
<p>7.1 To adequately protect public safety during normal production operations</p>	<p>No injuries or incidents involving the public.</p> <p>Demonstrated compliance with relevant standards</p>	<p>Compliant</p>	<p>No incidents of risk to public health and safety during the reporting period.</p>

Objectives/ Goals	Assessment Criteria	Compliant / Non-compliant	Comments
	Emergency procedures implemented and personnel trained.		The monitoring track along the flowline right of way is not available for use by the public.
7.2 To avoid fires associated with production activities.	No uncontrolled operations related fires . Emergency procedures implemented and personnel trained.	Compliant	No fires occurred at any facility during the reporting period. Landowner (and government) have given approval that, in the event of a fire at any facility, if the first attack on the fire fails, it can be left to burn itself out.
7.3 To prevent unauthorised access to production facilities	No unauthorised activity.	Compliant	There were no incidents of unauthorised entry to the flowline right of way.
8. To Minimise impact of emergency situations			
8.1 To minimise the impact as a result of an emergency situation or incident	Emergency response procedures are effectively implemented in the event of an emergency. Emergency response exercises are aligned with credible threats and consequences identified in the risk assessment.	Compliant	No emergency situations arose during the reporting period. Beach Petroleum HSE system includes periodic simulation of Emergency situations.

Objectives/ Goals	Assessment Criteria	Compliant / Non-compliant	Comments
8.2 <i>To restore any damage that may occur as a result of an emergency situation.</i>	Refer to previous criteria (Objective 1, 2, 3 & 6)	Compliant	
9. To minimise noise due to operations.			
9.1 <i>To take reasonable practical measures to comply with noise standards</i>	Operational activities have taken reasonable practical measures to comply with noise regulations, under the Environment Protection Act 1993 No unresolved reasonable complaints.	Compliant	There is no noise risk associated with the operation of this flowline.
10. To minimise atmospheric emissions.			
10.1 <i>To minimise uncontrolled atmospheric emissions</i>	Reasonable practical measures implemented in design and operation to minimise emissions.	Compliant	

Objectives/ Goals	Assessment Criteria	Compliant / Non-compliant	Comments
10.2 To minimise controlled atmospheric emissions	Reasonable practical measures implemented in design and operation to minimise emissions	Compliant	
10.3 To minimise the generation of dust	No reasonable complaints received No dust related injuries recorded	Compliant	No reasonable complaints have been received in relation to the generation of dust during the reporting period. Minimal dust produced on the pipeline right of way due to vegetation regrowth.
11. To adequately protect cultural heritage sites and values during operations and maintenance			
11.1 To ensure that identified cultural sites are not disturbed.	Proposed construction areas and access tracks surveyed by relevant cultural heritage group Any new sites identified are recorded and reported to appropriate authority No impact to identified sites	Compliant	Work Area Clearance teams, comprising representatives from the Dieri people, have conducted cultural heritage surveys to give clearance for earthworks associated with installing and operating the flowline. No impacts to culturally sensitive areas have been identified during the reporting period.