



BEACH PETROLEUM

Fitness For Purpose Report

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1. Introduction

In accordance with section 30 – Fitness for purpose assessments of the Petroleum Regulations (SA) 2000, Beach Petroleum Ltd. has conducted an assessment of its facilities located in the South Australian sector of the Cooper Basin. This report summarises the findings of this assessment and is current for the month of October 2008.

1.1. Scope

This assessment covers the following South Australian facilities:

- Aldinga Production Facility (PPL 210)
- Callawonga Production Facility(PPL 220)
- Callawonga - Tantanna Flowline (AFL 98)
- Christies/Silver Sands Production Facility (PPL204)
- Kiana Production Facility (PPL 212)
- Parsons Production Facility (PPL 224)
- Parsons - Callawonga Flowline(AFL 146)
- Sellicks Production Facility (PPL 203)
- Tantanna Unloading Terminal (AFL 182)
- Lycium Yard (AFL 82)
- All associated utility systems

It does not cover the completed and suspended wells, Middleton & Udacha
Included as Attachment 1 is a map with the facilities marked.

1.2. Report Requirements

This report will demonstrate the measures in place to establish and manage the risks imposed by the facilities on the environment, public health and safety. Beach has used internal and external resources to assess its operating facilities.

In addition it will specifically assess the following:

- Physical condition of each facility
- Effectiveness of management systems for the operation and maintenance of each facility
- Potential for the environment to affect the safe and effective operation of each facility
- Potential for serious incidents to occur at each facility
- Adequacy and reliability of utilities required in order to enable the effective operation of each facility so far as is relevant.

1.3. Methodology

The approach to this assessment has been to document the list of facilities Beach operates, the risks involved with these facilities and discuss the systems Beach has in place to manage these risks.

2. Executive Summary

Beach Petroleum has been operating oilfield facilities since 30th of June 2002 when it took over as operator of the Kenmore and Bodalla oilfields in Queensland. As a rapidly expanding company it has been recognised that the development of management systems on a company-wide basis to govern and support its operations are integral to an effective and efficient operation.

In response to this, the 2006/2007 period has seen a major upgrade to, and implementation of, a HSE management system to govern employee and 3rd party activities on Beach production sites. A key component of this system was the introduction of a web based induction system which assisted Beach in achieving an LTI free 2006 and an honourable mention at the APPEA safety awards

The 2006/2007 period has also seen deliberate effort aimed at developing a comprehensive risk based integrity management system for equipment at all Beach operated production sites. Risk Based Inspection (RBI) assessments (defining risk levels and key corrosion mechanisms) undertaken for all sites and major items of equipment has provided the basis for the development of appropriate inspection procedures and schedules for all fixed equipment. Work is continuing in this area to further develop maintenance and integrity management for current and future operations at all locations.

Public well-being and the safety of all employees and contractors, in conjunction with the Environmental management system, is of paramount importance to Beach. The Beach Statement of Environmental Objective (SEO) and Environmental Impact Report (EIR) address all risks and potential hazards associated with its production operations. With appropriate measures put in place, risks can be reduced to levels that are considered acceptable.

Beach has a simple and effective emergency response system in place which is supported by periodic emergency desktop exercises.

Beach production sites have been deemed fit for purpose and the ongoing development of the HSE and Integrity Management systems are intended to ensure that fitness for purpose is maintained for current and future operations. This is supported by Beach designing and constructing facilities to the appropriate standards and specifications.

The current effectiveness of Beach management systems is deemed appropriate to manage the risks associated with our facilities. Ongoing development and improvement of these systems will aim to raise their effectiveness to enable Beach to achieve low supervision status, as defined in the Petroleum regulations.

Whilst these results are pleasing, Beach continues to strive for best industry practice through continual review and improvement of its systems.

3. Roles and Responsibilities

Operational Safety and Environmental management of the operation is the responsibility of all Beach personnel and a contractual obligation for any contractors involved with the operation.

Overall responsibility for the operations including the approval of this document rests with the Production Manager. Operations and maintenance personnel are permanent employees. Field positions work on a roster basis and are supported from time to time through the use of contract service providers. This document is applicable to all personnel including contractors.

The organisation and responsibilities for personnel overseeing the operation are outlined below.

Role	Responsibility	Reports to	Location
Production Manager	Overall responsibility for Beach's Production Operation activities. Incident notification to Authorities.	Chief operating Officer	Adelaide Office
OHS Coordinator	Responsible for development and implementation of company EHS management system.	Chief operating Officer	Adelaide Office
Production Operations Coordinator	Creation or review of this document.	Production Manager	Adelaide Office
Production Supervisor	Responsible for overall operation and implementation of site EHS. Reports on Daily production operations. Onsite management of any temporary contractors. Safety and Environmental incident reporting.	Production Superintendent (who reports to Prod Operations Coordinator)	Production Site
Production Operator	Directly responsible for the operation of the pipeline, shipping, injection and pigging operations.	Production Supervisor	Production Site
Senior Facility Engineer	Creation or review of this document. Integrity management.	Production Operations Coordinator	Adelaide Office

Responsibilities for periodic review and revision of key documentation are as follows:

HS&E procedures and plans	OHS Coordinator assisted by Production Superintendent/Supervisors
Technical procedures and plans	Production Operations Coordinator assisted by Production Superintendent / Production Supervisor

4. Facility / Utilities Description and Condition

4.1. Facility Description

- All facilities (except Sellicks) at Beach Petroleum in South Australia are less than 5 years old and comprise wellheads, artificial lift (beam pump and jet pump), flowlines, pipelines, primary dewatering, secondary dewatering, hydrocarbon storage, crude loadout, water disposal equipment and interconnecting piping.
- These facilities are predominantly low pressure (with the exception of jet pump discharge facilities) and are designed and installed in accordance with the relevant Australian and international standards. All oil facilities are equipped to handle oil/water only and any entrained gas (very low levels) is vented to atmosphere.
- Major facilities have been designed or had input from experienced individuals with many years of Cooper Basin experience. Where relevant, external engineering consultancy resources have been engaged.

4.2. Nature of Operations

- A permanent camp is located at the Sellicks facility.
- The camp provides permanent accommodation for a supervisor, three operators and temporary accommodation for contractors.
- Most facilities in SA are unmanned but operator attended during daylight hours. Crude oil is trucked to Tantanna where it is delivered into the Santos-operated pipeline to Moomba. Alternatively crude can be trucked directly to Moomba.
- A 47km GRE pipeline (commissioned in August '08) delivers production from Callawonga, and Christies into Tantanna and replace the previous trucking operations. A further pipeline from Parsons to Callawonga is currently being progressed.
- In general, facilities are located in close proximity to each other and are manually operated through regular operator attendance. The exception are Kiana and Aldinga which are monitored by remote Skynet communications. All facilities have safety systems (high tank level, etc) that will shut down production automatically in the event of a process excursion. There is one exception: Aldinga which has a manual shutdown due to the very low volume production rate.
- Utilities are provided by pneumatic systems (compressed air or nitrogen bottles), water and electric power via a generator at larger facilities or solar powered with battery backup at more remote locations. All facilities have appropriate fire fighting and safety equipment.

4.3. Equipment Condition and Integrity Management

Beach Petroleum is developing an integrity Management System to manage risks associated with existing plant equipment.

The approach to managing equipment condition is as follows:

- Equipment at Beach-operated locations has been sub-divided into Fixed (pressure vessels, piping, tanks etc), rotating (pumps, engines etc) and instrument/Electrical equipment.

- Due to the current low level of complexity at Beach facilities, a fit-for purpose approach to integrity management and equipment monitoring has been adopted. This can easily be adapted or expanded to allow for the growing scope of operations.
- Initially focussed on fixed equipment, but able to be adapted for all equipment types.
- Equipment tracking system developed to more effectively identify individual equipment.
- Condition monitoring tool developed (fixed equipment only at this stage) to track inspection reports and monitor condition over time.
- Utilities are to be included in the interim and future integrity program.

4.3.1. Fixed Equipment

In the past equipment has been inspected as per Australian Standards as required throughout the operations.

Beach is now adopting a Risk-based inspection (RBI) assessment (to API RP580/AS 3788). This risk assessment focuses on identifying the mechanisms which will result in a loss of containment for all operating locations and equipment types. A risk level is defined for each item of equipment that encompasses location and equipment specific factors. This risk level will then drive the required inspection interval.

The primary aims of the RBI assessment are:

- Understand risk for individual items of equipment and location specific factors at each of Beach's facilities.
- Management of risk by defining inspection frequency and type appropriate to each case through the results of the assessment.
- Reduce inspection costs, particularly with respect to flowlines and process piping.
- Meet safety and environmental management requirements as defined in the relevant state legislation.
- Rank equipment by risk to prioritise mitigation alternatives and repair actions.
- Incorporate lessons learnt into future work.

Key Outcomes of the RBI approach are:

- Clearly defined inspection procedures (both for Beach and external inspections provider.)
- Optimised inspection schedule to suit equipment and operating conditions.
- Clearly defined approach to the management of maintenance and integrity of all fixed equipment.
- Implementation of a formal layer of inspections, repair and damage mitigation actions.

4.3.2. Current Fixed Equipment Condition

The outcomes of the RBI Assessment, review of past inspection reports, inspection certificates and numerous site visits have yielded the following conclusions:

- Fixed equipment is in a fit-for purpose condition as verified by external inspection providers' inspection certificates, visual inspection by Beach employees and successful service records.
- An integrity management system to govern inspections, maintenance and equipment monitoring is being implemented.

Attachment 2 is a high level summary of the current facility equipment condition. It identifies the key risks which are typically high pressure and loss of containment.

4.3.3. Rotating Equipment

Maintenance and inspection of rotating equipment is currently driven by field-based staff, with some engineering support as required, and tracked via a maintenance schedule.

4.3.4. Current Rotating Equipment Condition

Operations are considered low risk at present and are adequately addressed by field-driven scheduled maintenance and inspection. Equipment is deemed to be in a fit-for purpose condition.

4.3.5. Instrument / Electrical Equipment

Maintenance and inspection of electrical and instrumentation equipment is currently conducted by field-based staff with external support as required. The current approach is as follows:

- Undertaken as required by trade-qualified Beach electricians or external contractors to determine compliance.
- Beach facilities are now defined by a uniform hazardous area classification for every facility.
- Current work performed to date:
 - Identification of equipment to be included in a maintenance and inspection program
 - Hazardous area extents defined.

4.3.6. Current Instrument / Electrical Equipment Condition

- The I/E installations have been recently inspected and any deficiencies corrected.
- Further work includes:
 - Undertaking periodic assessments of hazardous area compliance and implement any action outcomes
 - Determine scope and frequency of inspections, maintenance and testing using external experts if required
 - Implement inspections and monitoring tools using similar approach as per work undertaken for fixed equipment.

4.4. Risk Evaluation and Management

4.4.1. Hazard Identification

Beach has a Hazard Identification and Risk Management procedure in place which covers all areas of the company's operations.

Hazard identification and risk assessments are conducted at the design and development stage of new processes, facilities and equipment.

Continuous and ongoing hazard identification and risk assessment is required at existing operations/facilities to maintain and improve HSE performance. These areas and tools will be discussed in detail in section 4 of the document.

Hazard registers are in place for key areas of the operations. These include:

1. Environmental
2. Production Operations
3. Facility Design and Construction

Beach's Risk Matrix is aligned with industry best practice and includes a 5 x 5 matrix of Consequences against Likelihood. This is utilised at all times where risks are to be assessed except when an Australian standard specifies otherwise (eg. AS 2885 specifies its own matrix which is not to dissimilar to the Beach matrix).

4.4.2. Risk Reduction Measures

When hazards have been identified and assessed (whether in design or during routine operations), control measures must be applied to manage the risk to a level that is as low as reasonably practicable (ALARP).

The following hierarchy is used as when determining controls for risks from the most effective to the least:

- Elimination (i.e. most desirable control method);
- Substitution;
- Engineering Controls (i.e. isolation, design modification, guarding);
- Administrative Controls (i.e. safe work practices, training);
- Personal Protective Equipment (i.e. least desirable control method)

From the matrix, where 'High' or 'Moderate' risks cannot be reduced to an acceptable level, management are informed immediately. In the majority of cases most risks are either eliminated or assessed as 'Low' across existing operations.

4.4.3. Environmental and Public Risks

Beach is committed to continually improving its environmental performance and aims to achieve standards of environmental management which are beyond compliance with relevant regulations to ensure that all of its activities are carried out in the most environmentally responsible manner practicable.

Facilities on Environment:

Refer Item 30. (2) (b) of the Regulations.

Beach Petroleum's Health Safety and Environment System (HSE System) incorporates the management of environmental matters from Board level through to individual site operations and is the key tool for managing environmental responsibilities, issues and risks by:

- Establishing an Environmental Policy;
- Identifying environmental risks, legal and other requirements relevant to Beach' operations;
- Setting appropriate environmental objectives and targets;
- Establishing a structure to facilitate planning, monitoring, corrective action, to achieve objectives and targets.

Beach has provided PIRSA with separate documentation addressing:

- Environmental Impact Report (Section 97 of the Act and Item 10 of the Regulations)
- Statement of Environmental Objectives (Sections 99 and 100 of the Act and Items 12 and 13 of the Regulations).

5. Beach Petroleum HSE Integrated Management System

As a means of demonstrating the integral connection of the Beach HSE Management System and Facilities operations and maintenance, a simplistic Management System Flowchart has been provided to show the links between the various components of the system. The flowchart is included as Attachment 3.

It is evident from the flowchart that the key elements which form the backbone of the system are the policies, procedures (manuals), risk assessments, personnel inductions, hazard reporting and feedback loops.

5.1. Implementing / Auditing

The Beach Health Safety and Environment (HSE) Management System has been extensively reviewed over the last 2 years. Beach has continued to utilise external specialised services where required.

Recently the following key developments have taken place:

- Site visits by International Safety and Risk Management (ISRM) consultants with Beach HSE personnel to audit the HSE system and deliver HSE specific guidance.
- In the 2008 audit there were two 'High' ranked items which have now been completed, these are:
 - *To nominate a senior position responsible for company wide HSE activities.* Beach has undertaken to employ a person as HSE Co-ordinator in addition to the current HSE resources. This position has been filled and the individual will commence with Beach in the 4th quarter of 2008.
 - *To establish an action item register for the Adelaide office in line with field sites.* (Completed)
- Regular extended site visits by Beach H&S Officer to provide on-site guidance and assistance.
- The implementation of an electronic JSA register to ensure quick access to previous JSA's and allow for the review of existing JSA's for tasks that are of a similar nature.
- Various design modifications have been implemented to further reduce the risk of hazards associated with access and egress in and around the facilities.
- The implementation of safety training packs to assist staff in the review of HSE procedures.
- The development of the Beach intranet has allowed for greater access of the HSE system to all staff. The intranet site contains the HSE policies and standards, various HSE alerts, HSE reports, login screen for the Beach web-based induction system and various links to the relevant HSE regulations.

In September 2007 an independent audit of all Beach facilities in SA and QLD was conducted by AIG Global Marine and Energy. The purpose was to further document the

technical risks associated with beach facilities for risk underwriters. Six key recommendations have been actioned.

Key outcomes of the auditing and monitoring processes of the last 4 years have been:

- The introduction of an Integrity Management system and its ongoing implementation and development
- Industry recognised web based induction system
- A 30% increase in the number of formal work procedures
- Establishment and development of a competency based management plan for personnel
- More widely used risk assessment process in all facets of the business
- Establishment of a flowline and pipeline management procedure. This area of Beach operations is considered one of the highest risks to the environment. HSE-PRO 37 (flowline and pipeline management procedure) and POP 61 (Water sampling and treatment for SRB's) are now instrumental in assessing and monitoring these systems.

5.2. Monitoring

Senior management are consulted and kept informed of HSE matters by the various methods:

- HSE management meetings
- HSE submissions to the Beach Petroleum Board
- Engineering and Operational meetings.

The tools used to monitor the HSE system are:

- Weekly operations reports and meetings between field and office.
- Fortnightly safety meetings,
- Weekly Management feedback to the Safety Meetings
- Action Item Register (AIR)
- Incident Reporting and Investigation
- Various plant inspection forms
- Monthly Operations meetings between all supervisors/superintendents.

These tools have been integral in monitoring the HSE system. The most valuable tool used by all staff has been the Action Item Register. The AIR is the central conduit for tracking hazards, non-compliance items, management system change requirements, audit non-conformance and other operational actions that require attention. It has allowed all users and management to monitor/track all issues and holds the relevant parties accountable for any inaction(s).

Not only is the AIR operating as an integral part of the site operations, an AIR has recently been created for the Adelaide office site.

A greater field presence by the HSE officer and office operations staff has ensured the HSE system continues to be implemented and used accordingly.

All distributed copies of the Beach HSE system are now controlled remotely by Beach head office and are synchronised with the master HSE directory daily to ensure all copies

are current. This is done using the Unix based r-sync tool. Then we ensure that operational sites have direct access to the latest version of operating/maintenance procedures.

Any drawings that are to be utilised on site, are only available from the electronic stored masters in the Adelaide office. Once issued they are considered 'non-controlled'. All new projects are issued or checked against those in the electronic database.

Beach is continuing to develop a centralised Integrity Management System for its field based assets to help increase the efficiency and effectiveness of its maintenance and operating procedures and systems. This will then enable effective and prudent compliance.

5.3. Reviewing

The review process continues on all levels of documentation. The following are the key outcomes of those reviews:

- The HSE manual has been undergoing continuous review; through the operations and head office meetings and utilising the review packs. This has seen the development of an HSE system that is 'owned' by all areas of the company with individuals empowered to initiate changes that directly benefit their well being and that of the company.
- With the arrival of new field staff, the Production Operations Manual (POM) has been reviewed to ensure that it provides adequate guidance to all new employees. As a result of the review the POM has been updated. Production Operating Procedures (POP's) are regularly reviewed on site and discussed at the regular production management meetings between head office and operations staff. Once again site personnel are empowered to make changes that directly affect their environment and work conditions. There has been a steady addition of procedures in the last 3 years to help facilitate more prudent site operations.
- Emergency Response drills have enabled the improvement of procedure whether it be personnel or tool based. It provides familiarisation to the process for personnel that will aid them if in an unfortunate event occurs.

5.4. Planning

As a result of the processes mentioned above, a comprehensive HSE plan has been developed for 2008/09 which includes key objectives for all levels of the operation to measure HSE performance.

5.5. Emergency Response

Emergency response plans are in place for our operations and emergency response exercises are conducted regularly to review the appropriateness and functionality of the Beach Emergency Response Plan (ERP).

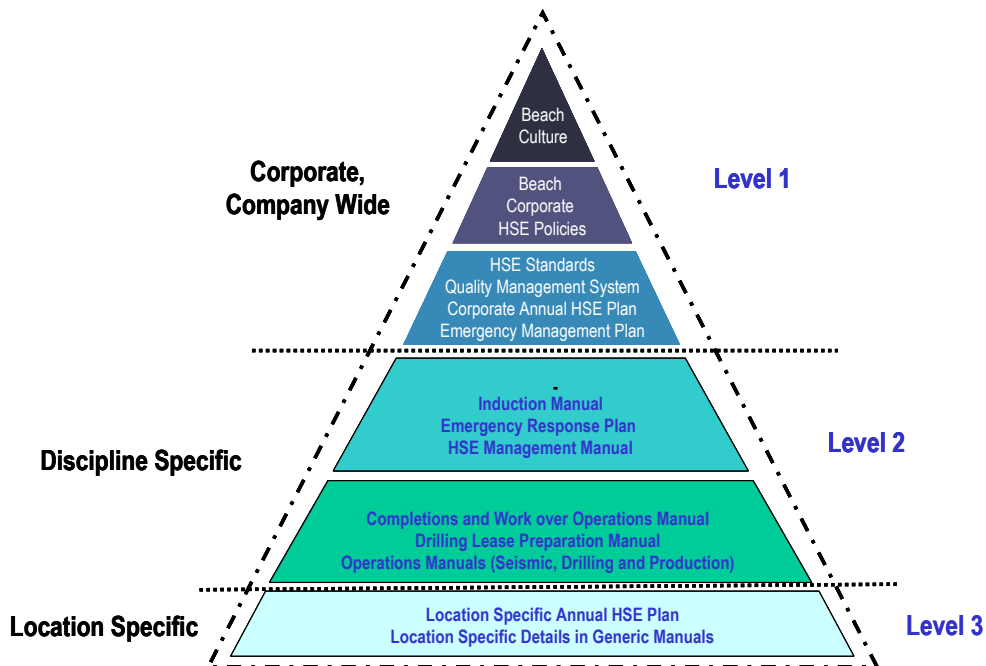
Some Examples of the ER exercises are:

2006 Qld (Kenmore) – Personnel falling from height and oil spill

2006 SA (Sellicks) - Personnel falling from height and fire with associated injuries.
2007 SA (Adelaide) – Pipeline rupture/truck accident in the Cooper Basin while an
2007 SA (Sellicks) – Pipeline rupture/leak

6. Effectiveness of Management Systems

The Beach Petroleum EHSMS has a 3 level structure as seen below.



This structure captures and fosters the operational requirements needed to successfully manage the production facilities from the design stage through to operation. Technical areas are integrated with the safety, environmental and native title management. Included in the structure are the Beach HSE standards which align with the following discussion.

The effectiveness of the Beach EHSMS system has been assessed against the PIRSA Self Assessment Tool. The current scores will provide the baseline for assessment again in 12 months time and annually thereafter. The first assessment is included as Attachment 4. The assessment followed a recent company wide (included all sites) audit by ISRM of the EHSMS system. The audit was comprehensive addressing EHSMS components including all 3 levels of the system.

Beach is very aware that an overloaded 'paper' driven system will not be received well by most personnel and the system then becomes an 'Achilles heel' rather than an asset. This is then often a challenge to ensure the engagement of all staff and contractors. The Beach system has the underlying objective of incorporating only the documentation necessary to ensure the EHSMS is efficient, functional and effective. Staff and contractors find it non-onerous to utilise the system and hence it is used. It also provides an effective tool for mitigating risks, managing actions and emergencies.

Based on the self assessment, areas of improvement or areas that require further development are:

- Objectives – establish a more visible set of EHS objectives.
- Inspections – increase the frequency of Adelaide office inspections.
- Sub Contractors – contractors working in and on the Adelaide office are less scrutinised than contractors at our operational sites. The Adelaide office contractors

should be treated no different to those on site. Contractors working on current (July 08) building renovations have been audited on HSE areas.

Note: From the self assessment, 'areas for improvement' have been incorporated into the Beach HSE plan for 2008/09.

6.1. Commitment and Leadership

Beach Petroleum is committed to:

- the health and safety of employees, contractors and the public through sound management practices
 - conducting operations in an environmentally responsible manner
 - establishing and maintaining positive relations with the indigenous community,
- but, **“SAFETY WILL TAKE PRECEDENCE IN ALL OPERATIONS”**.

Key objectives (see '6.3.1 Organisational Responsibilities' below) are being achieved by:

- Developing relevant HSE procedures and systems;
- Developing health, safety and environmental targets in consultation with employees to promote, measure and continually improve HSE performance;
- Communicating, consulting and encouraging participation with employees and relevant parties (including landholders and Native Title claimants);
- Ensuring that incidents, hazards, near misses, concerns and complaints are reported adequately, investigated and steps taken to prevent recurrence;

By actively seeking to recognise and promote opportunities in and through our industry (and wherever reasonably possible, in Beach Petroleum's activities) for indigenous people to enjoy improved living standards, maintenance of their culture and traditions and economic independence through training, employment and enterprise.

6.2. Policies

Beach Petroleum Ltd (Beach Petroleum or Company) Health, Safety, Environment (HSE) and Indigenous Relations and Native Title (NT) policy statements form the second tier of the Beach Petroleum HSE Management System structure (illustrated above).

The policy statements provide a statement of overall intent and commitment to HSE and NT issues.

The Beach Managing Director is responsible for endorsing the policy documents and ensures that reviews are conducted at appropriate intervals.

Application of these policies resides with Beach Petroleum management and with all employees sharing responsibility for its implementation. Employees are also empowered to participate actively in the development of the systems that support the Policies. As they are simple and succinct, all employees are conversant with them and readily raise any issues or improvements.

6.3. Organisation, Resources and Documentation

6.3.1. Organisational Responsibilities

Beach Petroleum conducts its activities in such a manner as to ensure:

- A healthy and safe workplace for all employees, contractors and subcontractors at all sites;
- The protection of members of the public possibly affected by its operations;
- Compliance with all applicable Government Acts, regulations and standards;
- Avoidance of the pollution of land, water and air by conformance with regulatory guidelines and industry standards applicable to all areas of operation.
- Identification of sites of cultural, archaeological, historical and natural significance, which could be impacted by the company's operations and minimise their disturbance; That all employees and contractors are aware of their environmental and cultural heritage responsibilities;
- That incidents, near misses, concerns and complaints are reported adequately, investigated and appropriate procedures implemented;
- That all operational sites have a waste management plan and that waste generated by operations is disposed of in a safe and environmentally efficient manner and in conformance with relevant environmental legislation;
- The distribution of appropriate guidelines, regulations and publications;
- Protection of native flora and fauna in all areas of operation;
- Development and compliance with codes of practice required by regulating authorities which minimise environmental impacts from all field operations.
- Acknowledgement and respect of the indigenous community, continuous communication and provision of opportunities within Beach or associated operations.

6.3.2. Training and Competence

In 2007/2008 a competency based training guideline was developed for all site personnel. Even though Beach had experienced personnel on site, this guideline was identified as necessary following an increase in site operations and new personnel joining the company. At each operator grade level to Supervisory levels, a list of base competencies is required. Each individual is assessed against those requirements and deficiencies identified so that appropriate training can be initiated.

The training guideline is directly related to the POP's and HSE procedures and also includes other areas such as first aid, 4WD, ticketed training to operate various machinery, etc.

This system is in its infancy and will continue to be improved utilising feedback from Beach personnel.

For engineering and design personnel, Beach has always employed the services of highly experienced people, whether it be internally or through external consultancy. Utilising this approach Beach continues to ensure that its facilities have been designed and built to reflect learning's from past experience (especially in the Basin) and meet current standards and legislative requirements.

6.3.3. Sub-contractor Management

Beach treats contractors as it would its own employees and endeavours to establish good working relationships with contractors that have the same HSE management objectives. A procedure (HSE-PRO 07) is in place for management of contractors including pre-qualification requirements that must satisfy Beach management of their suitability.

A contracts approval register is maintained and adjusted if required following performance reviews or contract completion.

All contractor undergo appropriate inductions before any work commences. This is aided in some cases by key contractors being permanently based in or near to the Sellicks camp eg. Ascots provide crude haulage expertise and equipment. They currently have 2 drivers boarding in the Sellicks camp. They can then be part of the daily interface (toolbox meetings, scheduling, etc.) between, not only the production operators, but production supervisors and other contractors.

6.3.4. Communication

Communication at all company levels is considered critical in ensuring a safe, efficient and effective operation. With a relatively small group this is easier to manage than for larger organisations.

A communication and consultation procedure (HSE-PRO 08) is in place and has the intention of ensuring a mechanism exists to communicate and involve Beach employees and other relevant parties in safety, health, environmental and native title issues. This includes toolbox, safety and service quality meetings, inductions, consultation, displays, alerts and bulletins.

Site communication amongst Beach and contract personnel is relatively straight forward. Due to the relatively small size of operation and infrastructure, information can be disseminated daily more efficiently and effectively.

6.3.5. Documents and Standards

Beach's internal specifications and standards (including HSE) are appropriate for its existing facilities and are checked and administered by professionally qualified staff internally and third parties externally. Most are based on proven systems and standards employed for many years in the Cooper basin.

As discussed in section 4 above, Operating and HSE procedures are the core components of an effective management system that to date has not seen a serious incident or non-compliance in South Australia operations.

7. Key areas of Focus

Beach recognises that there a number of areas where either, procedures, standards, documentation or records are inadequate. Identified below are these key areas and associated action/time period for which they will be addressed.

Design and Construction Manual - Although Beach designs and constructs its facilities to industry and Australian standards, it was identified in early 2008 that a formal set of procedures be put in place to ensure consistent and fit for purpose facilities. In the past only one or two personnel have been working on beach facilities. This number is expanding and warrants a clear guideline for all parties to follow.

The Design and Construction Manual was created to incorporate relevant guidelines, specifications and Standards. Continual development and formalisation of procedures is ongoing. The manual currently has 5 procedures addressing Production facilities design through to Hazardous area compliance. It is anticipated that 5 more will be drafted and approved throughout the remainder of 2008.

Integrity Management system - In 2006 Beach identified and committed to a fixed equipment integrity management system as discussed earlier in the document. A detailed procedure has been drafted and is undergoing review. It is expected to be approved in early 4th quarter of 2008 and will capture the work to date and the full implementation. The next phase to be addressed is the implementation of a formal Instrument and Electrical maintenance and inspection programme. The pre-planning work is scheduled to be completed by the end of 2008 with inspections in 2009.

Maintenance Scheduling tool - formalisation and further development of an electronic site based tool for providing more efficient and effective maintenance. Often under the current manual system equipment can be 'over serviced' resulting in wasted costs and poor utilisation of resources. A tool that outputs daily or weekly requirements utilising manufacturer or experienced based intervals is much more effective. It also then has full electronic records that can be easily monitored or analysed.

A new electronic tool has been developed and is currently being trialled in the Qld operation before being rolled out to SA. This is expected to take place in the 4th quarter of 2008.

Competency Based Training - A system has been developed and partially rolled out. It needs to be completed for all site personnel. Employees are currently having their competencies and training needs assessed. Although there are no serious shortfalls so far, Beach are committed to completing the task (by end of the 4th quarter 2008) ensuring that the system is formalised and utilised appropriately.

8. Ongoing Fitness for Purpose

The preceding discussions and data all aid in ensuring Beach has an effective operation with facilities that are 'Fit for Purpose', have high levels of integrity and minimise impacts to the public and the environment.

The integrity management system has (as of September 2008) yet to be implemented and has been given a high priority for implementation. Inspection of all fixed pressure equipment is planned to commence in November 2008 incorporating the results of the RBI assessment. This will be incorporated into the company-wide approach to inspection, maintenance and testing of all equipment (fixed, rotating and instrument/electrical) still under development.

In the interim, a condition monitoring tool is in place to monitor the condition of fixed equipment and track action items from these inspections until a company-wide system can be implemented.

The system to be implemented is planned to address the requirements of the fitness for purpose assessment as well as the relevant local legislation and standards. HSE management systems will continue to be reviewed and amended as operations expand to address these requirements.

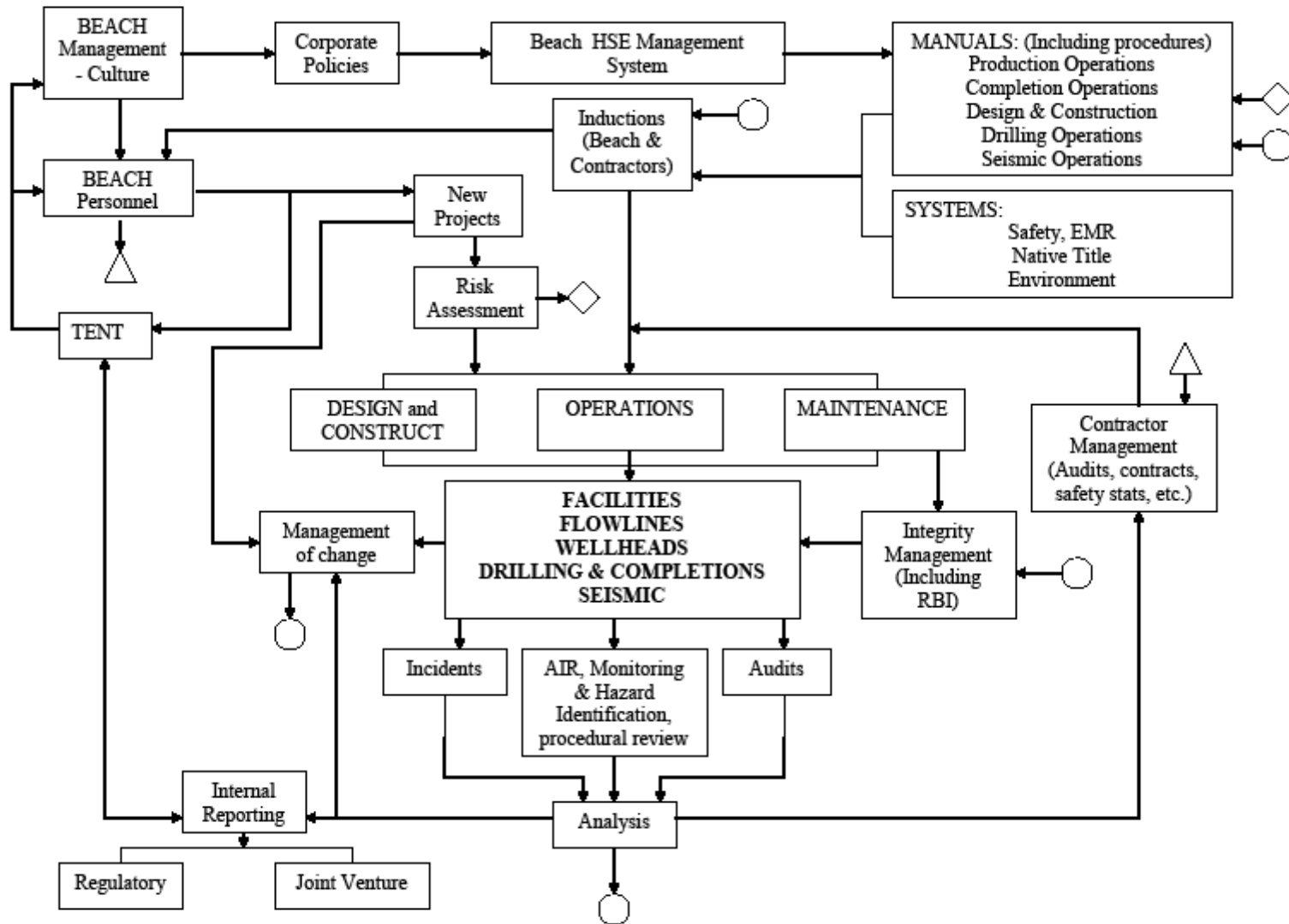
As part of the ongoing fitness for purpose, Beach will continue to assess the HSE system by using tools such as the PIRSA self assessment tool.

9. Attachments

- Attachment 1 - South Australian Facility map
- Attachment 2 - Beach Facility Condition summary
- Attachment 3 - Beach Management System Flowchart
- Attachment 4 - Beach Self Assessment

Attachment 1

Facility	Wells	Production Type	Artificial Lift	Fluids	Comments
Sellicks	3	oil	JP (3)	oil/water/gas	<p>Sellicks has experienced CO2 corrosion-related failures in the past primarily between the Sellicks #1 wellhead and VCU skids ('change of direction' areas -bends, tees) before separation. Flowrates are quite close to erosional velocity, pipework encourages turbulence and no gas venting is available prior to dewatering. Mercury content suggests little chance of LME-related failure. Scale has been observed in dewatering piping and downhole jet pump. Facility has recently had its jet pump replaced with a Reda pump and additional dewatering tank. Power fluid now sourced from the dewatering tanks rather than direct from well. This allows gas to vent prior to reinjection addressing the CO2 issues.</p> <p>Piping and flowlines are predominantly well supported, bunds installed. A leak at the pressures and flows experienced could prove fatal, and leaks are more likely than catastrophic failure.</p> <p>Flows and pressures are quite high, a catastrophic failure could result in significant damage and injury. Previous failures result from a combination of the following: high CO2 levels, high flow velocity, high turbulence, high water content. This is of most concern around the high pressure power fluids line connections.</p> <p>Monitoring systems appear adequate for requirements, however their failure could result in the failure of pressure equipment.</p>
Callawonga	4	oil	JP (3) BP (1)	oil/water/gas	<p>Flows and pressures are quite high, a catastrophic failure would result in significant damage and injury. Significant failures would likely result from vibration and mechanical fatigue coupled with other corrosion mechanisms of high pressure lines.</p> <p>Fluid chemistry results show that CO2, H2S and mercury related corrosion are negligible.</p>
Christies	5	oil	JP (4) BP (1)	oil/water/gas	<p>Piping and flowlines are predominantly well supported, bunds installed, pressures experienced suggest a failure will result in am leak rather than catastrophic failure.</p> <p>Flows and pressures are quite high, a catastrophic failure would result in significant damage and injury. Significant failures would likely result from vibration and mechanical fatigue of high pressure lines. Fluid chemistry results show that CO2, H2S and mercury related corrosion are negligible.</p>
Aldinga	1	oil	BP	oil/water/gas	<p>No level control on tank fitted, PSV's and vents should prevent overpressure in equipment, however flow needs to be controlled via regular truck loadout. Tank ullage is approximately 50+ days. Operators visit every 14 days or so. Facility experiences relatively insignificant pressures, temperatures and flows. A failure will most likely result in a leak rather than catastrophic failure. Monitoring systems do not exist. Possibility exists for excessive pressure due to minimal operator supervision, however damage and consequences from this are minor as pump has high pressure shutdown. Lack of instrumentation and electrics results in low risk in the hazardous areas. The tank is banded so it is likely that an overflow will be adequately contained. Safety and relief systems have operated satisfactorily to date.</p>
Kiana	1	oil	JP	oil/water/gas	<p>Crude is very light and initially contained a significant amount of entrained gas. High CO2 content in reservoir fluid suggests that corrosion may occur in piping prior to separation. No corrosion has been observed to date as power fluid is sourced from the dewatering tank at low pressure where gases can vent. Operating conditions and low mercury/sulphur levels suggest a low risk of other forms of corrosion. Water scale has been detected in the downhole jet pump at minimal levels. Piping and flowlines are well supported and bunds installed. A leak may result in catastrophic failure or serious injury to employees and the public.</p>
Silver Sands	1	oil	BP	oil/water/gas	<p>Flowline is generally in good condition. Facility experiences relatively insignificant pressures, temperatures and flows. A failure will most likely result in a leak rather than catastrophic failure. Local beam pump shutdown should prevent overpressure situations.</p>
Parsons	2	oil	Free flow	oil/water/gas	<p>Pour point depression required during winter. Clay fines being produced to tanks and interceptor pond. Facilities are in as new condition.</p>



Attachment 4

PIRSA SELF ASSESSMENT TOOL - JULY 2008

		FIELD SITES RESULTS	HEAD OFFICE SITE RESULTS	CURRENT TARGET
1. Commitment and Leadership				
1.1 Commitment	1	3	3	3
1.2 Leadership	2	3	3	3
2. Policies & Objectives				
2.1 Policies	3	3	3	3
2.1 Objectives	4	1	1	3
3. Organisation, Resources & Documentation				
3.1 Organisation Responsibilities	5	3	3	3
3.2 Training & Competence	6	2	2	3
3.3 Sub Contractor management	7	2	1	3
3.4 Communication	8	3	3	3
3.5 Documents & Standards	9	3	3	4
4. Risk Evaluation & Management				
4.1 Identification of Hazards & Effects	10	3	2	3
4.2 Risk Evaluation	11	3	3	3
4.3 Recording of Hazards & Effects	12	3	3	3
4.4 Risk Reduction Measures	13	3	3	3
5. Planning				
5.1 HSE Planning	14	2	2	3
5.2 Asset Integrity	15	3	3	4
5.3 Procedures & Work Procedures	16	3	3	4
5.4 Management of Change	17	2	2	3
5.5 Emergency Responses	18	4	3	4
6. Implementation, Recording & Monitoring				
6.1 Inspections	19	2	1	3
6.2 Records	20	3	2	3
6.3 Performance Monitoring	21	-	2	3
6.4 Non Compliance & Corrective Action	22	-	1	3
6.5 Incident Reporting & Followup	23	3	3	3
7. Audit and Review				
7.1 Audits	24	-	3	3
7.2 Reviews	25	-	2	3

