PETROLEUM

HEALTH, SAFETY AND ENVIRONMENT MANAGEMENT SYSTEM

AUGUST 2009

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resourcing the future

Zero Harm

OUR COMMITMENT

Zero Harm is achievable and a core BHP Billiton Petroleum value.

We all have an obligation to identify and reduce risks, safeguard people and protect the environment and the communities where we operate. Working together in this way, we can make informed business decisions and maintain a safe work environment.

We can build on our current efforts, learn from health, safety and environment (HSE) incidents, and continually improve performance to achieve our goal of Zero Harm by focusing on three main areas:

- Our people.
- Our systems.
- Our equipment.

The implementation of effective HSE controls, visible leadership and application of HSE excellence will truly make our business a success.

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INTRODUCTION

The BHP Billiton Petroleum HSE Management System defines performance criteria to drive our commitment to Zero Harm. BHP Billiton has established a number of mandatory areas of performance, and the criteria to meet that performance are noted in the Group Level Documents (GLDs). Implementation of the BHP Billiton Petroleum HSE Management System will assure compliance with the HSE GLD criteria and other Petroleum specific requirements.

The Petroleum HSE Management System document resides on the Petroleum Portal where links are provided to related additional performance criteria.

Consistent with the principles of continuous improvement, the Petroleum HSE Management System and the related additional performance criteria will be periodically updated.

All Petroleum sites and activities must maintain up-to-date practices that adhere to the current criteria contained in the Petroleum HSE Management System, and personnel must go about their work in accordance with these practices.

Success in our exploration, development and production activities is underpinned by effective HSE management alongside technical excellence, integrity and meeting stakeholder expectations.

J. Michael Yeager

Chief Executive, Petroleum

Purpose

BHP Billiton Petroleum activities range from exploration programs in remote and diverse locations, through to development of new projects, upstream operations and closure. Our activities are supported by a diverse workforce working in culturally varied locations worldwide.

Petroleum is committed to implementing systems and practices throughout its business for the activities it can control or have some influence over. These systems aim to maximize productivity by adopting sound technical standards and the principles of Zero Harm to people, the environment and the local communities. The HSE Management System sets the framework for continual improvement through the application of consistent performance standards across all aspects of Petroleum activities, including:

- Identification of statutory obligations and commitments and the implementation of systems to ensure our license to operate is maintained.
- Development and implementation of Petroleum risk management processes, including the Safety Case requirements.
- Establishment of competencies for personnel and provision of training to promote expected behaviors and HSE leadership.
- Control and management of all contractors and suppliers of Petroleum goods and services.
- Conduct of reviews including self assessments, audits and compliance evaluations, and the reporting of outcomes from these reviews.

Scope

The scope of the Petroleum HSE Management System covers Petroleum activities that affect or have the potential to affect, beneficially or adversely, the health, safety and security of people, the physical environment and protection of assets. In particular, the scope covers systems to manage:

- Health – promoting and improving the health of Petroleum's workforce and host communities.
- Safety – ensuring that safety values are not compromised, personnel are protected and a workplace is provided where people are able to work without being injured.
- Environment – promoting the efficient use of resources, reducing and preventing pollution and enhancing biodiversity protection.
- Community – engaging the external community, managed through the Petroleum External Affairs Function.
- Asset protection – prevention of harm to and protection of personnel, physical and financial assets, and intellectual property.

Application

The Petroleum HSE Management System applies to Petroleum controlled activities and to Petroleum employees and contractors performing controlled activities.

It applies to the entire lifecycle of Petroleum's activities, processes and products, including exploration and planning, development, operation, closure (decommissioning, remediation and rehabilitation), marketing and acquisitions and divestments.

Petroleum monitored activities should have equivalent systems in place that meet the intent of this document. Partners, suppliers and contractors are encouraged to adopt the intent and nature of the performance requirements in this document.

Responsibility

Unless otherwise stated, managers and supervisors responsible for controlled activities are accountable for the implementation of the performance requirements outlined in this document.

Personnel must comply with the letter and spirit of the performance requirements in the Petroleum HSE Management System including associated documentation.

Petroleum HSE Management System

This document defines the elements of the Petroleum HSE Management System and provides direction to related Petroleum documentation and associated performance criteria.

The Petroleum HSE Portal must be used to access the most current version of the related documentation.

There are 16 Elements which make up the Petroleum HSE Management System. Each Element contains an overall intent statement and a set of specific expectations.

The remainder of this document describes the intent of each Element and provides a set of corresponding mandatory performance requirements.

ELEMENT 1

LEADERSHIP AND ACCOUNTABILITY

INTENT

Petroleum managers, employees and contractors understand their accountabilities and demonstrate leadership and commitment to sustainable development through effective management.

PERFORMANCE REQUIREMENTS

Visible Leadership

1.1 Managers must complete an Annual HSE Leadership Action Plan. The objectives and deliverables of these plans must be cascaded throughout their organization to ensure alignment with Petroleum CSG level HSE Objectives and local level HSE goals and targets.

1.2 Managers must:

- Promote HSE initiatives.
- Conduct frequent site inspections, reviews and behavioral observations.
- Lead incident investigations.
- Drive the implementation of and compliance with Petroleum HSE Policies, Standards and Procedures.
- Provide methods to identify and control the risks in their areas.

1.3 Petroleum HR systems must include HSE leadership and performance as prerequisites for promotion.

Reward, Recognition and Behavior

1.4 HSE reward and recognition processes must be developed and implemented for each site, and be aligned to Petroleum CSG level HSE Objectives and expected behaviors.

HSE Management System

1.5 Petroleum sites must implement and maintain a local level HSE Management System appropriate to the risk of the controlled activities. The local level HSE Management System must be aligned to this document and Petroleum HSE Controls and Procedures.

1.6 Local level HSE Management Systems for Petroleum sites must conform to ISO 14001 and to OHSAS 18001. Petroleum owned and operated production facilities must also obtain certification to ISO14001 within 12 months of commissioning, and maintain certification for the life of the operation.

Resources

1.7 Petroleum sites must identify minimum manning levels and other resources (e.g. equipment, controls, personal protection equipment, etc.) to manage the HSE risks of these operations, comply with relevant HSE legal and other requirements and maintain the license to operate. Assessment of manning levels must specifically address both quantity and competency of resources required.

1.8 Manning levels and resources must be reviewed annually and included in the annual budget.

1.9 All levels of Petroleum must provide safe and healthy working conditions for all personnel in accordance with local laws. This includes the provision of personal protective equipment (PPE) in accordance with the Petroleum PPE procedure.

Roles and Accountabilities

1.10 Position descriptions must be developed for, and communicated to, all employees. Position descriptions must be endorsed by managers, and include relevant HSE responsibilities and accountabilities commensurate with the requirements of the roles.

1.11 Managers must consult with employees to establish relevant individual HSE key performance indicators each year.

1.12 An assessment of employees' performance against the HSE responsibilities defined in the position descriptions and the annual HSE KPIs must be included in their annual performance evaluation process.

1.13 HSE responsibilities for contractors must be defined and communicated by the manager responsible for the contractor.

1.14 Personnel are responsible for HSE management as defined in their position description and must consistently deliver on their HSE accountabilities.

1.15 Personnel must participate in HSE programs at their locations.

Right to Stop Work

1.16 Personnel are obliged to challenge or stop work or an activity where there is concern that continuation of the activity may lead to an uncontrolled HSE hazard.

1.17 Where work or an activity has been stopped for this reason, the relevant manager must verify the hazard or concern is adequately assessed and controlled before the work or activity can re-commence.

Petroleum Documents

ELEMENT 2

LEGAL AND OTHER REQUIREMENTS

INTENT

Relevant legal and other requirements are identified, accessible, understood and complied with. Systems are in place to assure compliance through periodic evaluations.

PERFORMANCE REQUIREMENTS

Compliance

2.1 Petroleum sites must identify and access applicable HSE legal and other requirements. These requirements include relevant local laws, license conditions, permit obligations, consents, regulations, joint venture commitments, contracts, agreements, environmental and community commitments.

2.2 Where there is a conflict between local legislation and the requirements in Petroleum HSE Policies, Standards and Procedures, the more stringent requirement prevails, subject to applicable law.

Compliance and Commitments Register

2.3 Identified legal and other requirements must be summarized in a Compliance and Commitments Register that is maintained and up to date.

2.4 The Compliance and Commitments Register must identify the person(s) accountable for establishing, maintaining and verifying compliance for each specific requirement.

Communication and Responsibilities

2.5 Managers must ensure that applicable HSE legal and other requirements are communicated to and understood by affected personnel.

Reviews

2.6 Compliance with HSE legal and other requirements must be assessed at least annually, or when new or changed requirements have the potential to impact the license to operate.

2.7 The annual or periodic review must ensure that any changes in regulations, legislation or other requirements are captured in relevant HSE documentation and communicated to affected personnel.

ELEMENT 3

HAZARDS AND RISKS

INTENT

Hazards are identified and associated risks assessed and managed.

PERFORMANCE REQUIREMENTS

Hazard Identification, Risk Assessment and Risk Management

3.1 Hazards and risks associated with Petroleum activities and sites must be identified, assessed and managed in accordance with the appropriate Petroleum risk management procedures. These include procedures relating to:

- Case to Operate.
- Environmental and Social Impact Assessments.
- Health and Hygiene Management.
- Job Risk Assessments.
- Management of Change.
- Permit to Work.
- Safe Travel Procedures.
- Safety Cases.

3.2 Hazard identification and risk assessments must provide evidence that justify commencement of, or continuation of operations.

3.3 The outcome of risk assessments, including the identified hazards and controls must be appropriately documented and the quality of close-out of findings/actions assured.

Risk Recording and Review

3.4 Divisional, operational and project risks must be documented in a controlled risk register that is maintained and up to date.

3.5 Risks must be reviewed and updated at least annually or more often if the nature of the risk requires. Risks must also be reviewed following a significant incident, to capture learnings from incidents or when change occurs.

Consultation and Involvement

3.6 Hazard identification and HSE risk assessments must ensure adequate breadth of technical and functional representation to cover all anticipated risks.

3.7 The HSE hazard identification and risk assessment process must involve relevant personnel to provide the knowledge, competency and experience of both risk assessment and the activity/subject under review to ensure adequate evaluation of risk and effective identification of controls.

Hierarchy of Controls

3.8 All HSE risk controls must be tested against the hierarchy of controls and wherever practicable, the most effective control should be used.

3.9 Criteria specified in HSE Controls must be applied, as appropriate to the assessed risks.

Risk Tolerability and Control Effectiveness

3.10 Residual HSE risk must be tolerable as defined in the relevant risk management procedures.

3.11 Managers are accountable for ensuring that residual HSE risks are tolerable and have been reduced to as low as reasonably practicable (ALARP).

3.12 HSE risk controls must be approved by the responsible line manager and endorsed by the site manager.

3.13 The effectiveness of HSE risk controls must be verified by the responsible line manager at a frequency commensurate with the risk. Where change is required, a formal review (e.g. Management of Change or Case to Operate as required) must be undertaken to determine that risks remain at tolerable levels.

3.14 Documented HSE plans including environmental plans and Safety Cases must provide the clear identification of all critical controls and associated Performance Standards.

ELEMENT 4

PLANNING, GOALS AND TARGETS

INTENT

Petroleum goals and targets are established as an integral part of the business planning process and set to drive continual improvement in performance.

PERFORMANCE REQUIREMENTS

Petroleum Alignment Process

4.1 Petroleum CSG level HSE objectives must be established by the Petroleum Leadership Team.

HSE Goals and Targets

4.2 Petroleum sites must establish, document and communicate HSE goals and targets that are aligned with Petroleum CSG level HSE Objectives. For Production Division, this includes setting process safety goals and targets.

4.3 When establishing HSE goals and targets, leading as well as lagging metrics should be identified.

4.4 Goals and targets must be structured to deliver continual improvement, reduce the HSE risk profile and must contribute to the achievement of Petroleum's CSG level HSE Objectives.

4.5 Goals, targets and the related leading and lagging metrics must be developed for each financial year and included in the Petroleum budget process.

HSE Performance

4.6 Petroleum sites must monitor, track for compliance and formally record, report and communicate progress on goals and targets on a monthly basis, in accordance with Petroleum HSE reporting requirements.

4.7 The results from monthly HSE performance tracking must be used to identify trends and any areas that require improvement. This includes an assessment on the suitability of the leading and lagging metrics.

4.8 Where HSE performance trends indicate that inadequate or ineffective HSE risk controls are in place, those risks must be reported to the relevant manager and be re-assessed and revised controls must be implemented.

HSE Plans

4.9 Petroleum sites must establish HSE action plans that contain the means, timeframe and assigned responsibilities for achieving HSE goals and targets.

4.10 Plans commensurate with the risk, must be established as appropriate to achieve compliance with Petroleum HSE Controls. HSE plans include:

- Health Surveillance plans.
- Environmental Management plans.
- Safety Management plans.
- Construction plans.
- Commissioning plans.
- Closure plans.

ELEMENT 5

AWARENESS, COMPETENCY AND BEHAVIOR

INTENT

Employees, contractors and visitors are aware of relevant requirements, hazards, risks and controls, and are competent to conduct their activities and behave in a responsible manner.

PERFORMANCE REQUIREMENTS

HSE Awareness and Competency

5.1 Hazards and controls, expected behaviors, Petroleum Policies, Standards and Procedures, and HSE competencies must be understood by the relevant Petroleum personnel.

HSE Induction Process

5.2 HSE inductions must be conducted for new employees, contractors and visitors arriving at any Petroleum location. Inductions must be appropriate to the nature and risks of the Petroleum location.

5.3 Records of inductees and induction assessments results must be maintained.

5.4 The induction processes must be reviewed for currency and relevance at least annually, or in the event of material change to hazards, risks and controls.

5.5 Each site must determine the frequency with which personnel are required to undertake refresher inductions. The frequency must be based on the HSE risks and endorsed by the relevant site manager.

Competency Assurance and Training

5.6 Role specific HSE competencies must be established and maintained for all Petroleum positions.

5.7 The HSE competencies must be used to conduct a training needs analysis for each employee. The outcome of the analysis must be documented in a training plan which includes timeframes to develop role specific competencies, certification/re-certification requirements and expected performance outcomes. These plans must include training in applicable Petroleum HSE competencies.

5.8 Personnel involved with controlled activities at Petroleum sites must undertake competency based HSE training and assessment that is relevant and appropriate to their roles. Where applicable, this includes compliance with the Petroleum Competency Assurance Training requirements.

5.9 The management of competency assessments including expiration dates, records and results, must, as a minimum, be maintained in a local HSE training database.

Behavioral-Based Observation System

5.10 Petroleum sites must adopt the Petroleum Behavioral-Based Observation System for making and reporting observations of safe and unsafe conditions and behaviors.

5.11 Detailed information from the Behavioral-Based Observation System must be recorded in a common database and reported monthly at each site.

5.12 Observations must be analyzed by appropriately trained personnel to develop trends and identify focus areas for HSE improvement initiatives.

ELEMENT 6

COMMUNICATION, CONSULTATION AND PARTICIPATION

INTENT

Effective, transparent and open communication and consultation is maintained with stakeholders associated with Petroleum's activities. Stakeholders are encouraged to contribute and participate in performance improvement initiatives.

PERFORMANCE REQUIREMENTS

Stakeholder Management

6.1 Petroleum sites must identify relevant internal and external stakeholders and document their HSE needs in a stakeholder management plan.

6.2 The stakeholder management plan must comply with the relevant requirements defined by the Petroleum External Affairs Function.

Stakeholder Consultation and Participation

6.3 Managers responsible for Petroleum sites must consult with affected stakeholders and communicate relevant HSE issues.

6.4 Systems must be established to facilitate participation of personnel and external stakeholders, as appropriate, in HSE meetings, development of HSE programs and assessment of HSE performance.

6.5 A record of stakeholder consultations and participation, including attendees, issues discussed and outcomes/actions must be maintained and formally communicated to all relevant stakeholders.

Stakeholder Communication Processes

6.6 Petroleum sites must ensure that HSE information communicated to personnel is accurate and current.

6.7 Methods for communicating HSE information must include, as a minimum, inductions, training, Petroleum HSE portal, HSE alerts and regular HSE meetings.

6.8 Petroleum sites must document all communications with (to and from) stakeholders and ensure that complaints are managed and formally closed-out.

6.9 HSE information including learnings from significant incidents, reviews and audits, must be shared with appropriate stakeholders in accordance with the Petroleum Information Sharing and Communication Procedure.

ELEMENT 7

DESIGN, CONSTRUCTION AND COMMISSIONING

INTENT

Management of risks and opportunities is an integral part of all projects through design, approval, procurement, construction and commissioning.

PERFORMANCE REQUIREMENTS

HSE Management

7.1 Development activities for new projects, facilities modifications and engineering change must assure adequacy of HSE design requirements and must comply with the relevant requirements of the HSE Management System, Safety Case, Central Engineering requirements and other HSE Controls. A project specific HSE plan that describes how these HSE requirements are managed, must be established and maintained.

7.2 Where activities require management of specific HSE risks and impacts, these must be assessed using risk management procedures to ensure minimum mandatory controls are in place.

HSE and Technical Criteria

7.3 Projects must ensure relevant technical and Performance Standards, including all Petroleum HSE Controls, are adopted for the design and selection of plant, equipment and processes.

7.4 The Project Director is accountable for the inclusion of HSE risk and life of asset assessment processes as part of the design and selection criteria.

7.5 Operating parameters must be specified during the design phase and approved by the relevant Petroleum technical authority.

Incorporation of HSE Learnings

7.6 HSE learnings, including those from previous projects and significant incidents, must be included within the project development processes, utilizing relevant information from First Priority (FPe) and other relevant sources (e.g. Post Implementation Reviews, etc).

Project Review and Tollgating

7.7 Tollgate peer reviews must be conducted in accordance with the Independent Peer Review Procedure and include, where appropriate, review of projects against Performance Standards and Central Engineering Requirements.

7.8 Projects must be assessed against the requirements defined in Safety Case procedures and commitments identified during any environmental and social impact assessments in accordance with Environment Controls.

7.9 Central Engineering must review projects against identified Performance Standards and Central Engineering Requirements (e.g. Petroleum Maintenance and Integrity Management requirements).

7.10 Pre-startup and post-startup reviews for newly installed and modified plant and equipment must be conducted.

7.11 Reviews must involve HSE personnel and assess the adequacy, quality, status and suitability of HSE requirements and performance.

7.12 Learnings from pre-startup and post-startup reviews must be shared within Petroleum via the Central Engineering department.

Critical Equipment, Systems and Procedures

7.13 Projects must define and document the criteria for identifying and validating critical equipment, systems and procedures.

7.14 Critical equipment, systems and procedures must be documented and included in the Development and Design Safety Cases and in relevant environment plans.

Commissioning Plans

7.15 Commissioning plans must be established for projects and must include the controls identified in the commissioning HSE risk assessment, and clearly define the required competencies and responsibilities of personnel.

Handover

7.16 Projects must plan for timely handover and acceptance of all relevant drawings, manuals, procedures and other documentation for critical equipment and systems prior to commissioning.

7.17 A formal and documented handover process between the Project Director and the Production Unit Manager must be carried out upon completion of the project execution, and where relevant, before the introduction of hydrocarbons. The handover process must include key hold points and an agreed handover date.

7.18 Completion of the handover phase must be acknowledged by a written agreement between the Project Director and the Production Unit Manager.

ELEMENT 8

OPERATIONS AND MAINTENANCE

INTENT

All plant and equipment is operated, maintained, inspected and tested using systems and procedures that manage risks.

PERFORMANCE REQUIREMENTS

Operating Systems and Procedures

8.1 Procedures for operating and maintenance of critical plant and equipment must be documented.

Safe Systems of Work

8.2 Petroleum safe systems of work that comply with relevant aspects of the Global Operations requirements (e.g. Permit to Work, Isolations, etc.), risk management procedures, HSE Controls, and Performance Standards must be implemented and maintained.

Design Data and Operating Criteria

8.3 Petroleum design information and operating limits must be included in Operations Safety Case documentation.

8.4 Plant and equipment must be operated and maintained according to design data and operating criteria, Performance Standards, manufacturer and vendor specifications, Petroleum HSE Controls and Global Operations requirements.

8.5 Operating parameters must be formally reviewed to ensure that they remain effective, safe and valid, based on operational requirements. This review must be conducted annually, or in the event of a material change, at a frequency commensurate with the identified HSE risk.

8.6 Deviation from specified parameters can only be authorized through formal Management of Change process and the Case to Operate process.

Operating Parameters and Reliability Criteria

8.7 Petroleum sites must ensure that relevant operating parameters, equipment performance and reliability criteria are established, documented and monitored in accordance with requirements detailed in the facility's Safety Case, Performance Standards and local level maintenance systems. The frequency of monitoring, testing and verification must be defined in the local level maintenance systems.

8.8 Information on excursions outside defined operating parameters, equipment performance and equipment reliability must be recorded and reported to the relevant manager.

Equipment Integrity and Maintenance Criteria

8.9 Petroleum sites must assess the integrity of equipment and facilities in accordance with the Petroleum Maintenance and Integrity Management requirements.

8.10 Records of integrity audits, regulatory inspections and equipment certification must be recorded, maintained and reported to the site manager by the appointed system custodian.

Critical Systems and Procedures

8.11 Operating procedures and Performance Standards for critical equipment and systems must be established, assessed and verified in accordance with the requirements of the Safety Case and applicable regulatory requirements.

Simultaneous Operations Criteria

8.12 Petroleum sites must implement and maintain systems that define the approval and control processes necessary for simultaneous operations.

8.13 Simultaneous operations risks must be managed in accordance with the risk performance requirement in Element 3 of this document.

8.14 HSE risk controls associated with simultaneous operations must be tested against the hierarchy of controls.

8.15 Bridging documentation that defines the interfaces for simultaneous operations involving concurrent activities on a controlled site must be developed, as required. Bridging documentation must be formally approved by the site manager and issued to all parties prior to commencement of simultaneous operations.

ELEMENT 9

DOCUMENTS AND RECORDS

INTENT

An effective HSE document control system is in place and records are properly managed.

PERFORMANCE REQUIREMENTS

Document Control

9.1 HSE documents must be readily available and understood.

9.2 The Petroleum HSE Management System must provide a centralized process for the control and management of Petroleum HSE documentation, including Polices, Standards, Procedures, Guidelines, forms, training materials and templates.

9.3 The initiation, development, authorization, control and review cycle for Petroleum CSG level HSE documents must be in accordance with the Petroleum HSE Document and Records Management Procedure.

9.4 Petroleum sites must implement a process that uses Documentum for controlling HSE related local level documentation. This process must ensure that controlled documents are current, traceable to the activities involved, can be located, uniquely identified, periodically reviewed and authorized. The process must also specify the method for the prompt removal of obsolete versions.

9.5 Documents from external sources necessary for the planning and operation of Petroleum activities must be maintained on a register and current.

Records Management

9.6 HSE records must be managed using Documentum as appropriate, to ensure their identification, maintenance, safe storage, retrieval and disposal complies with the requirements of the HSE Document and Records Management Procedure.

9.7 Retention times must be established and all HSE records managed in accordance with the HSE Document and Records Management Procedure.

9.8 Access to records must be controlled to ensure authorized access, security of information and relevant levels of confidentiality.

HSE Management System Documentation

9.9 Petroleum sites must describe their local level HSE Management System, including references and directions to related documents and records, in a controlled manual. This manual must also describe the interrelation between the local level HSE Management System and the Petroleum HSE Management System document.

Petroleum Documents

ELEMENT 10

SUPPLIERS, CONTRACTORS AND PARTNERS

INTENT

The contracting of services, the purchase, hire or lease of equipment and materials, and activities with partners, are carried out so as to minimize any adverse HSE consequences.

PERFORMANCE REQUIREMENTS

Risk Assessment of Goods and Services

10.1 Contract owners must identify and assess the level of HSE risk associated with services, contracts, agreements or partnerships.

10.2 HSE risks must be assessed and ranked in accordance with the requirements of the Petroleum risk management procedures and the Contractor and Supplier HSE Management Procedure.

Evaluation of Suppliers, Contractors and Partners

10.3 As part of the broader Petroleum supplier engagement process, an HSE evaluation of suppliers, partners and contractors must be conducted in accordance with the Petroleum Contractor and Supplier HSE Management Procedure. The HSE evaluation must be conducted prior to approval for award of a new contract or agreement.

10.4 The selection and evaluation process must include representation from HSE, the requesting group and Petroleum Supply function.

10.5 The evaluation must include a review of the suppliers', partners' or contractors' management systems against Petroleum HSE Management System requirements, identification of controls to ensure alignment with Petroleum HSE requirements and previous HSE performance.

HSE Contractual Requirements

10.6 Petroleum contracts and agreements must contain relevant HSE obligations and requirements, including, but not limited to, the requirement to comply with Petroleum Policies, Standards, Procedures and relevant legislation, and for the disclosure of information relating to hazards, previous HSE performance and learnings from such performance.

Contract Ownership

10.7 All contracts and agreements must have a single designated contract sponsor who is accountable for ensuring compliance with the HSE requirements of the contract.

HSE Management Processes and Interfacing

10.8 Bridging documentation commensurate with the nature of the contract must be established, approved, in place and formally communicated to relevant parties prior to execution of the services in the contract.

10.9 Where there is a conflict between the Petroleum HSE Management System Performance Requirements and those normally used by contractors or suppliers, the higher level performance requirements must be applied and implemented.

10.10 Contractor activities must be monitored and inspected to ensure compliance with relevant Petroleum HSE Policies, Standards, Procedures and agreed HSE performance requirements. The contract sponsor must ensure that appropriate personnel carry out contractor monitoring and inspection activities.

Suitability and Approval of Equipment and Materials

10.11 Equipment and materials used in Petroleum activities must be fit for purpose, inspected and approved for use by technically competent personnel and compliant with HSE requirements. Inspections and approvals must be documented (e.g. audits and inspection reports) and completed prior to purchase or lease, as appropriate.

Local Suppliers and Contractors

10.12 Petroleum contract specialists must coordinate the identification and assessment of local providers to confirm capability of providing the requisite equipment, supplies or services and meeting Petroleum HSE requirements for inclusion on Suppliers, Contractor and Tender Listings. Approved local providers must be included in the tendering process.

Monitored Activities and Joint Venture Partners

10.13 Where a JVOA (Joint Venture Operating Agreement) is to be agreed, appropriate HSE expectations must be included within the agreement.

10.14 This document and other applicable Petroleum documents must be made available to the operator of monitored activities and where Petroleum has an equity stake but does not have operational responsibility.

10.15 Managers responsible for monitored activities or a joint venture must encourage the operator to establish and maintain comparable management systems consistent with the Petroleum HSE Management System.

Petroleum Documents

ELEMENT 11

INCIDENTS, EMERGENCIES AND SECURITY

INTENT

HSE incidents, emergencies and security risks are reported, investigated and analyzed. Corrective actions are taken and learnings shared. Procedures and resources are in place to effectively respond to crisis and emergency situations.

PERFORMANCE REQUIREMENTS

Incident Reporting and Investigation

11.1 Petroleum sites must respond to, report and investigate incidents according to the Petroleum HSE Incident Management and Reporting procedures.

Business Continuity, Crisis and Emergency Management

11.2 Petroleum sites must develop and implement a Business Continuity Plan. This plan must be consistent with the Petroleum CSG Business Continuity Plan.

11.3 Petroleum sites must develop and implement a Crisis and Emergency Plan for foreseeable scenarios in accordance with the requirements of the Petroleum Crisis and Emergency Management Procedure. This plan must include the resources, response tasks and mitigation controls for each scenario.

11.4 These plans must be aligned with the Petroleum HSE Incident Management and Reporting procedures.

Security

11.5 A security threat risk assessment must be completed annually for each site or facility. The assessment must be reviewed following "any" significant security incident.

11.6 Security Controls must be in place to manage identified security risks at Petroleum sites and facilities in accordance with the Petroleum Security Controls and supporting procedures.

Corrective and Preventive Action Management

11.8 First Priority (FPe) must be used to track, and manage to closure, all corrective and preventive actions arising from incidents and emergencies.

11.9 Once corrective and preventive actions arising from incidents and emergencies have been implemented, their effectiveness must be verified and recorded by the responsible manager.

Communication

11.10 Information from incidents and emergencies must be analyzed to identify trends and learnings.

11.11 Learnings must be communicated to affected personnel and shared, where deemed applicable within Petroleum.

11.12 Information from exercises, drills and emergencies must be assessed and communicated to accountable personnel according to the requirements of the Petroleum Crisis and Emergency Management Procedure.

Significant Incidents and Emergencies

11.13 When a significant incident or emergency occurs at any Petroleum site, affected work must cease and not re-start until such time as the work areas affected have been risk assessed and the relevant manager has verified that effective controls, to prevent recurrence, are in place.

11.14 Managers must ensure that information received about a significant incident or an emergency is reviewed, and learnings are applied as appropriate, to prevent a recurrence at their site.

ELEMENT 12

MANAGEMENT OF CHANGE

INTENT

Planned and unplanned changes are identified and managed.

PERFORMANCE REQUIREMENTS

Change Management

12.1 Where change occurs to equipment, operating processes, procedures or personnel, or where the potential for HSE impact from change exists, assessment of the change must be conducted utilizing the Petroleum management of change procedures, including formal approval of the change and implementation of effective change management controls.

12.2 A register must be used to record all engineering changes. The register must be maintained, current and be available to the Central Engineering function.

12.3 A risk assessment must be conducted where a change affects the design basis, operating parameters and controls, to verify that the change does not compromise the site's license to operate.

12.4 Managers must ensure that risks from a proposed change have been formally assessed and reviewed by competent technical and operational personnel.

12.5 Change requires formal approval by the responsible line manager, HSE, technically competent person(s), operationally competent person(s) and/or the Site Manager.

12.6 Where the potential exists for Petroleum-wide change requirements, the VP Engineering must approve such change.

Temporary Change Extension and Close Out

12.7 Where extension to approved durations for a temporary change is required, a formal review must be undertaken and approval obtained in accordance with the Petroleum management of change procedures.

12.8 Close out of a temporary change must be carried out in accordance with the Petroleum management of change procedures.

Change Authority Levels

12.9 Petroleum sites must establish and document approval authority levels commensurate with the HSE risk of the change.

Management of Change Processes

12.10 The management of change procedures must be used to assess changes including change to equipment, operations, personnel or business processes, and to identify controls required to manage the change, prior to approval.

Change Management Documentation

12.11 All changes must be documented in accordance with the requirements of the Petroleum management of change procedures and the site's document control procedures (see Element 9).

12.12 Managers must ensure that documents, plans and records are updated to reflect changes, and that changes to these documents, plans and records are clearly identified and formally communicated to all affected groups and stakeholders.

12.13 Where formal documentation changes have not been completed prior to implementation of a change, a record of the change (such as a red-line drawing) must be in place at the affected location, until the updated documentation is in place, to ensure accuracy and currency of documentation. Documentation (such as a red line drawing) must be updated before close out of the change record.

Petroleum Documents

ELEMENT 13

HEALTH AND HYGIENE

INTENT

Employees and contractors are assessed for their fitness to work and are protected from health hazards associated with Petroleum activities.

PERFORMANCE REQUIREMENTS

Qualitative Exposure Assessment

13.1 Assessment of employees must be conducted by a competent occupational hygiene professional and be completed in accordance with Petroleum Health and Hygiene Procedures. The assessment must include potential exposure to Similar Exposure Groups (SEGs).

13.2 Assessments must consider the work, environment, processes, tools, equipment and all credible occupational exposures for each SEG.

13.3 Exposure types must be ranked to prioritize the highest risks to the workforce, and be reviewed as a minimum every five years, or when change potentially affects the level of exposure.

Quantitative Exposure Assessment

13.4 A monitoring strategy based on the exposure profiles created during the qualitative assessment must be developed in accordance with Petroleum Health and Hygiene Procedures.

13.5 Monitoring must be supervised by a competent hygiene professional. Samples must be obtained using appropriately calibrated equipment and sent to a certified laboratory.

13.6 Monitoring data must be statistically analyzed to quantify the profile of all exposure groups.

Exposure Control Plan

13.7 When exposures exceed 50% of specified exposure limits, controls to mitigate exposure must be assessed for effectiveness, documented and actions assigned utilizing the requirements of the Petroleum Health and Hygiene Procedures.

Health Surveillance

13.8 Medical assessments must be undertaken for all Petroleum and contractor personnel in accordance with Petroleum Health Surveillance Procedures.

13.9 Biological monitoring must be implemented where exposures exceed 50% of limits.

13.10 Where noise exposure cannot be adequately controlled by elimination at source, PPE must be used and a hearing conservation program, including audiometry implemented.

13.11 Where respiratory hazard exposure cannot be adequately controlled by elimination at source, PPE must be used and a respiratory protection program implemented.

Fatigue Management

13.12 Fatigue management risk assessments must be conducted for all Petroleum controlled sites in accordance with Petroleum Fatigue Management Procedure. The risk assessment must be documented and reviewed at a minimum every five years or when schedules are changed.

13.13 Supervisors responsible for creating and implementing work/shift schedules must review and adjust schedules, and track/review overtime hours to ensure compliance with the Petroleum Fatigue Management Procedure.

13.14 Fatigue management requirements must be considered where company travel is required.

13.15 Risk controls for mitigating fatigue must be applied using the hierarchy of controls.

13.16 Training must be provided to assist employees in recognizing and managing fatigue. This training must also assist supervisors in recognizing and managing fatigue risks with their personnel.

Drug and Alcohol Program

13.17 Petroleum controlled locations and activities must implement a drug and alcohol testing program in accordance with the Petroleum Drug and Alcohol Procedure.

13.18 The program must provide awareness of the Employee Assistance Program (EAP) which can be used to provide support and rehabilitation for employees with drug and/or alcohol problems.

Reporting and Management Review

13.19 Results of monitoring and surveillance must be available to participating individuals.

13.20 Management review of all occupational health and hygiene programs, incidents and opportunities for improvement must be conducted annually.

Petroleum Documents

ELEMENT 14

AVIATION AND MARINE OPERATIONS AND FATAL RISK CONTROLS

INTENT

Controls are identified and in place to manage occupational hazards arising from behaviors, procedures/practices, plant, equipment, workplace conditions and transportation.

PERFORMANCE REQUIREMENTS

Aviation Operations

14.1 Aviation activities must be conducted in accordance with the Petroleum Aviation Operations Controls. The Aviation Controls include requirements for:

- Establishing a local level aviation management procedure.
- Defining roles, responsibilities and authority levels for aviation activities.
- Compliance with aviation regulatory and other requirements.
- Requirements to conduct aviation risk assessment, and the implementation of controls including a Journey Management Plan and Search and Rescue Plan.
- Formal evaluation and approval of suppliers of chartered aviation operators and related services, and format for written agreements with chartered aircraft operators.
- Chartered aircraft operating requirements including pilot qualifications and experience.

14.2 The Aviation Controls document must be reviewed at least annually against applicable international standards and regulations.

Marine Operations

14.3 Marine operations must be conducted in accordance with the Petroleum Marine Operations Controls. The Marine Operations Controls include requirements for:

- Establishing a local level marine operations management procedure.
- Defining roles, responsibilities and authority levels for marine operations.
- Compliance with marine operations regulatory and other requirements.
- Requirements to conduct marine operations risk assessment, and the implementation of controls.
- Formal evaluation and approval of suppliers of marine contractors, marine vessels and related services, and format for written agreements with marine operators.
- Requirements for marine operation equipment and services including qualifications and experience.

14.4 The Marine Operations Controls document must be reviewed at least annually against applicable international standards and regulations.

Fatal Risk Controls

14.5 Sites must implement the relevant requirements defined in the Petroleum Fatal Risk Controls to manage activities associated with:

- Company light vehicles used for transportation of personnel.
- Use of mobile equipment on Petroleum sites including inspection and maintenance programs.
- Handling, processing and loss of containment of process materials.
- Working with pressure, hydrogen sulphide (H_2S), explosives and other hazardous materials.
- Implementation of process safety controls such as isolation and permit to work, including the managing risks associated with confined spaces.
- Safeguarding of personnel from hazards relating to plant and equipment.
- Identification, assessment and management of risks from lifting operations, work at height and risks from dropped objects.
- Diving operations and activities.

14.6 The Fatal Risk Controls must be reviewed at least annually. This review must incorporate:

- Learnings from HSE performance and incidents.
- Emerging industry trends.
- Relevance and suitability of specifications for plant and equipment.
- Requirement for documented procedures.
- Outcomes of risk assessments.
- Training to manage hazards and eliminate at-risk behaviors.

Petroleum Documents

ELEMENT 15

ENVIRONMENT

INTENT

The environmental impacts associated with activities, resources, materials, processes and products are identified, minimized and managed.

PERFORMANCE REQUIREMENTS

Impacts Assessment

15.1 Petroleum sites including development activities must assess the environmental impacts for the following relevant aspects:

- Air emissions from combustion, flaring, venting, and fugitive gases.
- Greenhouse gas emissions.
- Energy efficiency and consumption.
- Protection of biodiversity values and sensitive areas.
- Discharges of drilling mud and cuttings and produced formation water.
- Disturbance of land, freshwater and marine areas, including facilities, storage tanks and pipelines.
- Water usage and impacts to surface and ground water.
- Waste generated from Petroleum operations.
- Noise and vibration.
- The environmental impacts associated with Petroleum products.

Environmental Controls

15.2 Sites and development activities must implement the relevant requirements defined in the Petroleum Environment Controls to manage environmental aspects of its activities.

15.3 The Environment Controls document must be reviewed at least annually against applicable international standards and regulations.

Management Plans

15.4 Sites and development activities must develop and implement documented management plans for the relevant environmental aspects listed in Element 15.1. Management plans must comply with the relevant requirements detailed in the Environment Controls, and be kept up to date.

ELEMENT 16

MONITORING, AUDITS AND REVIEWS

INTENT

HSE performance and systems are monitored, audited and reviewed to identify trends, measure progress, assess compliance and drive continual improvement.

PERFORMANCE REQUIREMENTS

HSE Reporting

16.1 HSE performance is reported in accordance with the Petroleum HSE Reporting Procedure.

HSE Performance Data Reporting

16.2 Each site must have systems for the collection, storage and retrieval and verification of HSE performance data used for internal and external reporting. These systems must include processes to ensure HSE data is accurate and auditable back to source. Equipment used for measuring HSE data must be calibrated in accordance with the manufacturer's specifications and records of calibration must be retained. All HSE data used for reporting purposes must be authorized by the site manager prior to release.

16.3 HSE performance, including progress against HSE Objectives, goals, compliance with requirements in the Compliance and Commitments Register and status of HSE KPIs, must be regularly measured, monitored and recorded.

16.4 HSE performance results must be analyzed and trends developed and communicated.

HSE Inspections and Audits

16.5 HSE system audits and HSE inspections must be conducted for each Petroleum site at frequencies commensurate with the HSE risks.

16.6 An audit and inspection schedule must be developed by all sites. The schedule must include:

- Self assessment against the Petroleum HSE Management System.
- Self assessment against Petroleum HSE Controls.
- Reviews to evaluate compliance with the legal and other requirements in the Compliance and Commitments Register.
- ISO14001 and OHSAS 18001 compliance.
- A Petroleum tri-annual external (to the operation) compliance assessment.

HSE Self Assessments

16.7 Annual self-assessment against the Petroleum HSE Management System and Petroleum HSE Controls and Procedures, must be conducted in accordance with the audit and inspection schedule.

16.8 Audit/assessment teams must include relevant technical expertise and external (to the operation) participants as required. Team members must be independent from the area being audited. Approval for the team structure must be commensurate with the nature of audit/assessment.

Corrective and Preventive Action Management

16.9 First Priority (FPe) must be used to report and manage non-compliances, actions and improvement plans resulting from audits and inspections.

16.10 Progress against actions and improvement plans must be monitored and reported to the Site Manager monthly.

16.11 Once corrective and preventive actions have been implemented, their effectiveness must be verified by the responsible line manager and endorsed by the Site Manager.

Ownership, Accountability and Management Review

16.12 Site Managers with accountability for sites must conduct a formal annual management review to verify the implementation, adequacy and effectiveness of the HSE Management system. Information to be reviewed includes results of inspections, audits and self-assessments, incident reports, HSE performance, status of corrective and preventive actions and views of relevant stakeholders.

16.13 Management reviews including observations and recommended actions must be documented and implemented.

Petroleum Documents

DEFINITIONS AND REFERENCES

Definitions

For general terms and definitions, refer to Glossary of BHP Billiton Terms and the Petroleum Glossary. Terms in the electronic version of HSE Management System available on the Petroleum HSE Portal, have hyperlinks to the definitions in either the Glossary of BHP Billiton Terms or the Petroleum Glossary.

References

For a complete and up-to-date list of the most current version of supporting references, refer to the electronic version of this document located on the Petroleum Portal.

Supporting reference documentation may include:

- Petroleum HSE Controls (Environment Controls, Health and Hygiene Controls, Fatal Risk Controls, Aviation Controls and Marine Controls).
- Petroleum HSE Management System documentation (via the Petroleum HSE Portal).
- Other Petroleum Documents (via the Petroleum Portal).
- External documents such as ISO14001 and OHSAS 18001.

BHP Billiton Petroleum supporting documentation will be made available to relevant external stakeholders such as suppliers, contractors and visitors as required and on a case-by-case basis.

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