



# Safety and Environmental Management System (SEMS) Program

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			<ul> <li>Section 3.5 Job Safety Analysis sub-section, "GPO Topside and Subsea Projects"</li> <li>Section 4.3 "Management of Change – Projects"</li> <li>Section 5.4 "Houston Monitoring Center – Wells Operations"</li> <li>Section 5.5 "Projects"</li> <li>Section 6.2.2 "Bridging Documents – Drilling Contractors"</li> <li>Section 9.1 "New Construction – GPO Projects"</li> <li>Added new Appendix F "SEMS Program Processes."</li> <li>Section 16 reworked considerably with GoM EPP descriptions and examples, absorbing the previously, separate EPP document.</li> <li>All other specific changes are documented in AMOC-GOMDW-15-0020. Changes included the following types:</li> <li>Organizational True-ups</li> <li>Updated references, reference documents, acronyms, links, terms and descriptors.</li> </ul>
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#### Introduction

#### Intent

This document summarizes bp Gulf of Mexico's (herein referred to as bp GoM) implementation of 30 CFR Part 250 Subpart S – Safety and Environmental Management Systems (SEMS). The SEMS regulation incorporates by reference American Petroleum Institute Recommended Practice for Development of a Safety and Environmental Management Program for Offshore Operations and Facilities (API RP 75), Third Edition, May 2004, Reaffirmed May 2008.

SEMS is a performance-based standard for integrating and managing safety of offshore operations. The purpose of SEMS is to enhance safety and environmental protection during the performance of offshore oil and gas operations and reduce the frequency and severity of accidents. There are four principal SEMS objectives:

- Focus attention on the influences that human error and poor organization have on incidents.
- Continuously improve the offshore industry's safety and environmental performance.
- Encourage the use of performance-based operating practices.
- Collaborate with industry in efforts that promote offshore worker safety and environmental protection.

SEMS addresses the identification and management of safety hazards and environmental impacts in design, construction, start-up, operation, inspection, maintenance, and decommissioning of new, existing or modified drilling and production facilities.

# Scope

This document addresses each of the seventeen (17) elements of SEMS:

- 1. General
- 2. Safety and Environmental Information
- 3. Hazards Analysis
- 4. Management of Change
- 5. Operating Procedures
- 6. Safe Work Practices (incl Contractor Selection)
- 7. Training
- 8. Mechanical Integrity (Assurance of Quality and Mechanical Integrity of Critical Equipment)
- 9. Pre-startup Review
- 10. Emergency Response and Control
- 11. Investigation of Incidents
- 12. Auditing (Audit of Safety and Environmental Management Program Elements)
- 13. Recordkeeping (Records and Documentation)
- 14. Stop Work Authority (SWA)
- 15. Ultimate Work Authority (UWA)
- 16. Employee Participation Plan (EPP)
- 17. Reporting Unsafe Working Conditions

bp GoM applies SEMS to the following facilities and operations:

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- bp GoM-owned and operated production facilities,
- bp GoM-owned drilling rigs,
- Drilling operations from contracted Mobile Offshore Drilling Units (MODUs) on bpoperated leases,
- Projects that require field execution on bp GoM-operated facilities, and
- bp GoM Region owned Department of Interior (DOI) regulated pipelines and infield flow lines.

Facility product export pipelines are subject to Department of Transportation (DOT) regulation and are not included in the scope of the SEMS program.

bp GoM currently operates five production facilities: Argos, Atlantis and Na Kika are floating production facilities; and Thunder Horse and Mad Dog are floating production facilities that also contain rigs for drilling and completion of new wells and maintenance of existing wells.

Unless exempt under the SEMS regulation, contractors working offshore on the foregoing bp GoM facilities and operations are required to operate in accordance with bp's SEMS program. More specifically, contractors are expected to provide capabilities that meet the SEMS program elements set forth in this document. SEMS implementation specifics vary on a case-by-case basis depending on the nature of the facility, equipment, or service provided by the Contractor, including one or more of the following scenarios:

- If a contractor provides the physical facility at which work is performed,
- If a contractor provides and operates equipment on a BP-owned and operated facility,
- If a contractor provides personnel to deliver a service,
- If a contractor provides personnel for consultation purposes only, and
- If a contractor arranges for sub-contractors to provide equipment, services or consultative personnel.

# **bp GoM SEMS Program**

bp's Operating Management System (OMS) provides the framework (i.e. policies, practices, processes and procedures) to achieve safe and reliable operations.

OMS is a comprehensive health, safety, environmental and operations management system that is divided into eight elements and further subdivided into 48 sub-elements which are further divided into additional Group Essentials. The expectations of SEMS are addressed in the OMS sub-elements. For example: SEMS Element 3 (Hazards Analysis) is covered by OMS Element 3 Risk; SEMS Element 6 (Safe Work Practices) is covered by OMS Element 4 Procedures (Sub-element 4.5 Control of Work) and Element 2 Organization (Sub-element 2.5 Working with Contractors). Application of OMS Group Essentials is used to achieve compliance with the various SEMS elements and safe and reliable operations.

The SEMS elements are mapped to the relevant OMS Elements illustrated in Figure 1.

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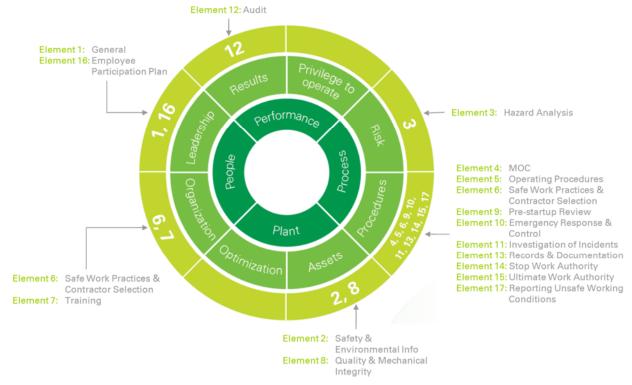


Figure 1

#### **bp GoM Operating Functions**

In support of its business activity, bp reorganized its global operations into 11 entities.

There are four Business Groups.

- (1) Production & Operations,
- (2) Innovation & Engineering,
- (3) Gas & Low Carbon Energy, and
- (4) Customers & Products.

To fully realize the potential of the four Business Groups, they are supported by three Integrators:

- (a) Regions, Corporates & Solutions,
- (b) Strategy & Sustainability, and
- (c) Trading & Shipping.

The four *Business Groups* and three *Integrators* are then underpinned by four, standalone *Enablers*:

- (i) Finance,
- (ii) Legal,

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- (iii) People & Culture, and
- (iv) Communications & Advocacy.

Embedded *Enablers* exist within the other parts of the business as follows:

- Production & Operations hosts Production, Projects, Refining Operations, Petchems Operations, Subsurface, Exploration, Wells and Remediation Management.
- Innovation & Engineering hosts Digital, Engineering, Safety & Operational Risk, and Technology.
- Regions, Corporates & Solutions hosts Security, Intelligence & Crisis Management.
- Strategy & Sustainability will host Ethics & Compliance.

The main areas supporting by's SEMS program can be found within the Production & Operations and Innovation & Engineering *Business Groups*, in addition to the Finance *Enabler*. Due to the diverse nature of their work, the varying Business Groups, Enablers and Integrators may have different practices and procedures covering the same element of SEMS, but all practices and procedures are expected to conform with OMS and meet the requirements of SEMS.

bp GoM Production & Operations (herein referred to as bp GoM P&O) is accountable for the operation and maintenance of hydrocarbon production and related facilities above the well head (Operations). They are also accountable for the design, construction, installation, and handover of safe and compliant major projects (Projects). Finally, they are accountable for the design, construction, and handover of safe and compliant wells (Wells). It should be noted that Wells is also responsible for ongoing well integrity and associated well intervention activity for bp-operated wells in the GoM, even though the well integrity risk is owned by Production. The "well" includes equipment installed from the wellhead down to the Total Depth (TD) of the well.

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#### 1 General

Develop, implement, maintain and document a safety and environmental management system (SEMS).

### 1.0 Policy

As documented in the Commitment statement by the bp Group Chief Executive in <a href="https://example.com/The BP\_Operating Management System">The BP\_Operating Management System (OMS) Framework (GFD 0.0-0001)</a>, BP is committed to:

- Complying with all applicable laws and company policies and procedures.
- Systematically managing operating activities and risks.
- Reporting our Health, Safety, Environment and Carbon (HSE&C) performance.
- Learning from internal and external HSE&C events.

# 1.1 Organizational Structure and Accountabilities for SEMS

bp GoM's Business Leadership Team (BLT) is responsible for establishing, implementing and maintaining the bp GoM SEMS program, with the Senior Vice President Gulf of Mexico and Canada (SVP GoM&C) having overall authority. The effectiveness of the SEMS program is measured by the extent to which bp GoM meets established safety and environmental goals and performance measures. The BLT has responsibility for:

- Achieving these goals and performance measures within each of their respective functions and organizations.
- Specifying the means and timeframes by which they are to be achieved.
- Assigning responsibility for achieving goals and performance measures at each relevant function and level of the organization.
- Establishing an internal program to communicate the safety and environmental goals and performance measures to the workforce.

# 1.2 Roles and Responsibilities

bp GoM leaders create and support clear delegation and accountability in several ways:

- **Job descriptions** Roles and responsibilities are defined using standard templates often referred to as job blueprints.
- Annual Operating Plans (AOP) The AOP outlines deliverables for each business area to
  meet bp GoM requirements and drive continuous improvement of our management
  system. It assigns tasks to be completed for a cycle, usually annually, and assigns a Single
  Point of Accountability (SPA) for achieving each task orobjective. The plan covers
  functional metrics related to Safety, Environment and People, among others.
- **focus@bp** bp's individual performance management program is used to define accountabilities for each employee and measure their performance against the stated deliverables (e.g., AOP actions and other assigned tasks).
- The <u>SOR Critical Role Competence Assessment Upstream Framework (100428)</u> outlines a
  method for assuring competence of employees within each respective *Business Group*, *Enabler* and *Integrator*, who hold specific job roles and perform specific work activities
  deemed critical to maintaining safe and compliant operations.

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The responsibilities, authorities and lines of communication required to implement bp GoM's SEMS program are described below.

#### 1.2.1 <u>Line Accountabilities (Production, Projects, Wells)</u>

- Compliance with SEMS requirements,
- Maintenance of documents and records as required by SEMS,
- Preparation for SEMS audits,
- Development of SEMS corrective action plans and gap closure plans from audits and selfverification activities.
- Closure of SEMS audit corrective actions,
- Implementation of gap closure plans, and
- Engagement of the workforce.

#### 1.2.2 SEMS Delivery Team

The SEMS delivery team is responsible for the delivery of the SEMS program. Accountabilities for the team members include:

- Reporting to management on the performance of the SEMS program,
- · Planning and preparing for the SEMS audit,
- Ensuring linkage of OMS and SEMS,
- Planning and managing SEMS continuous improvement programs,
- Identifying and supporting the operating functions in the delivery of SEMS activities,
- Planning, preparing, and coordinating the SEMS expectations for the operating functions to deliver, and
- Providing feedback and updates to the Business Leadership Team on the status and performance of the SEMS program.

#### 1.2.3 <u>SEMS Manager</u>

The GoM SEMS Manager is responsible for:

- Leading bp GoM's delivery of the SEMS Program,
- Creating the work processes, reporting systems, and organizational engagement necessary to meet SEMS requirements across the bp GoM Region,
- · Custodian of the SEMS Program Document,
- Abiding by the process for notifying the regulator when audit schedules change due to changes in the fleet of drilling rigs, platforms, and platformrigs, and
- Providing all regulatory agencies with appropriate SEMS audit communications.

# 1.3 Planning, Goals, and Performance Measures

#### 1.3.1 <u>Annual Operating Plan (AOP)</u>

bp GoM's AOP may consist of several plans for the various functions within bp GoM. AOPs are intended to ensure that the functions are aligned with internal objectives and regulatory requirements.

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#### 1.3.2 <u>SEMS Program Review</u>

The SEMS program review is comprised of the following:

- a) An annual review and update of the SEMS program document, and
- b) An annual management review of the suitability, adequacy, and effectiveness of bp GoM's adherence to the SEMS program elements.

#### **Annual SEMS Program Document Review**

The SEMS Program Document is formally reviewed annually. This review includes involvement of Subject Matter Specialists (SMS) and Subject Matter Experts (SME) across the operating and technical functions to modify or clarify relevant sections of the SEMS Program Document as necessary to describe OMS practices as they relate to SEMS requirements. The review considers learnings from the prior year, results from the annual management review, audit program results (SEMS and internal), changes to relevant internal requirements or practices, and regulatory changes.

The updates to the document are approved by the Senior Vice President Gulf of Mexico and Canada (SVP GoM&C), along with each business area's corresponding Vice President, and made available to field and office personnel in OMS Navigator.

#### **Annual SEMS Management Review**

bp GoM SEMS program elements are formally reviewed with the bp GoM BLT on an annual basis. The objectives of the Annual Review are to:

- Determine if bp GoM's overarching policies, practices and procedures that deliver the SEMS Program Elements are suitable, adequate and effective by reviewing key insights from internal and external audits, conformance plans, self-verification checks, assurance reviews and performance results.
- Review and address the possible need for changes to defined policies, practices, procedures, objectives and other elements of the SEMS Program, considering key insights and changing circumstances.
- 3. Document observations, conclusions, recommendations and forward plans needed to enable continuous improvement of the SEMS Program.

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Key insights are identified and incorporated from a breadth of sources as shown below in Figure 2.

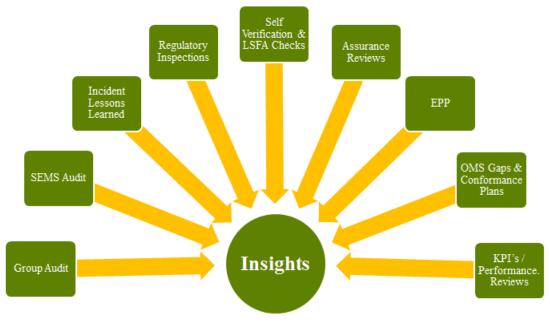


Figure 2

Personnel in each area are engaged to identify learnings and opportunities relevant to bp GoM's SEMS program.

#### 1.3.3 <u>Performance Measures</u>

Safety and environmental objectives, targets, and performance measures are established at the Region and Facility level to support delivery of the AOP. These are reviewed regularly at performance review meetings with leadership and other team members.

Examples of safety, environmental and performance measures include, but are not limited to:

- Inspections completed,
- Maintenance compliance,
- Behavioral-based programs (e.g., IRIS observations and safety observation conversations),
- Insights from leadership visits / inspections / assessments,
- Instances of loss of primary containment,
- Dropped Objects,
- Fires,
- Operating excursions,
- Control of Work (COW) related incidents,
- Spills number and volumes,
- Compliance notices issued by regulators (e.g., incidents of non-compliance (INCs) per facility),
- · Total recordable incident rate, and
- Days away from work cases.

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Driven by OMS, these performance measures support the SEMS expectations of enhancing the safety and environmental performance of offshore oil and gas operations and reducing the frequency and severity of accidents.

In accordance with the SEMS regulation 30 CFR § 250.1929, the Bureau of Safety and Environmental Enforcement (BSEE) Form 0131 for the preceding calendar year, is submitted annually before March 31 and is available upon request. This submission provides a summary of relevant bp GoM performance measures.

In addition to the performance measures listed above, the SEMS Program goals are to:

- Complete the annual update of the SEMS program document,
- Close corrective actions from previous audits,
- Conduct the current SEMS audit and close corrective actions,
- Conduct the annual management performance review to assess the suitability, adequacy and effectiveness of each element of the SEMS Program,
- Progress continuous improvement activities as agreed with the BLT and incorporate updates into the next revision of the SEMS program document, and
- Share lessons with the Center for Offshore Safety (COS).

# 1.4 Continuous Improvement

bp GoM uses continuous improvement methodologies and tools to drive improvements in plant, people, process and performance through identification, measurement and elimination of inefficiencies.

Continuous improvement opportunities in the SEMS program are identified by the annual management review, the program document review, and input from the various processes associated with employee participation. Additionally, information received from BSEE and industry forums, such as the COS and American Petroleum Institute (API) are included as appropriate.

bp GoM also utilizes new Modernization and Transformation and Agile initiatives to help drive process improvements and efficiencies.

# 1.5 Regulatory and Code Compliance

The <u>BP GoM Region Regulatory Notice Process (UPS-US-SW-GOM-HSE-DOC-00711-2)</u> describes the processes for:

- Identifying and assessing the impact of new regulations and/or changes to existing regulations,
- Tracking actions necessary to implement and comply with the new/revised regulations,
- Communicating the new/revised regulations and requirements to the organization.

bp GoM maintains a regulatory applicability matrix that maps applicable HSE&C regulations to operations. The <u>GoM OMS 7.1 Regulatory Compliance Conformance Document (2700-T2-RG-PR-7001)</u> describes the process used to comply with legal and regulatory requirements covering health, safety, security and environment. The compliance matrix is used to identify compliance

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requirements for activities occurring in the Gulf of Mexico. These are available on the Environment and Social SharePoint Site.

#### 1.6 Communication

Communication of SEMS program information, safety and environmental expectations, performance metrics and status of ongoing activities is achieved by various means including town hall meetings, written leadership communications to the workforce, facility field assessments and verification processes, regularly scheduled meetings with representatives from each function, computer based training (CBT), and periodic e-mail bulletins sent by the SVP GoM&C or all other supporting Vice Presidents.

The <u>BP GoM Communications and External Affairs Procedure – GoM Environmental Inquiries</u>
(<u>UPS-US-SW-GOM-HSE-DOC-00734-2</u>) describes the procedure for receiving, documenting, communicating and responding to external inquiries about HSE&C aspects of bp GoM operations.

# 1.7 Environmental Impacts

Environmental hazards ("aspects") and potential consequences ("impacts") are identified and updated during the early phases of major project development in accordance with Sections 4.2A and 4.2B of GDP Environmental and Social Requirements for New Access Projects, Major Projects, International Protected Area Projects and Acquisition Negotiations (GDP 3.6-0001).

Environmental impact assessment/environmental assessment documents are prepared in accordance with Section 5.4A of <u>GDP Environmental and Social Requirements for New Access Projects, Major Projects, International Protected Area Projects and Acquisition Negotiations (GDP 3.6-0001)</u>. These environmental impact assessments are included with regulatory permit submittals as required and address environmental impacts throughout all phases of project development.

During the operations phase of projects, environmental aspects/impacts are identified in accordance with Chapter 4 of <u>GoM OMS Guide to ISO 14001 Environmental Management (UPS-US-SW-GOM-HSE-DOC-01017-2)</u>.

Per <u>BP Policy Risk Management (000030)</u> and the <u>BP Procedure P&O Risk Management (100726)</u>, be entities maintain a risk register that includes environmental hazards and risks, such as emissions to air, water and land. The impacts and probabilities for these identified environmental risks are assessed for each entity and risk reduction measures are implemented to manage those risks.

# 1.8 Regulatory References

- 30 CFR 250.1900
- 30 CFR 250.1909
- 30 CFR 250.1929

#### 1.9 OMS Reference

- 1.1 Operating Leaders
- 1.6 Communication and Engagement
- 2.1 Organization Structure
- 2.2 People and Competence

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- 2.3 Operating Discipline2.5 Working with Contractors
- 3.1 Risk Assessment and Management
- 3.6 Environment
- 4.1 Procedures and Practices
- 5.4 Inspection and Maintenance
- 6.8 Continuous Improvement
- 7.1 Regulatory Compliance8.1 Metrics and Reporting

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# 2 Safety and Environmental Information

Safety and environmental information is developed and maintained for facilities subject to the SEMS Program.

bp GoM stores and maintains all "Safety and Environmental Information" as defined in Section 2 of API RP 75, in a centralized Electronic Data Management System (EDMS) available to bp GoM employees and relevant contractor personnel.

bp Group guidance for document control is provided in OMS Element 4.3 – Information Management and Document Control (IMDC).

Document Control is also detailed in Section 13 of this document under "Records and Documentation."

# 2.0 GoM Operations

<u>Operations Information Management Manual (2020-T2-DM-PR-0003)</u> describes the information management and document control principles and processes applied to bp GoM's Operations assets. It outlines how controlled documents are maintained and updated.

GoM Subsea Operations Document Management Guidelines details the information management and document control procedure applicable to bp GoM Subsea Operations.

The technical changes to engineering information are managed using the BP Procedure GOO Management of Change (GOO-GE-PRO-00003).

Employees are encouraged and expected to notify the appropriate individuals when they believe that information may not be accurate or complete.

#### 2.0.1 <u>Mechanical and Facility Design Information</u>

Safety and Environmental Information for bp-owned production facilities is aligned with API RP 75 and is maintained by bp GoM.

The mechanical and facility designs for offshore facilities and equipment are consistent with the applicable codes and standards in effect at the time the design was prepared or, in the absence of such codes and standards, recognized and generally accepted engineering practices, as well as the applicable governmental regulations. The mechanical and facility design information includes, but is not limited to:

- General
  - Equipment Arrangement Drawings (Layouts),
  - Design Basis-Codes & Standards,
  - Safety Data Sheets (SDS), and
  - Vendor Data.
- Process

- Safety Flow Diagrams (API RP 14C),

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- Process Flow Diagrams,
- Process Design Information Hysys Model,
- Basis of Design (BoD) for the Relief System, and
- Safe Operating Limits Upper and Lower operating limits.

#### Mechanical

- Piping and Instrument Diagrams,
- Materials of Construction,
- Corrosion Management System, and
- Equipment & Piping Specifications.

#### Electrical

- Electrical Area Classification Drawings and
- Electrical One-Line Drawings.

#### Instrumentation

- Safety Analysis Function Evaluation Charts (14C),
- Cause & Effect Charts.
- Description of alarms, shutdown, and interlock system, and
- Description of well control systems.
- Risk & Process Safety
  - Design Basis for Active and Passive Fire Protection and
  - Bowtie Barrier Diagrams.

#### 2.1 GoM Wells

bp GoM Wells information is maintained by Wells in a variety of electronic databases. The well development Basis of Design (BoD) is prepared for the following key well components:

- · Casing Design,
- · Cement Design,
- Directional Drilling Design,
- Fluids Design, and
- Tubing Design.

Engineering design data, such as casing design and trajectory design information, and as-drilled data, such as well location surveys, are maintained in the Engineering Data Model (EDM) database. All other well records and documents such as Well Programs, mill certifications, equipment arrangement drawings, component specifications, etc., are maintained in the EDMS.

Each equipment manufacturer may also maintain records of certain equipment design and manufacturing data at its office. bp GoM expects its contractors to execute quality plans to meet any applicable standards and bp GoM Specifications. bp GoM may inspect or otherwise verify that equipment is assembled in accordance with the manufacturer's procedures and conform to the applicable standards through the third-party inspection process.

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Safety and environmental information for equipment owned by contractors is maintained by the contractor and is made available upon request.

# 2.1.1 <u>Contractor Mobile Offshore Drilling Unit (MODU) Mechanical and Facility Design</u> <u>Information</u>

Each MODU contractor is expected to maintain safety and environmental information for its facility.

# 2.2 OMS Reference

- 3.1 Risk Assessment and Management
- 3.6 Environment
- 4.1 Procedures and Practices
- 5.2 Design and Construction
- 5.3 Asset Operation
- 7.1 Regulatory Compliance

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# 3 Hazards Analysis

Job safety analyses and hazards analyses are performed for the facility to identify and evaluate the likelihood and consequences of uncontrolled releases and other safety or environmental incidents.

# 3.0 Facility Hazard Analyses – bp GoM-Owned Facilities

Facility hazard analyses address the following:

- Hazards of the operation, including construction, drilling, completions, and intervention programs.
- Previous incidents related to the operation being evaluated, including any incident in which an Incident of Non-compliance (INCs) or a civil or criminal penalty was issued.
- Control technology applicable to the operation being evaluated.
- A qualitative evaluation of the possible safety and health effects on employees, and potential impacts to the human and marine environments, which may result if the control technology fails.

Facility hazard analysis for bp GoM-operated facilities are performed in accordance with bp Practices Hazard and Operability (HAZOP) Study (GP 48-02) and Layer of Protection Analysis (LOPA) (GP 48-03). The Wells process safety study requirements are defined in BP Practice 100226 – Process Safety Engineering in Wells (48-10) (see Sections 3.2 and 3.3 below). The results for any HAZOP or LOPA studies are documented in reports with recommendations and actions communicated to affected personnel. The analyses for each current operation are documented and maintained for the life of the operation at the facility. bp GoM revalidates roughly 20% of total HAZOP nodes every year such that all nodes will have been revalidated every 5 years. Facility hazard analyses are also updated as appropriate following any internal audit findings.

Additional hazard analyses methodologies are applied as appropriate including, for example, hazard identification which is governed by <u>Hazard Identification (HAZID) Study (GP 48-05)</u>, and hazard identification and task risk assessment (HITRA) requirements which are outlined in <u>BP Procedure Upstream Control of Work Procedure (100340)</u>.

100243 bp Procedure Production Risk Management defines the risk management process and expectations for bp GoM-owned facilities, including identification and assessment of hazards. bp GoM Operations policies include an obligation to conduct annual self-verification and assurance activities to verify conformance with risk management requirements.

bp GoM employees are involved with the development of facility hazard analyses: bp GoM process safety and risk professionals provide oversight of the hazard analysis process and representatives from Wells (drilling, completions, and interventions), Projects, Operations, Resources, Safety, and Environmental, participate in the hazard analysis, as appropriate.

bp GoM Process Safety Engineers and Wells Process Safety Advisors maintain lists of competent and approved facilitators for hazard analyses (i.e., HAZID, HAZOP, LOPA and ISD). For bp GoM Operations the list is maintained in <a href="HAZID">HAZID</a>, HAZOP, & LOPA Facilitators</a>. For the Wells organization, a global list is maintained in <a href="HAZOP-LOPA-HAZID-ISD GWO Facilitators List Site">HAZOP-LOPA-HAZID-ISD GWO Facilitators List Site</a>. Hazards analyses are performed by competent personnel, including:

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- Persons knowledgeable in engineering, operations, design, process, safety, environmental, and other specialties, as appropriate,
- Persons with experience in the operations being evaluated,
- At least one person proficient in the hazards analysis methodologies being employed,
- Persons not involved in the original design or modification for assessment teams consisting of only one person, and
- Contractors when appropriate.

# 3.1 Facility Hazard Analyses - Drilling Rigs

Facility hazards analyses are in place for all bp GoM Wells drilling rigs (bp-owned rigs and third party-owned (contracted) rigs). The owner of each contracted drilling rig performs, documents, and maintains a hazard analysis for its facility. These hazard analyses outline the contractor's process for managing risks and hazards associated with each Mobile Offshore Drilling Unit (MODU). Facility hazard analyses may include HAZOPs, HAZIDs and other formal risk assessments. Hazards identified are communicated to the workforce as appropriate using a variety of means including bow-tie diagrams when utilized.

<u>BP Practice 100226, Process Safety Engineering in Wells, (GP 48-10)</u> outlines the requirements for bp GoM Wells conducted HAZOPs. For Wells' HAZOPs, mitigating actions identified during the analyses are addressed and documented in bp's action tracking system (e.g., IRIS, etc.).

# 3.2 Facility Hazard Analyses – Wells

Risk registers are used in the Well Delivery Workflow (WDWF) by a multi-discipline team to identify, assess, understand, communicate, and share risks, and to document risk management measures. During the execute phase of a project, operational risk assessments (facilitated by either bp-badged or Contractor employees) are held to assess new risks or changes from planned operations.

Bp GoM Wells has consolidated field level risks across all assets into standard (Level 3) risk registers. These registers encompass the most frequently identified risks across bp GoM Wells operations. This ensures a consistent and effective approach in addressing and mitigating the risks across the Region. Asset-specific risks are identified in the registers and the registers are reviewed annually for any additional field level risks.

Risks unique to each well, including associated mitigations, are consolidated in well-specific risk registers (Level 4).

Some risks are captured during the planning phase. These risks are reviewed by the bp GoM Wells Engineering Manager at the Select and Define stage gates to ensure that new or changing risks have adequate mitigations and to determine whether the new, well-specific risk impacts an 'endorsed' major risk. This process is called the 'Level 2 Risk Check'.

The hazard identification and risk assessment process during well operations is conducted by bp GoM Wells in accordance with the <u>BP Procedure Wells Risk Management (100096)</u>.

The bow-tie diagrams for well construction and intervention document the key barriers in place for managing bp GoM Wells Major Accident Risks (MAR). Barrier performance reviews are performed by the bp GoM Wells Leadership Team on an annual basis per enduring risk. They

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review leading and lagging indicators and identify any corrective actions necessary to improve barrier performance and effectiveness. bp GoM Wells communicates major risk, as appropriate for a bp-owned facility or a contracted MODU, with the drilling contractors.

HAZOP studies are conducted on the surface gas and drilling fluid handling systems, as well as pressurized pumping operations for interventions and completions. Actions identified from these HAZOPs are prioritized and then managed to closure in bp's action management tool (e.g., IRIS).

# 3.3 Hazard Analyses - Projects

BP Practice Major Projects common process (MPcp) Upstream Segment (100300 - GPO-PA-PRO-00001) and BP Practice Health, Safety, Security and Environmental Management in Projects (GPO-HS-PRO-00009) governs how bp GoM Projects executes major capital projects. This includes management of design hazards, which entails 'Inherently Safer Design' activities, 'Hazard Identification' activities, 'Hazard Assessment' activities, 'Hazard Management' activities, and 'Project Risk' activities. At each Capital Value Process (CVP) stage of the project, the plan to manage design hazards and HSSE risks is documented in the Design Hazard Management Plan and Health, Safety, Security and Environmental Management in Projects. This plan describes the following activities to identify, assess and manage design hazards at each stage of the project:

- HAZID in early project stages,
- HAZOP in front-end and detailed engineering phases, and
- Construction/commissioning risk assessments during the project execution phase.

The plan may also include major hazards studies (e.g., fire and blast study, dropped object study, quantitative risk assessment (QRA), MAR assessments, etc.) as appropriate depending on the scope of each project. In addition, the project identifies risks to execution and installation throughout all CVP stages. Project risks are identified per the GPO Risk Management Procedure (GPO-PX-PRO-00009), which details the process for identifying, assessing, responding to, monitoring, and controlling risks. This procedure applies to all projects managed by bp GoM Projects and operated by bp GoM. Project execution risks are identified by project and documented in the Risk Module of the Project Management Control System (PMCS) system.

#### 3.4 Hazard Communication

The findings of a hazard analysis are presented in a written report that describes the hazards identified and recommended mitigations. Identified hazards and follow-up actions are communicated to appropriate personnel, actions are tracked to closure, and the resolutions are documented. If the hazard analysis identifies any pre-start up or immediate actions, these actions are addressed, or the hazardous conditions otherwise remedied, immediately before start-up is allowed.

For **bp GoM-owned Facilities**, site specific production facility hazards are communicated to new personnel through the <u>GoM Orientation Program (UPS-US-SW-GOM-HSE-DOC-00122-2)</u>, through regular hazard reviews for ongoing activities, and through the risk notification and planned endorsement process (RNPE).

Daily employee and Contractor briefings cover planned activities, simultaneous operations (SIMOPs), and potential hazards.

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For **Drilling Rigs**, actions are tracked and managed by the rig owner per their processes. Each MODU contractor has a process in place to communicate facility hazards as part of their orientation program and Job Safety Analyses, or equivalent, (herein referred to as "JSAs") process, for development of work activities.

For **Wells**, identified hazards and actions arising out of bp GoM Wells hazard analyses (e.g., HAZOPs and HAZIDs), relating to a specific operation, are typically communicated in the written procedures for that operation, are resolved accordingly, and tracked to closure within bp's action management tool (IRIS).

For Projects see: GPO Action Tracking Procedure (GPO-PC-PRO-00010).

As documented in Section 5.5 of the <u>bp Procedure Production Risk Management (100243)</u> information from platform risk registers are communicated annually to members of each respective Facility workforce. The communication highlights the importance of risk reduction measures in place to manage risk, the reasons for them, and the risk reduction plans to further reduce risk.

# 3.5 Job Safety Analysis

JSAs are developed and implemented for permitted activities. On bp GoM-owned facilities, JSA requirements are met using Task Risk Assessments (TRAs) as per <u>BP Procedure Upstream Control of Work Procedure (100340)</u>.

All contractors performing work on bp GoM-owned facilities are required to follow the Upstream Control of Work Procedure TRA process, 100340. Thus, 3rd party JSAs are not permitted to be used in lieu of bp GoM's TRA process.

The TRA is approved as part of a Permit which is authorized per the bp GoM's Control of Work 8-step process. TRA approvals are required to be commensurate with the risks and complexity of the activity and identify, evaluate, and manage the hazards involved.

The Ultimate Work Authority (UWA) approves, authorizes and signs Permits, for permitted work, as per 100340.

Certain approvals, authorizations and signatures may be delegated or escalated as defined within the Upstream Control of Work Procedure, 100340.

All permits, with integral TRA (hardcopy paper), are retained on-site for a minimum of 30 days, and are maintained and made available on request for a minimum of two years (on-site or on-shore).

#### **Contract Drilling Operators**

For non-bp GoM-owned facilities, such as MODUs, the tasks requiring a JSA are identified by the facility owner as part of its Control of Work (CoW) Process and made available to bp GoM for review and oversight.

#### **Facility Topsides and Subsea Projects**

For all Topsides work conducted in bp GoM, bp GoM Projects follows the standards set by bp GoM Operations. For all non-bp, GoM-owned vessels, the tasks requiring a JSA (i.e., risk assessment)

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are identified by the project scope and by the contract vessel operator as part of its CoW Process. Any such as, JSAs developed are made available to bp for review and oversight prior to implementation.

# 3.6 Regulatory References

• 30 CFR 250.1911

# 3.7 OMS Reference

- 1.6 Communication and Engagement
- 3.1 Risk Assessment and Management
- 3.2 Personal Safety
- 3.3 Process Safety
- 4.5 Control of Work
- 5.2 Design and Construction

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# 4 Management of Change

Establish and implement written management of change (MOC) procedures for modifications associated with equipment, operating procedures, personnel changes (including contractors), materials, and operating conditions.

bp GoM employs a formal, systematic process to document, evaluate, approve and communicate, permanent changes and applicable temporary changes that could impact safe, reliable and compliant operating activity. MOC provisions are documented, dated, and retained in the relevant MOC database.

# 4.0 Management of Change – bp GoM-owned Facilities

On bp GoM-owned facilities, changes with the potential to impact safe, compliant and reliable operations are managed in accordance with BP Procedure GOO Management of Change (GOO-GE-PRO-00003). The change categories covered by the procedure are:

- Equipment process and mechanical design,
- · Operating Procedures,
- Personnel or organizational changes, including contractors where applicable,
- Materials, and
- Operating conditions including deviations from documented safe operating limits.

#### The procedure applies to:

- All bp GoM Operations activities,
- bp GoM Projects activities, and
- Changes to bp GoM Wells equipment.

#### The procedure outlines the requirements for:

- Exclusion of Replacement-in-Kind from the MOC requirements,
- Roles and responsibilities at each stage of the MOC process,
- Assessing the risks associated with the change and the health, safety and environmental impacts,
- Managing identified risks,
- Assessing the need for a Pre-Start-up Safety Review (PSSR),
- Managing pre-implementation and post-implementation actions,
- Type of change,
- Duration of change temporary or permanent and how they are managed,
- Assessing the effects of the proposed changes on separate but unrelated upstream or downstream facilities and on area wide emergency plans,
- · Estimating the time to implement changes,
- Revisions to the operating procedures, Control of Work (COW) procedures, safe work practices, and training program,
- Communication of a proposed change and the impacts of that change to appropriate personnel,
- Training for affected personnel, where applicable, prior to the implementation of the change,
- Revisions of the safety and environmental information, and

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• Verification that changes are correctly executed and accomplish their original intent.

# 4.1 Management of Change – Wells

#### 4.1.1 <u>bp GoM-Managed Changes to Wells</u>

Changes to activities and conditions under the accountability of bp GoM Wells, including well planning, design, drilling, testing, completion, integrity, operation (including well maintenance), intervention or workover, suspension, abandonment, and other activities associated with performing those well operations, are managed in accordance with <a href="maintenance">BP Practice Wells</a> <a href="Maintenance">Management of Change and Deviations (100152)</a>. Changes covered under this procedure include:

- Deviations from bp GoM Wells-issued bp Procedures, Practices and Specifications,
- Organizational changes,
- Changes to approved, controlled documents,
- Changes to the approved Basis of Design (BoD); including changes to permanently installed wellbore equipment, and
- Changes to the Statement of Requirements (SoR).

This procedure does not apply to changes to:

- Equipment on bp GoM-owned rigs (previously addressed under bp-GoM owned facilities, Section 4.1 of this document),
- Contractor-owned and operated rigs, and
- Contractor personnel and equipment.

Electronic Management of Change (eMOC) is the current software tool used in bp GoM Wells to initiate, review, approve, authorize and document the MOC process.

Changes to Well Programs are governed by <u>GoM wells Procedure Well Programs (GMGWO-WE-PR-000-06283)</u>. This procedure outlines the various levels of procedural change, the criteria that apply for each and the necessary level of approval required for each change. This procedure outlines the various levels of procedural change, the criteria that apply for each and the necessary level of approval required for each change.

#### 4.1.2 <u>Drilling Contractor Changes</u>

Drilling contractors are expected to apply the MoC process in accordance with their procedures or as otherwise agreed in the Health, Safety, Environment and Carbon (HSE&C) bridging document for changes associated with:

- Rig equipment,
- Procedures,
- Material owned by the contractor,
- Operating conditions, and
- Contractor's personnel.

These MOCs are made available to bp on request.

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#### 4.1.3 <u>Third Party Service Provider Managed Changes</u>

Each third-party service provider is expected to manage changes to its equipment, procedures and personnel in accordance with its MOC procedures.

# 4.2 Management of Change – Projects

The BP GoM Projects Management of Change (MoC) Process is detailed in <u>GPO Management of Change (GPO-PC-PRO-00009-GPO)</u>.

The purpose of change control is to confirm that:

- The impact of change is fully evaluated, reviewed, authorized (both technically and financially) and documented before it is executed,
- Risks are assessed and mitigated to an appropriate level,
- · Legal and Regulatory compliance is maintained,
- Impacts on Safety and Operational Risk (including HSE&C) are identified, understood and communicated to relevant groups and stakeholders to inform decision-making,
- Impacts on the project plan, deliverables, lifecycle value, and costs are communicated to the relevant groups and stakeholders to inform decision-making, and
- Actions to implement an approved change are identified, assigned to appropriate personnel, and completed per schedule.

Project Management Control System (PMCS) is the bp GoM Projects standard software tool for managing change on Projects.

For projects that are handed over to bp GoM Operations, a project-specific handover/startup document typically outlines how any changes are managed.

# 4.3 Regulatory References

• 30 CFR 250.1912

#### 4.5 OMS Reference

- 3.1 Risk Assessment and Management
- 4.1 Procedures and Practices
- 4.2 Management of Change
- 5.2 Design and Construction
- 5.4 Inspection and Maintenance

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# **5 Operating Procedures**

Written facility operating procedures are designed to enhance efficient, safe, and environmentally sound operations. Written operating procedures have been developed and implemented that provide instructions for conducting safe and environmentally sound activities.

# 5.0 Production Operations – bp GoM-owned Facilities

bp GoM operating procedures for topsides, subsea, and marine operations include Site Operating Procedures (SOPs) and Job Plans associated with operations. Marine Operations Manuals and System Operating Manuals are not operating procedures, but are used to support the use of operating procedures.

SOPs are in place on each bp GoM-owned facility. <u>BP Guide Production Site Operating Procedures (GOO-OP-GLN-00007)</u> and the <u>GoM SOP Implementation Plan (2030-85-CN-PN-0001)</u> list the requirements for development of SOPs and address the following:

- Initial / cold start-up,
- Normal operations,
- Normal shutdown,
- Start-up following a turnaround, or after an emergency shutdown,
- Temporary operations,
- Notes, cautions and warnings describing:
  - Properties of, and hazards presented by, the chemicals used in the operations,
  - Precautions to be taken to prevent the exposure of chemicals used in operations to personnel and the environment,
  - Any special or unique hazards,
  - Control of hazardous chemical inventory, and
  - Impacts to the human and marine environment identified through a hazards analysis.
- The roles, accountabilities and responsibilities of job functions relative to operating procedures,
- Involvement of end users in the development of new operating procedures, revisions to existing operating procedures, and
- Accountability of end users for following authorized operating procedures.

Updates and/or modifications to an existing SOP can occur in one of several ways:

- 18. <u>BP Guide Production Site Operating Procedures (GOO-OP-GLN-00007)</u> makes provisions for changes in the following circumstances:
  - When an end user identifies a potential modification or improvement to an existing SOP, the end-user can "red line" the existing SOP, review it with the appropriate Offshore Team Leader, and initiate the formal revision of the SOP.
  - If a temporary operating procedure is required, the policy details the process by which one is developed. Temporary operating procedures are controlled by the associated temporary Management of Change (MOC) and expire with the temporary MOC.
  - In the event an end-user identifies a need to deviate from an existing SOP, the policy details a process by which an SOP deviation request can be reviewed and approved.

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- 19. Facility or process modifications which are subject to MOC include, as part of the MOC, the required changes to the associated Operating Procedures.
- 20. SOPs are reviewed at an interval not to exceed five years. This interval may coincide with the five-year facility HAZOP revalidation process and is in addition to reviews conducted as part of an MOC.
- 21. New or updates to SOPs not conducted as part of an MOC may process reviews and approvals utilizing the Information Management Document Change approved eSOP tool (<u>eSOP</u> Home Page).

#### Other key requirements addressed in documents other than SOPs include, but are not limited to:

- Emergency operations (including, but not limited to, medical evacuations, weather-related evacuations and emergency shutdown operations) which are covered by Health, Safety, Environment and Carbon (HSE&C) procedures
- Isolation/de-isolation plans which are covered by Control of Work (CoW) procedures.
- Simultaneous operations managed by the application of <u>BP Procedure Upstream Control of Work Procedure (100340)</u> and the <u>GoM Region Local Implementation Procedure Upstream Control of Work (GOO-OP-PLN-00005)</u>.
- Bypassing and flagging out-of-service equipment.
- Identification of safe operating limits (SOL) and consequences of deviation (COD).
   Historically, these have been included in the Standard Operating Manuals. As bp GoM implements the GoM Procedure for Defining, Setting, and Maintaining Design & Operating Limits (2010-T2-OP-PR-0002), SOL/COD information will be maintained within the Facility control system and readily available via the operator interface.

Note: Standard Operating Manuals describe how systems work and are for reference only.

SOPs are accessible by personnel associated with the execution of an operating procedure. Operating procedures are electronically controlled documents; however, one hard copy of each controlled SOP is available on bp GoM-owned facilities.

When work is scheduled that requires the use of written Operating Procedures, an accountable person is assigned for the duration of the work to communicate the activities associated with the operating procedure to impacted persons.

#### 5.1 Well Construction and Intervention Procedures

New wells are designed and planned using the Well Delivery Workflow (WDWF). Intervention and Decommisioning activity is planned using the Well Intervention Common Process (WICP). At each stage of the WDWF and WICP, certain deliverables are required to obtain approval to progress between stages.

Procedural "hold points" are included in the Well Programs at certain pre-defined stages of the plan to provide added assurance of safe and compliant well operations. These "hold points" are used to verify that specific conditions are met, or actions completed, to manage safety, environmental, or compliance risks associated with specific tasks or operations. Prior to approval being granted to proceed to the next step, the identified "hold points" are required to be verified. Approval decision rights for each "hold point" are detailed in the procedure and hold point approvals are documented in the daily OpenWells reports.

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# 5.2 Drilling Rig Operating Procedures

The contract operator of bp GoM-owned drilling equipment provides operating and maintenance procedures and/or work instructions for all operations.

The Mobile Offshore Drilling Unit (MODU) contractor provides operating procedures for contractor-owned and operated MODUs.

Third party service providers provide operating instructions for their equipment.

# **5.3 Wells Monitoring Center – Well Operations**

The bp Wells Remote Collaboration Center (RCC) is bp real-time monitoring center that provides support to GoM Deepwater Rig Teams with 24/7 data monitoring. The primary purpose of the RCC is to reduce the risk of loss of well control through independent, shore-based monitoring and assessment. The RCC activities focus on well control incident avoidance and provision of alert notifications to the wellsite team and the Wells Superintendents. At a minimum, the RCC monitors active pit volume, pump pressure, flow rate out, gas units, trip displacement, real-time data from downhole tools and blowout preventers (BOPs). The RCC is operational 24 hours per day with Well Monitoring Specialists, Well Site Leaders (WSL), RCC Engineers and support staff. The staffing numbers vary depending on the rig activity level.

The RCC operations are performed in accordance with <u>BP wells RCC Operating Procedure (GW100-DM-STR-600-00001)</u>.

# **5.4 Operations Projects**

Aligned with the bp GoM Operations operating procedures for topsides, subsea, and marine operations, bp GoM Projects applies <a href="BP Guide Production Site Operating Procedures">BP Guide Production Site Operating Procedures</a> (GOO-OP-GLN-00007) (refer to Section 5.1 of this document). The <a href="BP Guide - Upstream Brownfield">BP Guide - Upstream Brownfield</a> (GOM-PM-GLN-00007) is used to determine whether existing procedures need to be revised or whether new procedures need to be written. Additionally, during various stages of bp GoM Site and Subsea Projects, the Project teams will utilize the 100012, GOO Category C Projects Common Process (GOO-PM-PRO-00001) to provide procedural discipline during design/modification activities.

# 5.5 Regulatory References

30 CFR 250.1913

#### 5.6 OMS Reference

4.1 Practices and Procedures

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#### 6 Safe Work Practices

The SEMS establishes and implements control of work procedures and safe work practices designed to minimize the risks associated with operation, maintenance, and modification activities and the handling of materials and substances that could affect safety or the environment. Human factors are considered in the development of safe work practices.

#### 6.0 Control of Work Procedures and Safe Work Practices

#### 6.0.1 bp GoM-owned Facilities

Guidance for planning and safely executing work is documented in <u>BP Procedure Upstream</u>
<u>Control of Work Procedure (100340)</u>, <u>GoM Region Local Implementation Procedure Upstream</u>
<u>Control of Work (GOO-OP-PLN-00005)</u>, <u>Site Safety Standards (UPS-US-SW-GOM-HSE-DOC-01156-3)</u>, and any relevant GoM Region Safe Work Practices.

<u>BP Procedure Upstream Control of Work Procedure (100340)</u> describes how to manage and implement Control of Work (COW) in a standard, simple and structured way.

The bp GoM Local Implementation Procedure (LIP) document along with bp GoM Safe Work Practices are supplemental to the Upstream Control of Work Procedure that provides additional details on bp GoM Region-specific requirements.

The combined documents provide guidance for the following programs:

- Permit to Work,
- Lockout and tag-out of energy sources,
- Hot work and other work involving ignition sources, and
- Confined space entry.

The COW system includes provisions for adequate communication of work activities to new shift and replacement personnel. Contractors are included in COW communications if they will perform the work or may affect or be affected by it.

GoM General Safety Rules Safe Work Practice (UPS-US-SW-GOM-HSE-DOC-00106-2) control the presence, entrance, and exit of personnel in operating areas. Personnel are prohibited from entering production areas, drilling facilities, or any hull, columns, or pontoons, without prior authorization, unless they are part of a normally assigned work team for that area or are performing a task with an approved Work Control Certificate.

GoM Region Hazard Communication Policy (HAZCOM) (UPS-US-SW-GOM-HSE-DOC-00107-2) - updated link provides the workforce (employees and contractors) with information/training on the hazardous materials/products at their assigned facility that could present chemical or physical hazards, under normal conditions of use, or in emergency situations. Information and training provided to the workforce consists of, but is not limited to: a site-specific hazard communication program, safety data sheets, labels, and a chemical evaluation process. Hazard communication on Mobile Offshore Drilling Units (MODUs) is managed by the drilling contractors in accordance with their procedures.

Short Service Employee (SSE) Program (UPS-US-SW-GOM-HSE-DOC-00407-2) identifies the

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requirements for the supervision and management of new or transferred offshore bp GoM employees and contractors on bp GoM-owned facilities, to prevent injury to these employees or others and prevent property damage or environmental harm.

The daily oversight of work tasks and activities is performed to verify that contractors are conducting their activities in accordance with bp GoM's SEMS program

bp GoM promotes participation by employees and contractors in efforts to identify and manage hazards on bp GoM-owned facilities. This is accomplished in part by behavior based safety programs, such as Safety Leadership Principles in Action (SLPiA), worksite self-verification checks (e.g. eWells Barrier Checks), and stop work notifications (e.g. Stop the Job).

The SLPiA program is intended to foster a safe, reliable, and compliant culture. The primary purpose of SLPiA is to engage in conversations with employees and contractors to heighten the focus on personal and process safety with a resulting reduction in operational risk.

#### 6.0.2 bp GoM-Contracted MODUs (Wells)

Each drilling contractor is responsible for establishing its own Safe Work Practice and managing short service employees on its MODU. bp GoM employees and Third Party personnel working on behalf of bp GoM on bp GoM-contracted MODUs, are expected to follow the drilling contractor's established Safe Work Practices.

#### 6.0.3 <u>bp GoM-Contracted Vessels (Projects)</u>

Supply vessels and construction vessels working for bp GoM within the 500m zone of a bp GoM-owned facility, operate in accordance with bp GoM's Simultaneous Operations (SIMOPS) procedures.

# 6.1 Contractor Selection, Approval, and Management

All sourcing activities related to Contractor Selection, Approval and Management, are managed in accordance with <u>BP Procedure Upstream Category Management (100130)</u>.

bp GoM contractor Health, Safety, Environment and Carbon (HSE&C) requirements are managed in accordance with <a href="https://mexico.org/learning-select-align: learning-select-align: learning-select-align:

#### 6.1.1 bp GoM-Contractor SEMS Letters of Agreement

Contractors that provide personnel and/or rental equipment to be deployed offshore sign an agreement or have language included in a Master Services Agreement, Contract, or Bridging Document, providing that:

• The Contractor will provide personnel who are skilled and knowledgeable in the work practices necessary to perform their job in a safe and environmentally sound manner, and the Contractor will provide documentation of such upon request from bp GoM.

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 If a Contractor provides rental equipment that is used on a bp GoM facility, then the Contractor will establish and implement Safe Work Practices (SWPs) regarding the operation of the equipment provided.

bp GoM and each Contractor include within their respective bridging document, or other contractual documents (e.g. Master Services Agreement (MSA)), specific references to the procedures and method of verification that the Contractor will use to verify that their personnel understand and can perform their assigned duties.

#### 6.1.2 <u>Bridging Documents – Drilling Contractors</u>

bp GoM defines requirements for HSE&C, emergency response, well control and SEMS with the Drilling Contractors through the following agreements:

- HSE&C Section and Appendices of the Drilling Contract, if applicable,
- SEMS letter of agreement, if applicable,
- · Master Services Agreements, if applicable,
- HSE&C / Emergency Response (ER) Bridging documents, if applicable, and
- Well Control Bridging documents, if applicable.

# 6.2 Contractor Skills and Knowledge Verification

The following activities have been completed, and/or expectations established, to assure that Contractors have the skills and knowledge to perform their assigned duties:

- ISNetworld is used to verify that Contractors have required HSE&C practices and training in place.
- bp GoM's Offshore Readiness Program includes an overview of the bp GoM's SEMS program. This program is a mandatory requirement for offshore travel to the bp GoM facilities.
- During site induction and task risk assessments, personnel are informed of known hazards at the facility they are working on, including hydrocarbons, hazardous materials, suspended loads, personnel working at heights, etc.
- On the production facilities, the <u>GoM Induction Checklist (UPS-US-SW-GOM-HSE-DOC-00950-2)</u> contains common elements to GoM offshore facilities and is used to supplement communicating hazards.
- With respect to PHCA contractors, bp GoM bridging documents, or other contractual
  provisions (e.g. Master Services Agreement), require the Contractor's Management of
  Change (MOC) procedures for employee changes to include provisions that any personnel
  changes for key roles trigger an assessment of that individual's skills, knowledge, and
  experience.

bp contractors sourced to fill Subpart O positions are expected to have a competency assessment program for its key employee positions. bp GoM reviews these programs by:

- · Spot checking Contractor employee training documentation,
- Reviewing the short service employee scorecard,
- Reviewing the Contractor employee training matrix scorecard,
- Periodically auditing the Contractor's Well Control Training Plan, and
- Verify completion of Subpart O production safety system training walkthrough

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assessments (reference Section 7.1).

The <u>GoM Contractor Health</u>, <u>Safety</u>, <u>Security and Environmental Management System (HSSE-MS) - Assessment and Retention Practice (UPS-US-SW-GoM-HSE-DOC-01038-2)</u> details the requirements for bp GoM's verification that Contractors have systems in place to verify that their personnel have the skills and knowledge to safely perform their duties.

#### 6.2.1 <u>Learning Management System Assessment (Skills & Knowledge)</u>

bp GoM assesses its Contractors' learning management systems to verify that each contractor has a framework in place to successfully administer, document, track, report and deliver training courses or programs, so that their workers acquire the appropriate skills and knowledge required to safely perform the work.

bp GoM Operations utilizes ISNetWorld managed questions, within ISNetWorld's Evaluation Tool, to evaluate the methods used by contractors to train and assess the competency of their employees. Contractors are required to answer these questions and submit supporting documentation and their responses are reviewed to verify conformance with bp GoM standards. Corrective actions are developed to close gaps identified in ISNetworld by the verifier and tracked to closure.

#### 6.2.2 <u>Training Qualifications (TQ) Specific to Worker Roles Provided</u>

Training qualifications have been defined for worker roles and are maintained by ISNetworld in the Training Qualification Matrix submitted by the Contractor Safety Management Team. Each contractor provides training data for its personnel, by role, in ISNetworld. Contractors are expected to independently maintain their training data within ISNetworld.

# 6.3 Regulatory Reference

30 CFR 250.1914

#### 6.4 OMS References

- 2.5 Working with Contractors
- 3.2 Personal Safety
- 4.1 Procedures and Practices
- 4.5 Control of Work

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## 7 Training

Establish and implement a training program so that personnel are trained to work safely and are aware of environmental considerations offshore, in accordance with their duties and responsibilities.

## 7.0 HSE&C and Regulatory Training Programs

bp GoM safety and environmental training is intended to meet both SEMS and 30 CFR 250 Subpart "O" training requirements. The bp GoM Subpart "O" Production Safety Training Plan, which is embedded in section 3.1 of the <u>GoM HSSE Regulatory Training Plan (UPS-US-SW-GOM-HSE-DOC 00036-2)</u> covers production operations personnel. The bp GoM Wells Subpart "O" Well Control Training Plan is similarly embedded in section 3.2 of the <u>GoM HSSE Regulatory Training Plan (UPS-US-SW-GOM-HSE-DOC 00036-2)</u>, and applies to drilling operations personnel.

The <u>GoM HSSE Regulatory Training Plan (UPS-US-SW-GOM-HSE-DOC 00036-2)</u> establishes the safety and environmental training program that applies to bp GoM employees. Training requirements are determined by each employee's duties and responsibilities. Applicable individual training requirements and training completion for bp GoM employees is documented and tracked in the "My Talent and Learning" (MT&L) online portal.

As described in the GoM Health, Safety, Environment and Carbon (HSE&C) & Regulatory Training Plan, bp GoM Region uses an HSE&C Training Matrix to manage the initially required, and refresher, HSE&C training with specific roles. The Matrix identifies required training by specific job roles for HSE&C training such as, but not limited to: Control of Work, Operational Safety, Environment, and Emergency Management. Each employee has an MT&L profile which details their individualized HSE&C training plan based on their job role.

The basic training requirements for bp GoM and contractor personnel traveling offshore are documented in the <u>GoM Offshore Travel Requirements (UPS-US-SW-GOM-HSE-DOC-00136-2)</u>. Additional training is provided as necessary and includes, but is not limited to, the following:

- For appropriate personnel, training in Control of Work (COW) procedures, safe work
  practices (e.g., hot work, hot tapping, safe entry, lockout/tagout), simultaneous operations
  planning, and hazards communication.
- If hydrogen sulfide is present or expected to be present at levels that require training, all personnel and visitors are trained.
- Training required by applicable governmental regulations.
- Environmental protection and pollution control training (e.g., marine debris).
- Applicable site-specific safety and environmental procedures and rules pertaining to the
  facility and the applicable provisions of emergency action plans through facility-specific
  offshore orientations. Contractors providing incidental services receive training in
  transportation safety, emergency evacuation and other applicable safety and
  environmental procedures through facility-specific offshore orientations.

## 7.1 Drilling Contractor HSE&C and Regulatory Training Programs

Training is one of the requirements of each contractor we work with and Procurement and Supply Chain Management (PSCM) reviews the details during the Request for Proposal (RFP) process, to ensure competency levels of staff and continual upgrading of personnel with training programs

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managed by the contractor. During sourcing / RFP contracting activities, PSCM along with the Contract Accountable Manager (CAM) and Technical Team, review qualifications to assure that suppliers have a rigorous training program prior to award and perform Self Verification reviews and report results of same once a contract is placed and active. Requirements are as per below:

- BP Procedure Upstream Category Management (100130), and
  - Section 5.4 Sourcing
  - Section 5.5 Supplier Management
- BP Procedure Upstream Contractor Safety Management (100550).

## 7.2 Instructor Qualifications – HSE&C and Regulatory Training

The qualifications of internal instructors and external training providers and their individual instructors are documented and available upon request.

- Internal instructor qualifications are validated by Subject Matter Specialists (SMSs).
- External training companies provide qualified instructors in alignment with bp GoM Region requirements.
- Subpart "O" instructors are external instructors and deliver an American Petroleum Institute (API)-accredited curriculum for production safety training, and International Association of Drilling Contractors or International Well Control Forum accredited curriculum for well control training.

## 7.3 bp GoM Employee Competency Assessment

The <u>SOR Critical Role Competence Assessment Upstream Framework (100428)</u> outlines a method for assuring competence of employees who hold Safety and Operational Risk (S&OR) critical job roles and perform specific work activities conducted in support of bp GoM Upstream operations. Individuals are appointed to safety critical roles as per the <u>Upstream Site Safety Critical Role Appointment Procedure (100466)</u>.

The <u>BP Procedure Technician Competence Assurance: CMAS (GOO-HR-PRO-00001)</u> outlines the competence assurance structure, requirements, and assessment processes, for a variety of job roles. Competence assessment data is collated, managed, and maintained in the ICAN database.

The technician assurance framework, which conforms to OMS Sub-element 2.2, helps to ensure that bp GoM technicians are competent and demonstrate consistent application of the knowledge, skills, behaviors and aptitude required to perform safety and production critical roles to a specified proficiency standard.

Operations and maintenance personnel assigned to operate the facility are assessed against specific qualification criteria, detailed in Assessor Guides, in order to evaluate whether they possess the required knowledge and skills to carry out their duties and responsibilities; including start-up and shutdown.

Procedures have been established to verify adequate retention of the required knowledge and skills. Periodic assessments are conducted to evaluate continued understanding of, and adherence to, the current Operating Procedures.

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Well Superintendents (WSUPs) and Well Site Leaders (WSLs), participate in bp's Well Control Competency Assessment Program. This assessment is used to verify the individual's behaviors, skills, knowledge, and understanding, accumulated over time, through both formal training and onthe-job experience. Multiple methodologies are used to evaluate competency, such as case studies, simulations and written tests. Assessments are performed by qualified assessors who have successfully been through a structured onboarding and qualification process; including classroom training and a mentoring program. Records for WSUP and WSL assessments are maintained by the Wells Competence Management Team in a secure database.

## 7.4 Regulatory References

• 30 CFR 250.1915

### 7.5 OMS Reference

- 2.2 People and Competence
- 2.5 Working with Contractors
- 4.1 Procedures and Practices

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## 8 Mechanical Integrity

Procedures are in place and implemented to ensure the mechanical integrity and safe operation of critical equipment through inspection, testing, and quality assurance.

Facilities are designed, constructed, maintained, monitored and operated in a manner compatible with applicable:

- Industry codes and standards,
- Generally accepted practices,
- bp Standards and ETPs,
- · Deep Water (DW) GoM procedures, and
- · Government regulations.

Contractors have programs in place to address their own critical equipment and these are verified prior to putting equipment into service. bp GoM has "pre-use" procedures in place for inspection and qualification of each Contractor's critical equipment to be used in GoM production facilities.

## 8.0 Critical Equipment Identification

bp GoM's quality and mechanical integrity programs encompass critical equipment and systems used to prevent or mitigate uncontrolled releases of hydrocarbons, toxic substances, or other materials that may impact safety or the environment.

Critical equipment for bp GoM-owned facilities is identified through the process outlined in <u>Identification of Critical Equipment (GN 48-201)</u> and documented in the Computerized Maintenance Management System (e.g., SAP PM) by applying <u>BP Guide Functional Location</u> Criticality for SAP PM (100041).

Wells GoM critical equipment (for both bp GoM-owned and contracted rigs) is identified in accordance with the criteria set out in <u>BP Practice Management of Drilling, Completions</u>, Interventions, and Rig-specific Critical Equipment (Safety) (100276).

bp GoM Wells requires its contractors to have a program to identify and manage any equipment deemed critical equipment either by bp GoM or by the contractor.

## 8.1 Production Operations and Projects

#### 8.1.1 Design and Construction

bp GoM has several documented processes that describe the design, procurement, fabrication and installation of critical equipment including <u>GoM P&M - Category C - Program Project Execution Plan (2014-T2-PM-PN-0001)</u> and <u>GoM Subsea Operations Project Quality Management Plan (SSOPS-58-PM-PR-000029)</u>.

The two documents listed above include the following:

• Quality assurance programs that require conformance to specifications developed at the beginning of the project to ensure that such specifications are a part of the overall project execution plan and maintenance program.

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- Requirements for procurement of critical equipment that complies with applicable design criteria, as part of the overall quality and mechanical integrity assurance program.
- Quality control requirements for critical equipment to confirm that construction, during the fabrication stage, is in accordance with design specifications.
- Appropriate inspection procedures, prior to start-up, to verify that installation of and commissioning of critical equipment will be consistent with design specifications and manufacturer's instructions.
- Consideration of human factors, particularly regarding equipment accessibility, for operation, maintenance, and testing.
- Mechanical integrity procedures which address the modification of existing equipment and systems and ensure that they are modified for the application for which they will be used.
- Mechancial integrity procedures that are appropriate to ensure that equipment and systems are installed consistently within the design specifications and the manufacturer's instructions.

#### 8.1.2 <u>Critical Equipment Maintenance</u>

Inspection and maintenance programs have been established and implemented for critical equipment to sustain ongoing mechanical integrity, enhance safety and protect the environment. Critical equipment records are managed in various electronic database tools including Computerized Maintenance Management System (e.g., SAP PM), and SEMPcheck Plus on bp GoMowned facilities. Work on critical equipment is uniquely identified and tracked for deviations and compliance against maintenance requirements. Critical equipment work deferral requests are approved through documented processes.

The inspection and maintenance program includes the following provisions:

- Procedures and work practices to maintain the mechanical integrity of equipment.
- Training of maintenance personnel in the application of the procedures, identification of relevant hazards, and application of safe work practices.
- Quality control procedures to verify that maintenance materials, spare equipment and parts meet design specifications.
- Mechanical integrity procedures to confirm that maintenance materials, spare parts and equipment are suitable for the applications for which they will be used.

Inspections and maintenance programs are regularly revised and are monitored by tracking defined key performance indicators (KPIs) (e.g., maintenance order conformance, backlog trends, etc.).

The testing, inspection, calibration and monitoring programs for critical equipment are located in the Computerized Maintenance Management System (e.g., SAP PM), SEMPcheck Plus, and inspection reporting systems (e.g., eBentley). These systems include the following details:

- Job plans including scope,
- Listing of critical equipment and systems subject to inspection and testing,
- The method and interval of testing and inspection,
- Documentation of completed testing and inspection,
- Record of actions to correct critical equipment deficiencies of operations that are outside acceptable limits,
- The date of the inspection or test,
- The name and position of the person who performed the inspection ortest,

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- The tag number or other unique identifier of the equipment on which the inspection or test was performed,
- A description of the inspection or test performed,
- The results of the inspection test,
- Frequency of inspections and tests of critical equipment and systems,
- Verification that inspections and tests are being performed, and
- Correction of deficiencies associated with equipment.

#### 8.1.3 <u>Integrity Management Strategy and Scope</u>

Equipment Ownership in GOO (GOO-HR-ORG-00003) details a risk- or schedule-based approach to manage the lifecycle integrity of covered equipment from commissioning to decommissioning and abandonment. The Integrity Management (IM) program is focused on mitigation, monitoring and inspection. Integrity management strategies are in place for the following equipment types:

- Wells, subsea equipment, umbilicals, risers, flowlines, and export flowlines (In-water Integrity Management),
- Hull and mooring systems,
- · Topsides process and mechanical equipment,
- · Topsides structures,
- · Marine mechanical equipment,
- Emergency response equipment,
- Instrumentation, control, and automation equipment,
- Electrical, including hazardous area electrical equipment, and
- Cranes and lifting equipment.

Where appropriate, additional procedures are implemented that govern the inspection and testing of in-service equipment to verify continued fitness for service.

#### 8.1.4 <u>Contractor Critical Equipment</u>

Contractors are expected to have programs in place to address their own temporary critical equipment and these are verified prior to putting equipment in service. The verification process for temporary equipment is in accordance with <a href="GoM Engineering - Use of Temporary Equipment">GoM Engineering - Use of Temporary Equipment</a>
Procedure (DWGOM-GIS-40-0007), which addresses the requirements for inspection, operation, and use of temporary powered equipment and systems on bp GoM production facilities.
Temporary equipment includes those systems used by facility Operations, Wells, or Project teams, as well as those to be used by vendors or third parties.

## 8.2 Drilling, Completion and Intervention

#### 8.2.1 Well Procurement, Fabrication and Construction

Materials and equipment for well construction generally follow API specifications with wells constructed per Bureau of Safety and Environemental Enforcement (BSEE) regulations, bp Practices, and as detailed in the Wells Program.

BP Practice Management of Drilling, Completions, Interventions, and Rig-specific Critical Equipment (Safety) (100276) defines the requirements for the identification and management of critical equipment on bp GoM-owned rigs and the oversight of critical equipment on bp GoM

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Wells-contracted rigs.

Critical equipment installed in the wellbore is designed in accordance with <u>BP Practice Well</u> <u>Equipment (100220)</u> and its proper installation and functioning is verified in accordance with <u>BP Practice Well Barriers (100222)</u>. Critical wellbore equipment provided by contractors is required to conform to GWO Specification for the Manufacture of Well Equipment (10-501).

#### 8.2.2 Well Maintenance

After a well is completed and handed over from Wells to Operations, it is monitored continuously by the production team and periodically by the Wells Integrity team. The <u>BP Practice Well Integrity Management Strategy (100006)</u> and the <u>BP Practice Well Handover (100023)</u> are followed for ongoing management of well integrity. Anomalies outside of the established operating envelopes are examined by the Production Management Squad. The well interventions teams undertake corrective measures (interventions) to repair the well as required.

#### 8.2.3 Rig Equipment

Maintenance programs have been established and implemented for critical equipment to sustain ongoing mechanical integrity, enhance safety, and protect the environment. Computerized Work Management Systems are used to manage critical equipment maintenance and integrity programs on bp GoM-owned rigs. Drilling contractors similarly use equivalent systems for critical equipment on their respective Mobile Offshore Drilling Units (MODUs) that are contracted to perform work for bp GoM. Work on critical equipment is uniquely identified and tracked for deviations and compliance against maintenance requirements.

Drilling contractors are expected to have a Riser Integrity Management Program in place to manage integrity of drilling risers for their MODUs.

Critical equipment maintenance and inspections metrics are monitored, tracked and reported to the Wellsite Leader (WSL) and documented in daily operations reports. Wells Superintendents (WSUPs) are responsible for ensuring the metrics are available for KPI reports. The WSL is responsible for recording safety critical equipment and systems that are not functioning as intended or that are not fit-for-purpose.

## 8.3 Regulatory References

• 30 CFR 250.1916

#### 8.4 OMS Reference

- 2.5 Working with Contractors
- 4.1 Procedures and Practices
- 5.2 Design and Construction
- 5.4 Inspection and Maintenance
- 6.4 Quality Assurance

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## 9 Pre-startup Review

The commissioning processes include a pre-startup safety and environmental review for new and significantly modified facilities.

bp GoM has several processes for pre-startup review depending on whether it is related to new projects, wells, rig activities, or modifications on an existing facility. These processes ensure that the following checks are completed as applicable:

- Construction and equipment are in accordance with applicable specifications,
- Structural elements and equipment meet design specifications,
- Safety, environmental, operating, maintenance, and emergency procedures are in place AND are adequate,
- Safety and environmental information is current,
- Hazards analysis recommendations have been implemented as appropriate,
- Training of operating personnel has been completed,
- Programs to address management of change are in place, and
- Safe work practices are in place.

## 9.0 New Construction – Projects

The bp GoM Projects requirements for safe and reliable startup of bp GoM Projects-managed projects are detailed in Managing Operations Readiness and Start-Up Assurance for Upstream Major Projects (100296). This document defines the verification and assurance conducted prior to the introduction of hydrocarbons and the approvals required to proceed with introduction of hydrocarbons to the new plant. Requirements are agreed at the beginning of the Capital Value Process (CVP) Execute stage, reviewed by the appropriate stakeholders, and approved by the appropriate person or committee with the required delegation of authority (DoA).

## 9.1 New Drilling Rig Initial Startup and Rig Modifications

Pre-startup reviews are performed prior to starting operations on any rigs new to bp GoM and the rig intake activities are performed in conformance with <a href="BP Practice Rig Intake and Startup Operating Practice (RISOP)">BP Practice (RISOP)</a> (100250). Any modifications to bp GoM-owned rigs are completed in conformance with BP Procedure GOO Management of Change (GOO-GE-PRO-00003). This includes completion of any pre-implementation actions prior to the changes being authorized. Rig modifications on contractor-owned rigs follow the contractor's MoC policy as agreed in the relevant bridging documents and meet any required Mobile Offshore Drilling Unit (MODU) Class Certifications.

## 9.2 Commencement of Well Operations

Well operations consist of new well construction and well interventions. New well construction refers to 'drilling' and 'completion' of new wells and 'intervention' refers to well operations (primarily repairs) conducted on previously drilled wells.

The Well Delivery Workflow (WDWF) process is used in the planning of new well construction activities. BP Practice Well Delivery (100100) details the high-level requirements and decisions for establishing new wells.

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The <u>Well Intervention Workflow (100800)</u> details the requirements, high-level steps, and decision gates for wells activity which includes wellwork, well intervention, abandonment and decommissioning activities.

#### 9.3 Well Handover

bp GoM has a documented well handover process to facilitate the safe startup of new wells, at the end of the well construction phase, and the safe operations and maintenance of the wells throughout the life of a well. For example, the handover process is used to formally transfer:

- Operation of the well from Wells at the end of well construction to Production for production startup.
- Well data such as as-built data, drawings etc., from Wells to Production.
- Operation of the well from Production, if well repairs are required, to Wells, for well interventions activity and then back to Production after repairs are complete.

The requirements for well handover are detailed in <u>GWO-GoM Procedure Well Handover</u> (GMGWO-WE-PRO-000-00602).

# 9.4 GoM Operated Production Facility Modification Pre-Startup Review

The BP Procedure GOO Management of Change (GOO-GE-PRO-00003) requires that a pre-startup safety review is conducted using the Pre-Start Up Review Checklist (2020-T2-OP-FM-0001) for all technical Management of Changes (MOCs) which modify bp GoM's operating facilities.

## 9.5 Regulatory References

• 30 CFR 250.1917

#### 9.6 OMS Reference

- 4.2 Management of Change
- 5.2 Design and Construction

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## 10 Emergency Response and Control

Emergency response and control plans are in place and ready for immediate implementation.

#### 10.0 GoM-owned Facilities

Written emergency response plans are established to assign authority to appropriately qualified person(s) for initiating effective emergency response and control. Each bp GoM-owned facility has an Emergency Response Plan (ERP), detailing assigned emergency response roles and responsibilities, and a U.S. Coast Guard required Emergency Evacuation Plan. Each facility's ERP addresses emergency reporting and response requirements and compliance with applicable government regulations.

bp GoM crisis and continuity management and emergency response (C&CM/ER) plans focus on preparedness and response to safety and environmental incidents and events for various scenarios. These plans include, but are not limited to:

- Regional Oil Spill Response Plan (UPS-US-SW-GOM-HSE-DOC-00930-2)
- GoM Severe Weather Contingency Plan (UPS-US-SW-GOM-HSE-DOC-00183-2)
- GoM Pandemic Response Plan (UPS-US-SW-GOM-HSE-DOC-00729-2)
- Well Control Response Guide (2200-T2-DO-MA-0001)
- GoM Response Tactics Manual (UPS-US-SW-GOM-HSE-DOC-00923-2)
- GoM C&CM/ER Program Framework (UPS-US-SW-GOM-HSE-DOC-01040-2)

The bp GoM Region three-tiered response organization is described in the Regional Oil Spill Response Plan (UPS-US-SW-GoM-HSE-DOC-00930-2). This document describes the organization of a response team, establishment of command and control, and completion of the planning process to respond to an incident. Three functional teams collectively constitute the bp GoM incident response organization: Executive Support Team (EST), which lies outside of GoM; GoM Business Support Team (BST); and the GoM Incident Management Team (IMT), which includes a field unit called a Tactical Response Team (TRT).

The Tactical Response Team (TRT) is composed of bp GoM and contractor personnel from the facility. Each facility has a dedicated Tactical Command Post (TCP) and an alternate. The Tactical Command Post has access to both electronic and hardcopy emergency response plans that address:

- Collisions,
- Fires and/or blowouts,
- Gas/oil releases.
- Evacuations,
- Helicopter crashes,
- · Oil spill contingency plans,
- · Safety and environmental information, and
- Other major accident risks.

In the event of a major incident, or if an incident escalates beyond the capacity of the TRT to effectively respond, the onshore teams are activated per the <u>GoM Response Tactics Manual (UPS-US-SW-GOM-HSE-DOC-00923-2)</u>. The onshore teams are activated to provide additional support

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to the TRT and interface with company management, government agencies, media, and the public.

The onshore support component of a bp GoM response is executed through the BST and IMT. These teams can operate in either of two onshore emergency response operations centers; currently in Houma or Houston. The BST and IMT personnel are trained on roles, responsibilities, and the execution of the plans listed above.

Emergency response plans and personnel capability are validated by exercises/drills that are conducted according to an established frequency documented in the facility ERP. Scheduled emergency response exercises/drills are based on emergency scenarios and involve all persons-on-board (POB), including bp GoM employees and contractors. The exercises/drills address personnel readiness and their interaction with equipment. Exercises/drills are based on realistic scenarios and conducted periodically to exercise elements of the ERP.

Emergency response exercises/drills are designed with specific objectives, and an analysis and critique of each drill is conducted to identify and correct weaknesses. Exercises/drill reports are completed and filed on the facility along with lessons learned from the exercise/drill. Actions for continuous improvement from exercise/drill critiques are documented and tracked to closure.

The GoM Specifications for Emergency Response and Emergency Evacuation Plans (UPS-US-SW-GOM-HSE-DOC-00873-2) sets out requirements for reviewing ERPs. ERPs are reviewed annually by personnel holding defined positions, including the facility's Offshore Installation Manager (OIM) and other relevant Subject Matter Specialists. The Document Custodian provides updates to the facility ERP based on learnings from exercises/drills, audits, process hazard studies, and other changes in requirements. The OIM serves as the Document Authority to approve revisions to the ERP.

## 10.1 Drilling Rigs

Drilling Contractors of bp GoM-contracted Mobile Offshore Drilling Units (MODUs) are expected to have their own emergency response plans to respond to incidents on the rig itself. In the event of an emergency, the Ultimate Work Authority (UWA) has overall command of the rig, and is ultimately responsible for the safety of personnel and for preventing pollution or damage to the environment.

## 10.2 Regulatory References

30 CFR 250.1918

#### 10.3 OMS Reference

4.6 Crisis and Continuity Management and Emergency Response

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## 11 Investigation of Incidents

Procedures are in place for investigation of incidents with serious safety or environmental consequences.

bp GoM has procedures for investigation of incidents with potential or actual serious safety or environmental consequences.

Incident investigations are initiated as promptly as practical, with due regard for the necessity of securing the incident scene and protecting people and the environment. The bp Practice – <a href="Incident Reporting and Investigation">Incident Reporting and Investigation (GDP 4.4-0001)</a> establishes the requirements for notification, reporting, investigation and action management of Health, Safety, Environment and Carbon (HSE&C) incidents. This guidance covers all incidents from production operations, construction, drilling, completions, and interventions within Operations, Wells, and Projects. The intent is to report, investigate and analyze incidents to prevent recurrence and continually improve performance.

Incident investigations are led by trained individuals who are competent in the process to be used. Investigation teams include subject matter specialists (SMSs) and personnel knowledgeable in the process involved. Incident investigations address the following:

- What happened? (i.e., nature of the incident)
- Why it happened? (i.e., factors (human or otherwise) that contributed to the initiation of the incident and its escalation/control)
- What will we do about it? (i.e., recommended changes identified as a result of the investigation)

Incident reporting and the incident investigation practice includes, but is not limited to, requirements on:

- Who to notify of an incident and when,
- Guidance on severity classification of the incident,
- Investigation expectations in accordance with the incident severity, including identification of root causes, recommended corrective actions, and documentation,
- Corrective action assignment and tracking, and
- Preparation and distribution of 'Lessons Learned', when required.

Investigations are analyzed to identify similar incidents for possible common root causes. The corrective action program:

- Retains the findings of investigations for use in hazard analysis or for audit,
- Documents the response to findings to ensure actions are completed, and
- Includes a learning review process whereby conclusions of investigations are distributed to similar facilities and appropriate personnel within the organization.

#### **Drilling Rigs**

bp GoM investigation procedures and bridging documents, between bp GoM and each drilling contractor, address how incidents are to be investigated on: (a) bp GoM-owned, contractor-operated and (b) contractor-owned and operated, drilling rigs. bp personnel may participate on contractor-owned and operated drilling rig incident investigations or may elect to conduct a separate

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investigation.

## 11.0 Regulatory References

• 30 CFR 250.1919

## 11.1 OMS Reference

- 4.1 Procedures and Practices
- 4.4 Incident Management

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## 12 Auditing

Operators have established and maintained an audit program and procedures for the periodic audit of the safety and environmental management system to determine if each SEMS element has been properly implemented and maintained and to provide information on the results of the audit to management.

bp GoM audits its SEMS program in accordance with the requirements of 30 CFR 250.1920. The regulatory audits are conducted at least once every three (3) years.

During each regulatory audit, the greater of one facility or fifteen percent (15%) of the facilities operated by bp GoM are audited. The selected facilities are representative of the operated facilities and contracted drilling rigs.

## 12.0 Audit Scope and Plan

bp GoM uses an Audit Service Provider (ASP) to conduct a comprehensive review of all 17 elements of the SEMS program to evaluate regulatory compliance and to identify opportunities for improvement. A written Safety and Environmental Management System (SEMS) Audit Plan is submitted to the Bureau of Safety and Environmental Enforcement (BSEE) at least 30-days prior to the audit kickoff and includes:

- Audit objectives and scope,
- Audit criteria,
- Identification of the audit team,
- Resources made available to the audit, including the audit coordination team and audit team.
- Identification of the facilities to be audited,
- · Identification of the program elements to be audited,
- Procedures to be used in the audit,
- Confidentiality requirements, and
- Report contents, format, expected date of issue and distribution of the final report.

Future audit plans are modified and improved by interviewing prior audit participants to identify practices that were effective in facilitating the audit. These learnings are then incorporated into subsequent year audit plans to continuously improve the audit process.

#### 12.1 Audit Service Provider

The SEMS ASP is accredited by the Center for Offshore Safety (COS). The team leader for a SEMS audit must be an employee, representative or agent of the ASP who has no affiliation with bp GoM. The remaining SEMS audit team members may be bp GoM employees, ASP personnel, or other, qualified 3<sup>rd</sup> party auditors.

## 12.2 Audit Results and Report

The auditor uses the COS developed protocol and report templates available from the <u>Center for Offshore Safety</u> website to conduct the audit. The findings and conclusions of the audit are provided to bp GoM's management team responsible for SEMS. bp GoM submits a report of the

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audit findings, conclusions, and a Corrective Action Plan (CAP) to BSEE no more than 60 days following completion of the audit. Completion of the audit is defined in the audit plan.

The final audit report includes:

- Identification of the facilities audited,
- Identification of the program elements audited,
- · Summary of objectives and scope of the audit,
- · Criteria against which the audit was conducted,
- Period covered by the audit and the date(s) the audit was conducted,
- Identification of the audit team,
- Statement of the confidential nature of the contents,
- Distribution list for the audit report,
- Summary of the audit process, including any obstacles encountered,
- Audit findings and conclusions, and
- Date and signatures of the audit team.

The SEMS audit CAP addresses any concerns and non-conformities identified by the audit. The SEMS Manager has overall accountability for completing the CAP with active involvement by the parties responsible for completing the actions.

## 12.3 Regulatory References

- 30 CFR 250.1920
- 30 CFR 250.1924
- 30 CFR 250.1926

#### 12.4 OMS Reference

- 2.3 Operating Discipline
- 4.1 Procedures and Practices
- 8.2 Assessment and Audit

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## 13 Recordkeeping

An established documentation system is in place to ensure that SEMS records and documents are maintained in a manner sufficient to implement the management system.

SEMS program documents are kept on file, either electronically or in hard copy, and retained for the periods specified in the table below:

RECORD LIST	Reference	Location	Retention Time
SEMS Program Audit Records  Audit Plan  Audit Opening Presentation  Audit Closing Presentation  Audit Report  Corrective Action Plan	250.1928(a)	BP Document     Management System (Atlas)	• 6 years
Job Safety Analysis results Job Safety Analysis results and records	250.1928(b)	<ul><li>eCOW</li><li>Field ISSOW Database (historical)</li><li>Onshore Location</li></ul>	<ul> <li>Onsite for 30 days</li> <li>Onshore Location for 2 years</li> </ul>
Management of Change Records	250.1928(c)	<ul><li>eMOC (Operations/Wells)</li><li>PMCS Database (Projects)</li></ul>	Life of Facility
Injury and illness logs	250.1928(d)	• IRIS	• 2 years
Records of evaluations completed on contractor's safety policies and procedures.	250.1928(e)	H&S Shared Drive	• 2 years
Process,mechanical, and facilities design information and facility hazard analysis reports	250.1910(b)	<ul> <li>BP Document Management System (Atlas)</li> </ul>	Life of Facility
Pressure vessel testing and inspection documentation	API 8.6(c)	<ul> <li>Onshore databases;</li> <li>i.e. Ultrapipe, or</li> <li>similar</li> </ul>	Life of Facility
Other critical equipment testing and inspection documentation	API 8.6(a)	<ul> <li>Onshore databases;</li> <li>i.e. Maximo, Ultrapipe</li> </ul>	2 years
Hazard Analyses Reports – for each facility; must be updated when internal audit is conducted.	250.1911(a) API 3.6	BP Document     Management System     (Atlas)	Life of Facility
The findings of incident investigations for possible use in hazard analysis updates and company audits.	250.1919(b)(1)	Traction or IRIS	<ul> <li>Retain findings until next Hazard Analysis or company audit</li> </ul>
All training and reviews provided for Stop Work Authority (i.e., orientation of new personnel on facilities and during safety meetings).	250.1930(e)	<ul><li>On-site offshore</li><li>Onshore storage location</li></ul>	<ul><li>Onsite for 30 days</li><li>Onshore Location for 2 years</li></ul>
Document employee participation in the development and implementation of the SEMS program.	250.1928(g)	<ul> <li>Various</li> </ul>	• 2 years

#### BP GoM Operations has established and implemented the GOO GoM IMDC Manual (2020-T2-DM-

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PR-0003) for controlling documents and records for bp GoM-owned production facilities. Wells GoM has established <u>GWO-GoM Procedure Document Management (2200-T2-D0-DC-0002)</u> for managing documents and records specific to drilling, completions, and intervention activities.

Document control systems ensure that records and documents are maintained in an orderly manner, readily identifiable, retrievable, legible, and identified with the dates of revision.

## 13.0 Regulatory References

• 30 CFR 250.1928

#### 13.1 OMS Reference

- 2.2 People and Competence
- 4.3 Information and Document Control

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## 14 Stop Work Authority

Develop and implement a Stop Work Authority (SWA) that creates procedures and authorizes all offshore industry personnel who witness an imminent risk or dangerous activity to stop work.

#### 14.0 GoM-Owned Facilities

SWA grants all personnel the responsibility and authority, without fear of reprisal, to stop work or decline to perform an assigned task that is thought to pose an imminent risk or danger to personnel, equipment or the environment.

For the purposes of the bp GoM SEMS program, SWA is when a decision has been made to stop work prior to the imminent risk or danger occurring. In addition, for the purposes of the bp GoM SEMS Program, imminent risk or danger means any condition, activity, or practice that could reasonably be expected to result in an incident of Level F or greater severity, as defined in Annex B – HSE&C Impacts Levels of BP Policy Risk Management (000030).

If work is requested to stop, all associated activities are stopped immediately unless stopping would present a greater hazard than not stopping. In those instances where immediate stoppage would present a greater hazard, the activities are stopped as soon as it is safe to do so.

The person in charge of the work (the "Performing Authority" (PA)) ensures the work is stopped in an orderly and safe manner. Individuals who receive a notification to stop work are required to comply with that direction immediately.

If the stoppage of work is determined to have prevented conditions that meet the imminent risk or danger criteria set forth above (i.e., Level F or greater severity), the work is not resumed until the Ultimate Work Authority (UWA) is satisfied that the imminent risk or danger no longer exists and authorizes, in writing, the work to restart.

The UWA can provide verbal authorization to re-start a job after a stoppage has occurred and document the authorization in IRIS per the following guidelines:

- The UWA completes the "Ultimate Work Authority (UWA) Documentation to Resume
  Work" form located in <u>GoM Region Local Implementation Procedure (LIP) in support of
  100340 BP Procedure Upstream Control of Work (GOO-OP-PLN-00005)</u> and attaches it to
  the corresponding IRIS Incident Report as soon as practicable after the notification to restart work has been authorized.
- If the stoppage of work is determined not to have resulted from conditions that meet the
  established imminent risk or danger criteria, issues and concerns that resulted in the
  stoppage of work are adequately addressed prior to the authorization to restart. If
  additional hazards are identified, the task does not commence until the Area Authority (AA)
  is consulted and the existing risk assessment is updated.
- The AA may "Wet Ink" minor additions to the risk assessment and allow re-start of the task after reviewing with the work party. However, if the AA determines the new hazards are significant, the risk assessment is updated within eCOW and the job is re-authorized by the UWA before re-start is allowed.

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Facility expectations regarding Stop Work Authority procedures and obligations are communicated and documented during facility orientations as well as during facility weekly safety meetings.

**Note:** bp does not tolerate retribution or intimidation directed at any individual or company for exercising their authority as outlined above.

#### 14.1 Non-BP GoM-owned Facilities

For each non-bp GoM-owned facility, SWA processes are set forth in the Bridging Document between bp GoM and the company that operates the non-bp GoM-owned facility (reference Section 6.2.2).

## 14.2 Regulatory References

• 30 CFR 250.1930

#### 14.3 OMS Reference

- 1.6 Communication and Engagement
- 2.3 Operating Discipline
- 3.2 Personal Safety
- 4.1 Procedures and Practices
- 4.5 Control of Work

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## 15 Ultimate Work Authority

Develop and implement an Ultimate Work Authority (UWA) that requires offshore industry operators to clearly define who has the UWA on a facility for operational safety and decision-making at any given time.

#### 15.0 GoM-Owned Facilities

There is only one UWA on a facility at any time and the name of the UWA is posted at the facility to ensure that all personnel clearly understand who the UWA is at all times. On bp GoM-owned facilities, the individual that holds the position of Offshore Installation Manager (OIM) is the designated UWA. The UWA is responsible for regulatory compliance, and is in charge of all operations or activities, and the execution of emergency response on each respective facility.

The UWA is also in charge of all Simultaneous Operations (SIMOPS) or activities involving other facilities that are attached to and working together or in close proximity to the bp GoM-owned facility. For purposes of bp GoM's SEMS Program, the term "close proximity" means any subsea facility or equipment that is physically linked (e.g., ties back) to the bp GoM-owned facility and any facility within 500 meters of the bp GoM-owned facility. If an emergency occurs that creates an imminent risk or danger to the health or safety of an individual, the public, or to the environment, the individual holding the UWA is authorized to pursue the most effective action necessary, in that individual's judgment, for mitigating and abating the conditions or practices causing the emergency.

## 15.1 Non-bp GoM-owned Facilities

For each non-bp GoM-owned facility, UWA processes are set forth in the bridging document between bp GoM and the company that operates the non-bp GoM-owned facility.

## 15.2 Regulatory References

30 CFR 250.1931

#### 15.3 OMS Reference

- 2.3 Operating Discipline
- 3.2 Personal Safety
- 4.1 Procedures and Practices
- 4.2 Management of Change
- 4.4 Incident Management
- 4.5 Control of Work
- 4.6 Crisis and Continuity Management and Emergency Response

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## 16 Employee Participation Plan

An Employee Participation Plan (EPP) is in place that provides an environment that promotes participation by appropriate bp GoM employees in the development and implementation of the SEMS Program.

## 16.0 Employee Participation

The EPP, documents how bp GoM implements and maintains processes that consult the workforce to identify continuous risk reduction and performance improvement opportunities on the Outer Continental Shelf (OCS). For purposes of bp GOM's EPP, an employee includes bp GoM employees and day-to-day bp GoM supervised contractors. This program engages employees in the field who perform OCS operations as well as employees who plan, manage, and/or monitor these operations in an onshore office.

#### **EPP** Requirements:

- bp GoM management will consult with its employees on the development, implementation, and modification of the bp GoM SEMS program.
- bp GoM management will ensure that employees have access to sections of the bp GoM SEMS program that are relevant to their jobs.
- Employee participation in the development and implementation of the SEMS program will be documented and retained for two years. These records will be made available to the Bureau of Safety and Environmental Enforcement (BSEE) upon request.

## 16.1 Employee Participation Plan

The EPP involves bp GoM employees with the development, implementation, and modification of the bp GoM SEMS program through the following mechanisms:

- SEMS Program Document Annual Review & Update,
- OMS Employee Participation Processes,
- Employee Forums,
- Field Assessments and Verification Processes, and
- Annual SEMS Program Management Review.

#### **SEMS Program Document Annual Review**

The bp GoM SEMS program document is formally reviewed and updated as described in Section 1.4.2 of this document. The annual program document review is conducted by a team including representatives from Operations, Wells, and Projects. The review considers learnings from the prior year, results from the prior year's annual management review, program audit results, changes to relevant internal documents, and regulatory changes. Appropriate changes are incorporated into the SEMS program document to ensure it properly summarizes activities and processes used to support compliance with SEMS regulations.

#### **OMS Employee Participation Processes**

Employees are routinely involved with the following aspects:

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#### **Daily SIMOPS Meeting**

Offshore team members meet daily to validate work permits and Simultaneous
Operations (SIMOPS) for the next day. The meeting includes conversations and
learnings from safety observations and/or key process self-verification reviews (such as
permits, isolations, procedures, etc.). The meeting is chaired by the Offshore
Installation Manager (OIM) (i.e., the Ultimate Work Authority (UWA)).

#### **Routine Crew Safety Meetings**

The offshore teams have daily meetings between leadership and the work teams that cover the relevant work plan for the day, any SIMOPS issues, and safety topics/learnings. The Health, Safety, Environment and Carbon(HSE&C) lead routinely presents learning from incidents. Volunteers from the crew also present safety topics on a routine basis.

#### Safety Leadership Principles in Action (SLPiA) and Self-Verifications (SVs)

The offshore leadership teams work to a local, OIM-controlled protocol to systematically complete SLPiAs and key process SV reviews. The discussions are typically held at the work site with various work crews and cover a broad range of activities. The results of the SLPiAs and SVs are systematically recorded and retained in the appropriate databases.

#### IRIS Observation/STOP Card Participation

 Employees participate in the IRIS Observation (Operations) and STOP Card (Wells) process by completing daily safety observations and documenting the details on the appropriate card or database.

#### **Hazard Analysis**

 Various individuals are involved in assessing hazards, establishing mitigation plans and managing risks. Feedback and input are provided during toolbox talks, hazard identification exercises and risk assessments (for example, Hazard Identification and Task Risk Assessment). Additional information can be found in Section 3 of this document.

#### Management of Change (MOC)

Subject matter specialists (SMSs) are assigned and requested as Management of Change (MOC) Reviewers to assess proposed changes and provide input to the MOC process relating to their areas of expertise. The Operations and/or Maintenance MOC Reviewers ensure that a proposed change does not add new and unmitigated operations or equipment maintenance risks to the facility. The Reviewers also ensure that the impacts of any proposed change on operations and maintenance practices or procedures are identified, understood and addressed. Additional information can be found in Section 4 of this document.

#### **Procedures**

Operating, maintenance, and subsea personnel are directly involved in the development of operating and maintenance procedures. The <u>BP Guide GOO Site Operating Procedures (GOO-OP-GLN-00007)</u> and <u>GoM SOP Implementation Plan (2030-85-CN-PN-0001)</u> describe the roles, accountabilities and responsibilities of bp GoM Operations positions relative to operating procedures. These documents apply to the end-users of procedures who are responsible for contributing to the development and revision of operating procedures. End-users may provide feedback on errors,

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omissions and opportunities for improvement, sign-off of operating procedures during their use, and ownership of job plans. Additional information can be found in Section 5 of this document.

#### **Employee Forums**

bp GoM employees are actively involved with the delivery of OMS essentials, and associated SEMS elements, that affect them or their jobs. Employees participate in discipline-specific networks/communities as a means of communicating across facilities, raising issues, providing feedback to leadership and developing common solutions to problems or opportunities for improvement. These networks/communities are a means for employees to participate in the SEMS program development and implementation.

Employee networks and communities meet on a consistent schedule, established by their members, and typically include both offshore personnel from bp GoM-owned facilities and onshore employees who plan, manage, and/or monitor these operations. The process for running the network or community is owned by the network or community members.

#### Offshore Installation Manager (OIM) Network

The network meeting agenda is owned by the network leader. It includes topics raised by network members, such as problems being experienced by network members, changes proposed by management that require network feedback, opportunities for improvement identified by the network, etc.

#### **Other Employee Forums**

Other employee networks, communities, and meetings are also used, including:

- Well Site Leader (WSL) bi-annual meetings,
- Health, Safety, Environmental and Carbon (HSE&C) Advisors,
- Safety Committees,
- Operations Supplier Summit,
- Development of Annual Operating Plans (AOPs),
- Regional Performance Management Meetings,
- Hazardous Operability Reviews (HAZOPs),
- Hazard Identification and Task Risk Assessments (HITRAs),
- Pre-Start-up Safety Reviews (PSSR), and
- Safety and Operational Risk (S&OR) Assurance Reviews & Action Plans.

#### 16.2 Field Assessments and Verification

#### **Leadership Structured Field Assessments**

Leadership Structured Field Assessments are an important tool for the Wells organization to engage the front-line workforce in conversations about hazard barrier strength and opportunities for improvement. bp GoM Wells uses <a href="mailto:bp Procedure 100624">bp Procedure 100624 - Risk Assessment and Self-Verification</a> and <a href="mailto:bp Guide 100625">bp Guide 100625 - Risk Assessment and Self-Verification</a>, to assist leaders in preparing and carrying out field visits to underpin safe, compliant, and reliable operations for the life cycle of the well. Field locations include offshore platforms and rigs, well sites, and the offices of bp GoM or contractors supporting bp GoM's operations.

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#### **Self-Verification (SV) Process**

The bp GoM SV processes assist Site Leaders in preparing and carrying out a standardized approach to SV. Guidance regarding the process for conducting SV inspections for the eight (8) key Operations focus areas, including who conducts them, is established in the <a href="mailto:BP Practice Self-verification">BP Practice Self-verification</a> in GOO (GOO-GE-PRA-00001) and the <a href="mailto:BP Guide Self-verification">BP Procedure Risk Assessment and Self-Verification</a> (100624) contains requirements for the development, implementation, and management of a structured, risk-based, SV program.

#### **Annual SEMS Program Management Review**

The bp GoM SEMS program is formally reviewed with the bp GoM Business Leadership Team (BLT) as described in Section 1.4.2 of this document. Employees in various areas are engaged to identify learnings and opportunities, as well as provide continuous improvement recommendations relevant to the bp GoM SEMS program. The recommendations and actions agreed with the BLT are used as input during the next Central and Regional OMS Performance Improvement Cycle (PIC Cycle) and for inclusion during the annual SEMS Program document updates.

## 16.3 Employee Access

Links to relevant supporting documents noted under the EPP are available, with additional documentation available to employees via the OMS Navigator and other electronic databases.

#### **Documentation**

The EPP is reviewed and updated on the same annual basis as the SEMS Program Document.

## 16.4 Regulatory Reference

• 30 CFR 250.1932

#### 16.5 OMS Reference

- 1.6 Communication and Engagement
- 8.3 Performance Review

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## 17 Reporting Unsafe Working Conditions

Establishing guidelines for reporting unsafe working conditions that enable offshore industry personnel to report possible violations of safety, environmental regulations requirements, and threats of danger directly to BSEE.

The bp GoM procedure for personnel to report unsafe working conditions is included in the <u>General Safety Rules Safe Work Practice (UPS-US-SW-GOM-HSE-DOC-00106-2)</u> Incident Reporting Requirements section. The procedure considers applicable US Coast Guard reporting requirements for unsafe working conditions.

The following notice is posted on each bp GoM offshore facility covered by the SEMS Program:

"All injuries or incidents, regardless of severity, as well as all observed safety practice violations, and noncompliance issues are to be immediately reported. The primary means of reporting is directly to your immediate supervisor or the Person-in-Charge. If you prefer to report violations or noncompliance issues and remain anonymous, the primary reporting option is through OpenTalk. OpenTalk is available to all BP employees and contractors and is intended to allow the reporting person to remain anonymous while the reported issue is investigated and resolved.

Reports to OpenTalk can be made by:

• Phone: 1-800-225-6141 or

• Intranet: <a href="https://bp.alertline.com/gcs/welcome">https://bp.alertline.com/gcs/welcome</a>

"Another means of reporting available to employees and contractors is to the Bureau of Safety and Environmental Enforcement (BSEE). Any hazardous or unsafe working condition and any possible violation or failure to comply with any federal law or regulation relating to the safety of offshore oil and gas operations may be reported to BSEE.

Reports to BSEE can be made by:

• Phone: 1-877-440-0173

Internet: <u>www.bsee.gov</u>, or

 Mail: U.S. DOI/BSEE, 1849 C Street NW, Mail Stop 5438, Washington, DC 20240 Attention: IRU Hotline Operations

"Finally, hazardous or unsafe work conditions and possible violations to US Coast Guard regulations can be reported to the US Coast Guard Officer in Charge, Marine Inspection. The identity of the reporting person will not be made available without permission to anyone other than those officers and employees of the Department of Transportation who have a need for the record in the performance of their official duties."

## 17.0 Regulatory References

30 CFR 250.1933

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## 17.1 OMS Reference

- 1.6 Communication and Engagement3.2 Personal Safety
- 4.1 Procedures and Practices

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# Appendix A: Acronyms

Acronym	Description	
AOP	Annual Operating Plan	
API	American Petroleum Institute	
ASP	Audit Service Provider	
BSEE	Bureau of Safety and Environmental Enforcement	
CAP	Corrective Action Plan	
CAR	Contractor Safety Management - Assessment and Retention	
C&CM	Crisis and Continuity Management	
CFR	Code of Federal Regulations	
cos	Center for Offshore Safety	
COW	Control of Work	
CMAS	Competency Management Assurance System	
CVP	Capital Value Process	
DOI	Department of Interior	
eCOW	Electronic Control of Work	
EDMS	Electronic Data Management System	
EIAG	Equipment Integrity Assurance Guidelines	
eMOC	Electronic Management of Change	
EPP	Employee Participation Plan	
ER	Emergency Response	
ERP	Emergency Response Plan	
GoM	Gulf of Mexico	
HAZOP	Hazard and Operability (Studies)	
HAZID	Hazard Identification	
HITRA	Hazard Identification and Task Risk Assessment	
HSE&C	Health, Safety, Environment and Carbon	
INC	Incident of Non-Compliance	
ISSOW	Integrated Safe System of Work	
JSA	Job Safety Analysis	
LOPA	Layers of Protection Analysis	
MAR	Major Accident Risk	
MOC	Management of Change	
MODU	Mobile Offshore Drilling Unit	
NWD	New Well Delivery	
ocs	Outer Continental Shelf	
OMS	Operating Management System	
PMCS	Project Management Control System	
RCC	Remote Collaboration Center	
S&OR	Safety and Operational Risk	
SEMS	Safety and Environmental Management System	
SIMOPS	Simultaneous Operations	
SLPiA	Safety Leadership Principles in Action	
SMS	Subject Matter Specialist	
SOC	Safety Observation Conversation	
SOP	Site Operating Procedure	
SV	Self-Verification	

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Acronym	Description
SWA	Stop Work Authority
UWA	Ultimate Work Authority
WDWF	Well Delivery Workflow
WICP	Well Intervention Common Process
WSL	Wellsite Leader
WSUP	Wells Superintendent

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