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e3pOIMSManual  
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E&P OMS Manual

Date: January 01/2009

## Applicability

OMS shall apply to each project operation, site, marine vessel, structure and other asset that is wholly owned and operated by BP. This also applies to BP operated joint ventures. OMS Framework Part 4 provides additional guidance on the applicability of OMS. The E&P OMS Manual contains specific mandatory requirements as well as additional non-mandatory guidance. The mandatory requirements become applicable in accordance with the Group Compliance Timetable in OMS Framework Part 4, Appendix 5.

2.0	01/01/09	Updated: Version 2.0 Group Essentials Updated: E&P Segment Essentials Updated: E&P Recommendations, Tools and Examples
1.1	02/11/08	Updated: Section 3 Updated: 3.3 Process Safety Updated: 3.4 HSE 5
1.0	11/21/07	First issue
Version	Date	Description

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## message from the CEO of E&P

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We are committed to deliver safe, reliable and efficient operations wherever we operate.

The Operating Management System (OMS) will enable this delivery by setting global expectation for of our operations and then planning and executing improvements year after year. We have supplemented the Group OMS with Segment-specific guidance on "what good looks like" in E&P.

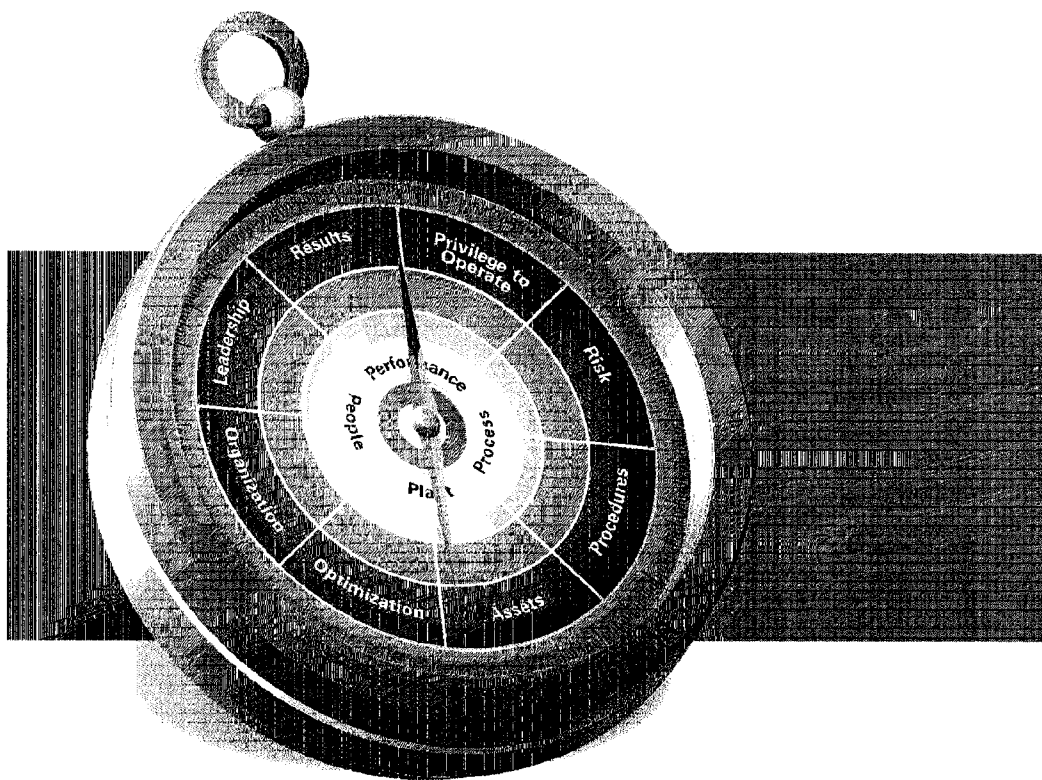
The E&P OMS sets the minimum mandatory requirements for performance. Additionally, it provides guidance to SPUs on how to construct their local OMS and incorporates lessons learned from the Wave 1 implementation experience.

I expect each E&P SPU to assess its operating activities against the mandatory OMS requirements and execute a prioritized plan to deliver against the basic expectations and then continually improve year after year.

I am confident that with your support and commitment, we will deliver safe, reliable and efficient operations consistently.



**Andy Inglis**  
Chief Executive Officer, E&P



The OMS Navigator can be reached at  
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# oms navigator

The **BP Operating Management System** (OMS) is a commitment to a new way of operating – the BP Way.

Wherever we operate, we align to the eight Elements of Operating documented in this Manual, as illustrated by the OMS Wheel.

The Web-based OMS Navigator helps you:

- Browse through Group, Segment and local (SPU) content using the OMS Wheel
- Access this information quickly by aligning it with the Elements of Operating
- Personalize access to your local OMS content – “myOMS”

The OMS Navigator – helping you find your way.

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BP OMS Navigator  
version 1.0



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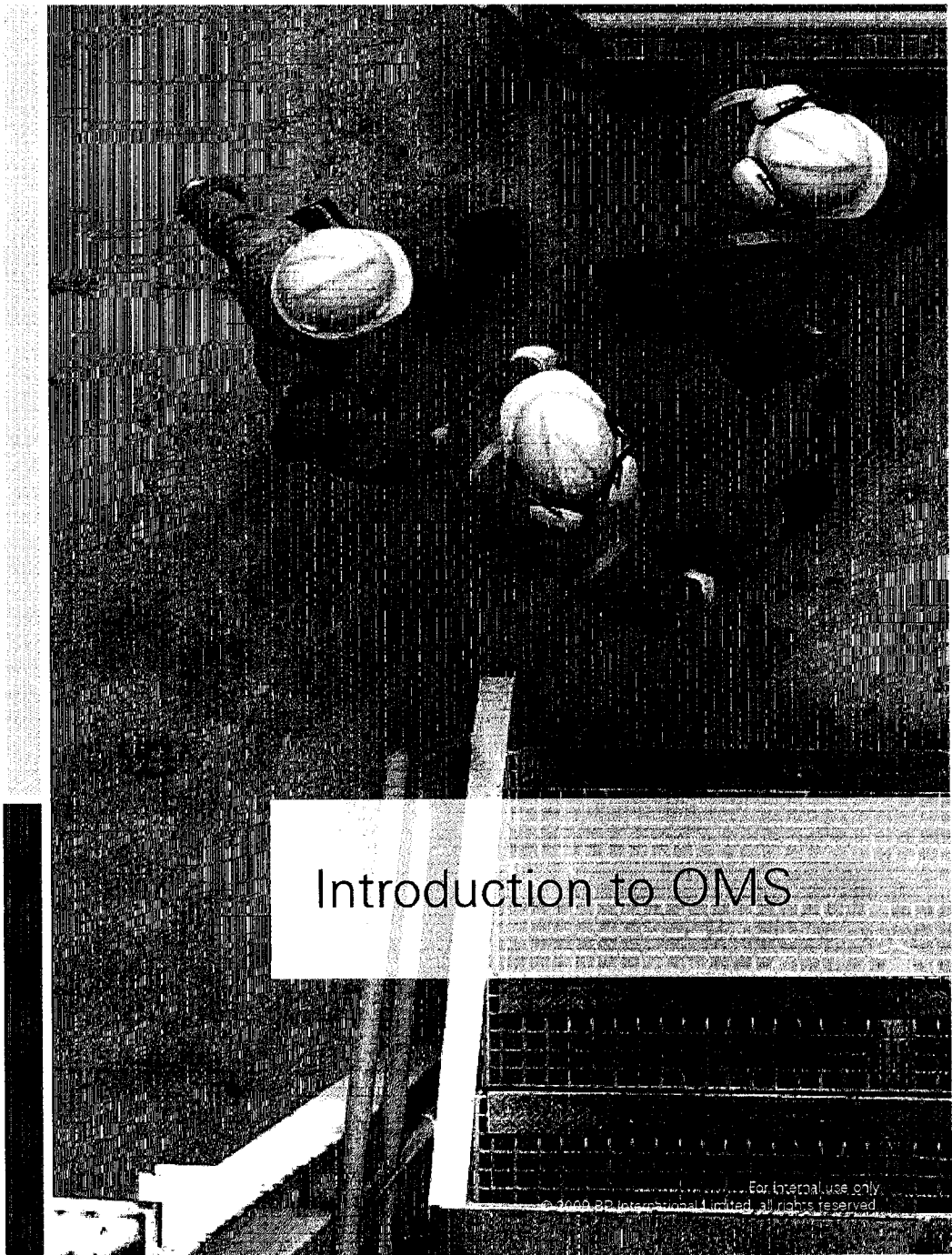
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## Introduction to OMS

## Purpose of the E&P OMS Manual

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The E&P OMS Manual describes minimum mandatory operating requirements set by BP Group and E&P Segment, and provides guidance to SPUs on the development of their local CMS. The Segment Essentials detailed in the Manual supplement the Group Essentials to better define "what good looks like" in E&P.

The Manual also describes the recommended approach for implementing OMS in E&P. Early experience from E&P sites (Alaska, GoM, NAG and Colombia) has shown that a structured approach to preparation, planning and deployment is key to successfully sustaining OMS.

The OMS Framework is available at <http://safetyandoperations.bpweb.com/OMS/OMS-Framework/> and on the CD at the back of the Manual.



## Introduction to OMS

### OMS Hierarchy

OMS is a comprehensive operating management system that integrates and improves existing management systems. It provides the framework to achieve safe and reliable operations day-in and day-out. OMS helps manage every element of operating, from basic compliance to excellence in performance.

In the short term, OMS helps us meet the minimum requirements set by the law, BP Group and E&P Segment. In the longer term, effective OMS implementation will position BP to take and maintain the lead in operating excellence while building a supporting culture that learns and drives continuous improvement.

The OMS hierarchy (Figure 1) sets the boundaries for how we operate, defined at Group, Segment and local levels.

At Group level, the OMS structure and operating framework are described in OMS Framework Parts 1–4. They define the intent, requirements, performance improvement cycle, gap assessment and MoC process to transition to OMS. These, in conjunction with the Group Defined Practices (GDPs) and the Group Recommended Practices (GRPs), describe the BP way of operating at the highest level.

At Segment level, E&P further mandates operating requirements in the form of Segment Essentials and Segment Defined Practices (SDPs). Along with the Segment Recommended Practices (SRPs), these describe “what good looks like” in E&P. The SDPs include Drilling and Well Operations Practice (DWOP), Major Projects Common Process (MPcP), Marine Operations (GRP 5.6–0001), and Resources and Reserves Operating Standard (RRoS).

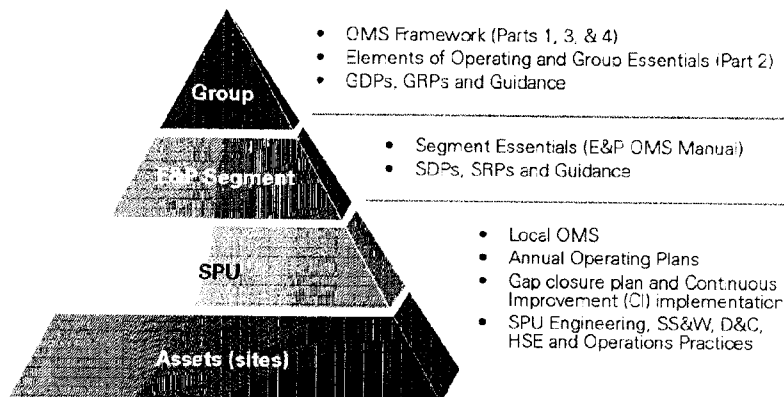
At the local level, the local OMS includes the SPU and site processes and procedures through which the business is delivered, and meets Group and Segment requirements.

The OMS Framework Parts 1–4 are available at <http://safetyandoperations.bpweb.bp.com/OMS/OMS-Framework/> and on the CD at the back of the Manual.



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**Figure 1** OMS Hierarchy

## OMS Framework

Every site and business within BP E&P already uses a management system to set priorities and manage risk. The purpose of the OMS Framework is to bring the appropriate level of consistency and completeness to these systems.

The OMS Framework, illustrated in Figure 2, defines a set of operating requirements, establishing a systematic way to conduct local business to meet these requirements. When fully implemented, OMS helps to deliver safe, responsible and reliable operating.

The OMS Framework functions by applying the Performance Improvement Cycle (PIC) to local business processes. These processes deliver the outcomes defined in the Group Essentials, categorized within the Elements of Operating. In turn, assessments against the Group Essentials inform the risk assessment and prioritization step of the PIC.

## Introduction to OMS

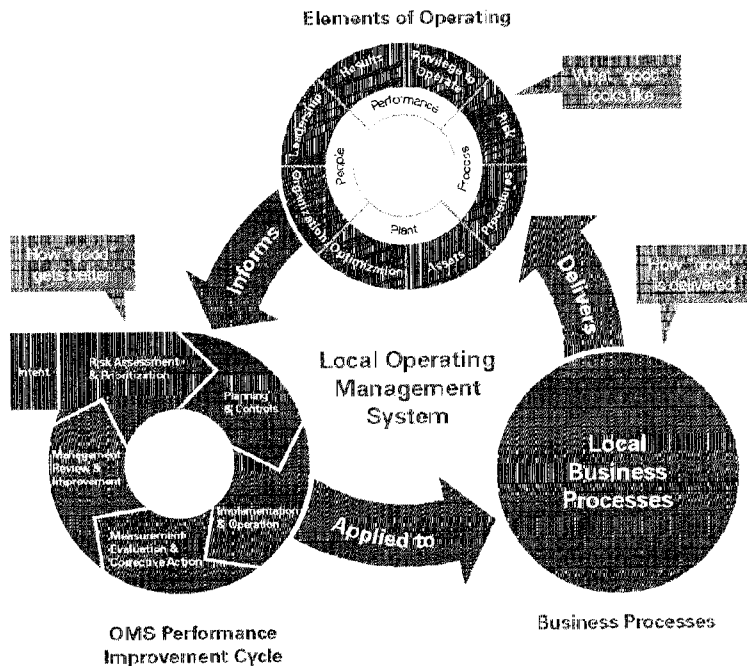


Figure 2 OMS Framework

### Local Business Processes

Each business defines a local OMS which describes how it delivers operating activities. The LOMS is developed, implemented and sustained locally. The local OMS translates business needs, relevant legal and regulatory requirements and OMS requirements into practical plans to reduce risk and deliver safe, sustainable performance.



Each local OMS is described in a local OMS handbook, which provides a summary and guide to the way things are done within that business. The LOMS handbook explains how the OMS Framework and the relevant BP business processes convert into local plans and actions.

### Elements of Operating and Gap Assessment

The Elements of Operating describe eight dimensions of how people, process, plant and performance operate within BP. Each of the eight interdependent Elements of Operating is divided into sub-elements (Figure 3), which need to be selectively and systematically managed to improve performance. Group and Segment Essentials corresponding to the sub-elements outline specific requirements covering risk mitigation, legal and regulatory compliance and conformance with BP requirements.

A gap assessment against the Essentials is a necessary part of the risk assessment and prioritization step of the PIC. The output of the gap assessment provides input to the annual business planning process to obtain funding and resources for gap closure. The OMS Gap Assessment Tool (GAT) gives local businesses the capability to assess themselves against Group Essentials and to identify areas for improvement.

### Performance Improvement Cycle

The rigorous and systematic application of the PIC supports the delivery of continuous risk reduction and performance improvement, embeds learnings and sustains improvements in the local OMS. The PIC is a systematic process applied at least annually, which identifies, prioritizes and drives planned improvements. The annual PIC starts with risk assessment and prioritization based on full or updated gap analysis of the Group Essentials.

Initially, businesses apply the PIC to close gaps in regulatory compliance and conformance with Group and Segment requirements. Applied consistently over time, businesses will achieve the state of operating efficiency and, ultimately, operating excellence.

Application of the PIC is described more fully in OMS Framework Part 3. The OMS Framework is available at <http://safetyandoperations.bpweb.bp.com/OMS/OMS-Framework/> and on the CD at the back of the Manual.



## Introduction to OMS

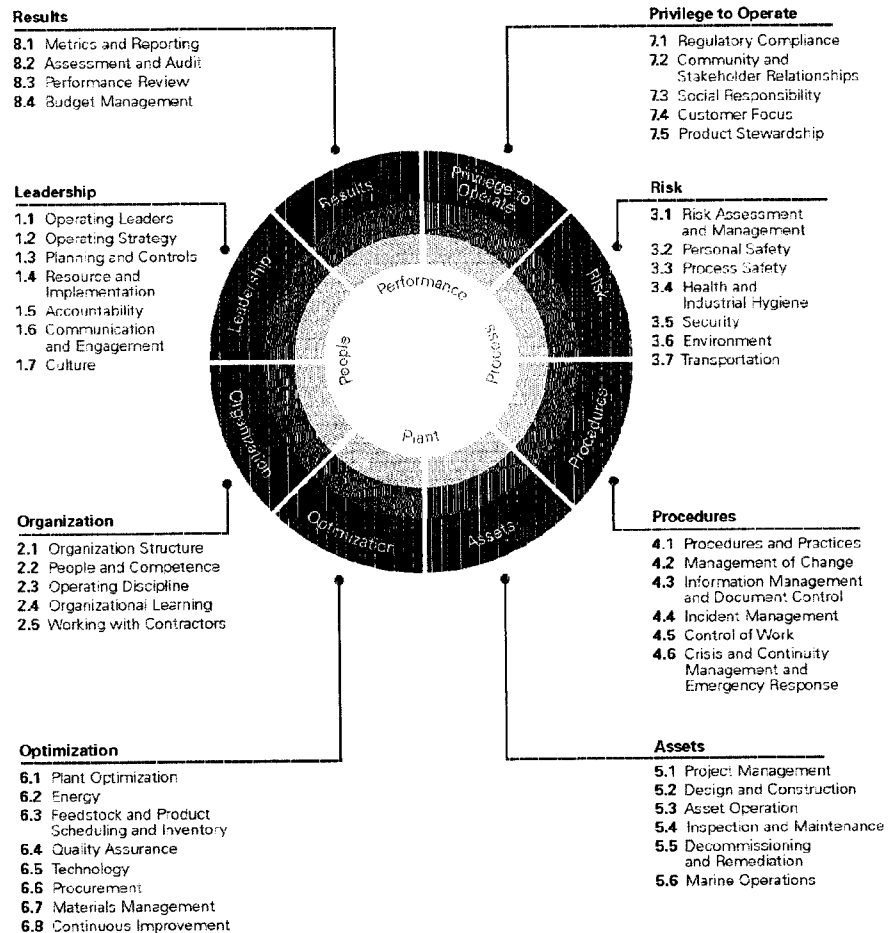


Figure 3 OMS Sub-elements



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Version 2

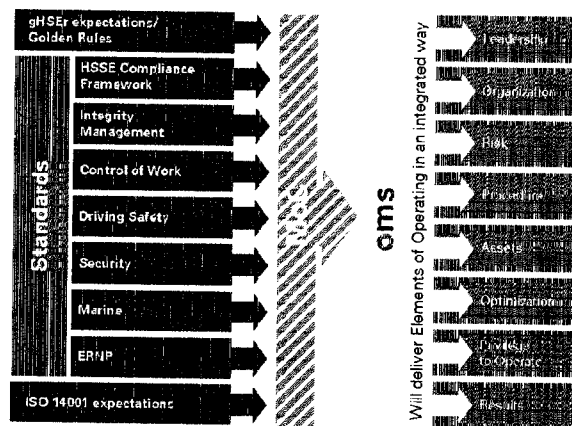
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## Transition to OMS

As businesses transition from their current operating management systems to OMS (Figure 4), they are expected to complete:

- A full Group Essentials gap assessment using the Group Gap Assessment Tool, facilitated by an approved external facilitator;
- An MoC as described in OMS Framework Part 4, Appendix 1; and
- A LOMS Handbook as described in OMS Framework Part 4, Appendix 3.
- An SPU-specific determination of the accountabilities for enabling OMS, per OMS Framework Part 4, Appendix 4.

OMS Framework requires that an Operating Authority (OA) approve MoC for transition to OMS, in collaboration with the SPU Leader (SPUL). In E&P, the Segment OA will review the SPU OMS and provide the SPUL with their endorsement of the suitability of the MoC and/or recommendations for improvement. The Operations & HSE TVP serves as the E&P Segment OA and may delegate this accountability to the regional Operations Vice Presidents.



**Figure 4** Transition to OMS

Businesses are required to repeat an externally facilitated gap assessment every three years. In the intervening years, businesses are expected to carry out an annual self-assessment against the Group Essentials and update their plans for addressing any gaps.





## Implementing OMS

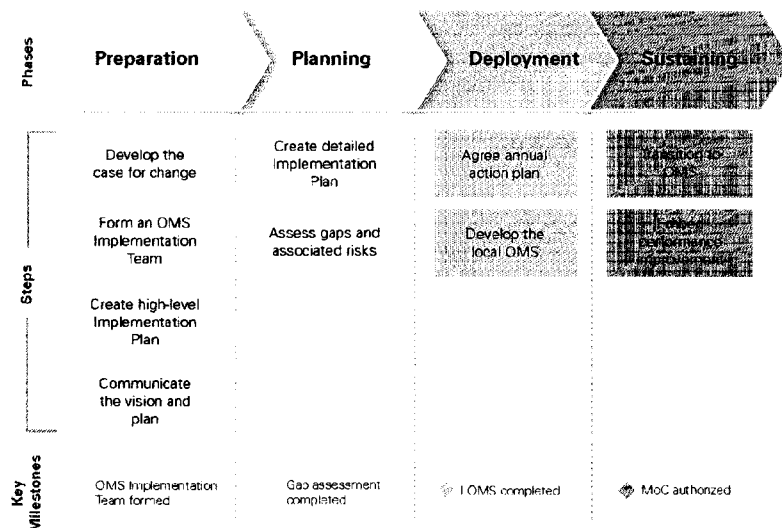
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## Implementation Process

Successful OMS implementation in E&P should follow a structured approach, illustrated in Figure 5. Learning from early implementation sites shows that effective preparation and planning are critical to embedding OMS into the organization.



**Figure 5** OMS Implementation Process in E&P Segment

## Implementing OMS

### Phases of Implementation

---

#### Preparation

Leadership engages the organization in OMS by creating the need for change to OMS and a shared vision for the business. An Implementation Team is formed to coordinate the implementation. Key change agents in the line and functions are engaged by building their understanding of OMS and seeking their input to a high-level Implementation Plan.

*The key milestone for this phase is the formation of the OMS Implementation Team.*

#### Planning

The business develops a detailed OMS implementation plan which includes activities, milestones, CI expectations, and the organizational capability to deliver the plan. At this stage, a gap assessment against the Elements of Operating is used to identify differences between OMS and the current operating systems, local processes and procedures. The business prioritizes gaps to inform its annual business plan.

*The key milestone for this phase is the completion of an externally facilitated gap assessment.*

#### Deployment

The business develops its local OMS and starts the execution of OMS-specific activities within its annual business plan to close gaps and manage risk. It also develops ways to track and measure performance against plan.

*The key milestone for this phase is completion of the LOMS.*



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### Sustaining

The business transitions to OMS using a formal management of change (MoC). Through subsequent annual application of the PIC, the business determines and acts on its operating priorities based on identified gaps.

*The key milestone for this phase is the authorization of the management of change to OMS.*

In the following pages, each phase is further defined by its key activities. Good practices, information and tools are provided for each phase to help businesses build their local OMS.



# Implementing OMS

## Preparation

**Key Milestone:** *Formation of the OMS implementation team*

### 1. Develop the case for change

As the business starts to think about implementing OMS, it is important to understand how and why it needs to change. Developing a case for change is vital to sustaining business performance through application of OMS.

#### Activities

- Create the case for change toward OMS and a shared vision for the business.
- Get familiar with the OMS Framework, principles and terminology.
- Identify key change agents and potential barriers to implementation.

#### Good Practices

- Maintain leadership focus on conformance to the essentials before seeking efficiency or excellence.
- Provide information at a rate that matches the understanding of OMS.
- Promote the notion of OMS as a line-led and function-enabled system.
- Use Group and Segment communication tools to initiate the conversation about OMS.
- Partner with early implementers to share information and lessons learned.

#### Information & Tools

- Training for Key Leaders (Operations Academy)
- OMS Website – “OMS made easy” Video
- Learning Maps – Context for Change
- OMS Library – OMS Framework Part 1



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## 2. Form an OMS Implementation Team

Assemble a group with the authority to drive the implementation effort.  
Designate an OMS Implementation Manager and supporting team.

### Activities

- Form the SPU "OMS Steering Team" (SPU LT members) and nominate one LT member as the single point accountable (SPA) for OMS implementation in the SPU.
- Create an OMS Implementation Team and define its accountabilities and reporting relationships.
- Nominate OMS "tags" at each site or asset.

### Good Practices

- Designate an OMS Implementation Manager at the start of the Preparation Phase to give momentum to OMS and to coordinate a more effective engagement process.
- The OMS Implementation Team is a project team led by a senior operations person. The team needs:
  - credibility, established networks, and complementary skills in systems, operations and planning
  - flexibility to accommodate requests for support from the line
  - ability to engage SPU program leaders (IM, CoW, HSE, Reliability, PSCM)

### Information & Tools

- Partnering with an early implementer SPA to learn and import tools and examples



## Implementing OMS

### Preparation *(continued)*

#### 3. Create a high-level Implementation Plan

Agree on the implementation scope and milestones. The high-level plan should also include continuous improvement considerations.

##### Activities

- Develop a high-level Implementation Plan.
- Get leadership endorsement of the high-level Implementation Plan.

##### Good Practices

- Include OMS implementation milestones (form team, complete gap assessment, complete LOMS, authorize MoC) in the high-level Implementation Plan.
- Define OMS terms of reference – OMS governance, scope, deliverables, roles and accountabilities.
- Define the implementation approach (SPU-wide or by PU/Asset).
- Integrate the CI roadmap into the OMS high-level Implementation Plan.
- Allocate budget estimates for OMS implementation.
- Include the OMS Implementation Plan into the SPU planning process.

##### Information & Tools

- Staff Network support to identify key resources to train and develop.



#### **4. Communicate the vision and the plan**

Raise awareness of OMS by sharing the vision, high-level plan and implementation milestones.

##### **Activities**

- Conduct OMS engagement workshops with the extended leadership team.
- Cascade OMS information via the ELT and OMS Implementation Team to the rest of the organization.
- Conduct high-level OMS self-assessment(s) to enhance understanding of OMS and its application to the local business.

##### **Good Practices**

- Manage OMS rollout via face-to-face conversations.
- Identify targets for one-on-one communication to gain support and resources.
- Communicate the role of the OMS Implementation Team to the organization during the engagement workshops.
- Emphasize implementation with the line, and enroll functions early.
- Conduct as many engagement sessions as needed to create momentum for change.

##### **Information & Tools**

- OMS Website:
  - "OMS made easy" Video
  - "OMS in brief" Flash Animation
  - Introduction to OMS Master Slidepack
- Learning Maps – Context for Change and Introduction to OMS
- OMS Library – OMS Framework Part 1
- OMS Navigator – Navigator Introduction Flash Animation



## Implementing OMS

### Planning

**Key Milestone:** *Completion of an externally facilitated gap assessment*

#### 5. Create a detailed Implementation Plan

Successful implementation relies on having a robust plan that includes a timeline with linked activities, resources and costs.

##### Activities

- Prepare a detailed OMS Implementation Plan (milestones, resources, communications).
- Define MoC requirements and start documenting each step of OMS implementation using the local MoC system.
- Define the organizational capability needed to deploy and sustain OMS, including CI training needs.

##### Good Practices

- Include documentation of local processes and procedures in the detailed plan.
- Explore OMS learning offers and integrate them within the implementation phases.
- Include the Web Navigator as a sub-activity within the local OMS build.
- Include OMS as a standing LT agenda topic and plan for leaders to communicate the progress of OMS implementation periodically.
- Schedule regular meetings between the OMS Steering Team and Implementation Team to evaluate progress and adjust strategy as needed.
- Test the implementation plan with representatives from the assets before rollout, adjusting as necessary.

##### Information & Tools

- OMS Library – OMS Framework Parts 3 and 4
- Implementation ToR Examples (e.g. GoM SPU)
- Project Planning Examples (e.g. NAG SPU)
- Progress Score card (W1)
- Learning Maps – PIC and GAP Assessment
- Import resources from early implementers to support plan execution



## 6. Assess gaps and associated risks

Compare current local processes and procedures against OMS requirements to determine potential gaps. Assess risks of continuing business with unresolved gaps, and assign priorities as an input to development of the gap closure action plan.

### Activities

- Conduct an externally facilitated gap assessment.
- Review SPU OMS gap assessment results with leadership team.

### Good Practices

- Assign SPU-specific risk interpretations to the GAT relative risk levels (1–5) and use them consistently in each self-assessment.
- Define SPU gap prioritization criteria to guide development of the action plan.
- Involve functional personnel in gap assessments, at least of those sub-elements to which they are linked.
- Explain the gap assessment process to participants and provide adequate time for preparation, including a review of findings from previous audits.
- Use the GAT to perform self-assessments in preparation for the externally facilitated gap assessment.
- When performing the gap assessment:
  - Use a consistent process across the SPU.
  - Record gaps in a gap register, in a way that is easily understood.
  - Do not generalize; evidence should be specific to a given indicator.
  - Use the indicators to interpret the intent of the Group Essential.
- Coach leaders to understand that gap assessments inform operating and business plans.

### Information & Tools

- OMS Architecture – Gap Assessment Training – 2-day facilitator training
- OMS Website – Gap Assessment Tool, including user guide and process

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## Implementing OMS

### Deployment

**Key Milestone:** *Completion of the LOMS*

#### 7. Agree the annual action plan

The annual action plan details how the business closes gaps, manages prioritized risks, and measures performance against objectives. Include the annual action plan in the local CMS and add highlights to the LOMS Handbook.

##### Activities

- Develop a prioritized action plan from the register of gap results and associated risks.
- Agree with the SPU LT on the gap priorities and associated actions for the gap closure plan.
- Use the prioritized action plans to inform site operating plans and annual business plans.

##### Good Practices

- Focus gap classification and prioritization on basics (compliance) and critical areas first.
- Combine findings from previous audits and compare to assessment results, check for trends, and look for broader systemic risks in the groupings.
- Develop closure plans based on root cause corrections that can be managed by the assets, with clearly defined ownership for results.
- Find relationships between identified gaps and existing systems in place (CoW, IM, Competencies).
- Classify the gap and its potential impact in the annual plan, e.g. risk mitigation, legal compliance.

##### Information & Tools

- One-pager Progress Reports, e.g. GoM SPU
- Gap Assessments Registry, e.g. NAG SPU
- Annual Business Plan, e.g. NAG SPU



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### 8. Develop the Local OMS (LOMS)

The OMS Framework requires a Local OMS, which summarizes how the business operates and, specifically, how local systems and procedures meet the requirements of OMS.

#### Activities

- Develop the LOMS in conformance with the OMS Framework Part 4.
- Load the Web-enabled OMS Navigator with local processes and train users.
- Write the LOMS Handbook.

#### Good Practices

- Bridge established management systems to OMS.
- Use the Web-enabled OMS Navigator to connect OMS sections at the asset and SPU level.
- Use a consistent methodology and templates to gather and classify processes and procedures to be linked to the Navigator.
- Incorporate both function and line input to the LOMS Handbook and Navigator, for wider OMS ownership.
- Include in the LOMS Handbook, descriptions of how:
  - Existing management systems are incorporated into OMS.
  - The gap prioritization process is structured and applied across the business.
  - The gap assessment, risk matrix and the business action plan are connected.
  - CI is integrated in the gap closure process.
  - The PIC is embedded in the annual business planning process.
  - OMS supporting information/documentation is located.

#### Information & Tools

- OMS Library – OMS Framework Parts 3 and 4
- Group Template for LOMS Handbook
- OMS Navigator – LOMS Examples
- Learning Maps – PIC Module

## Implementing OMS

### Sustaining

**Key Milestone:** *Authorization of the management of change to OMS*

#### 9. Transition to OMS

This stage formally establishes that the business has the basics in place to move from the existing management system framework to OMS.

##### Activities

- SPU Leader authorizes the MoC to OMS.
- Identify active systems in the SPU and confirm that they are integrated into OMS.
- Select those systems that the business will maintain as stand-alone systems in the short term, and reflect them in the MoC (e.g. Environmental Management System).

##### Good Practices

- Engage functions that "own" standards and systems (gHSEr, CoW, IM) in the MoC design.
- Coordinate functional workshops to design transition plans from existing systems, including gHSEr, CoW, IM, Six Point Plan.
- Formally communicate the transition to OMS, and declare that the business will start using the language, framework and tools provided by OMS.

##### Information & Tools

- OMS Library – OMS Framework Part 4
- OMS Navigator – MoC Examples (Cooper River Refinery)





## 10. Embed Ongoing Performance Improvement

Measure performance against OMS requirements and identify opportunities for improvement. Annually review the business plan to verify that LOMS objectives are being achieved, as detailed in the PIC.

### Activities

- Define organizational capability requirements to support OMS documentation and maintenance.
- Schedule and conduct SPU LT quarterly performance reviews of the LOMS
- Initiate PIC activities and follow through with CI roadmap

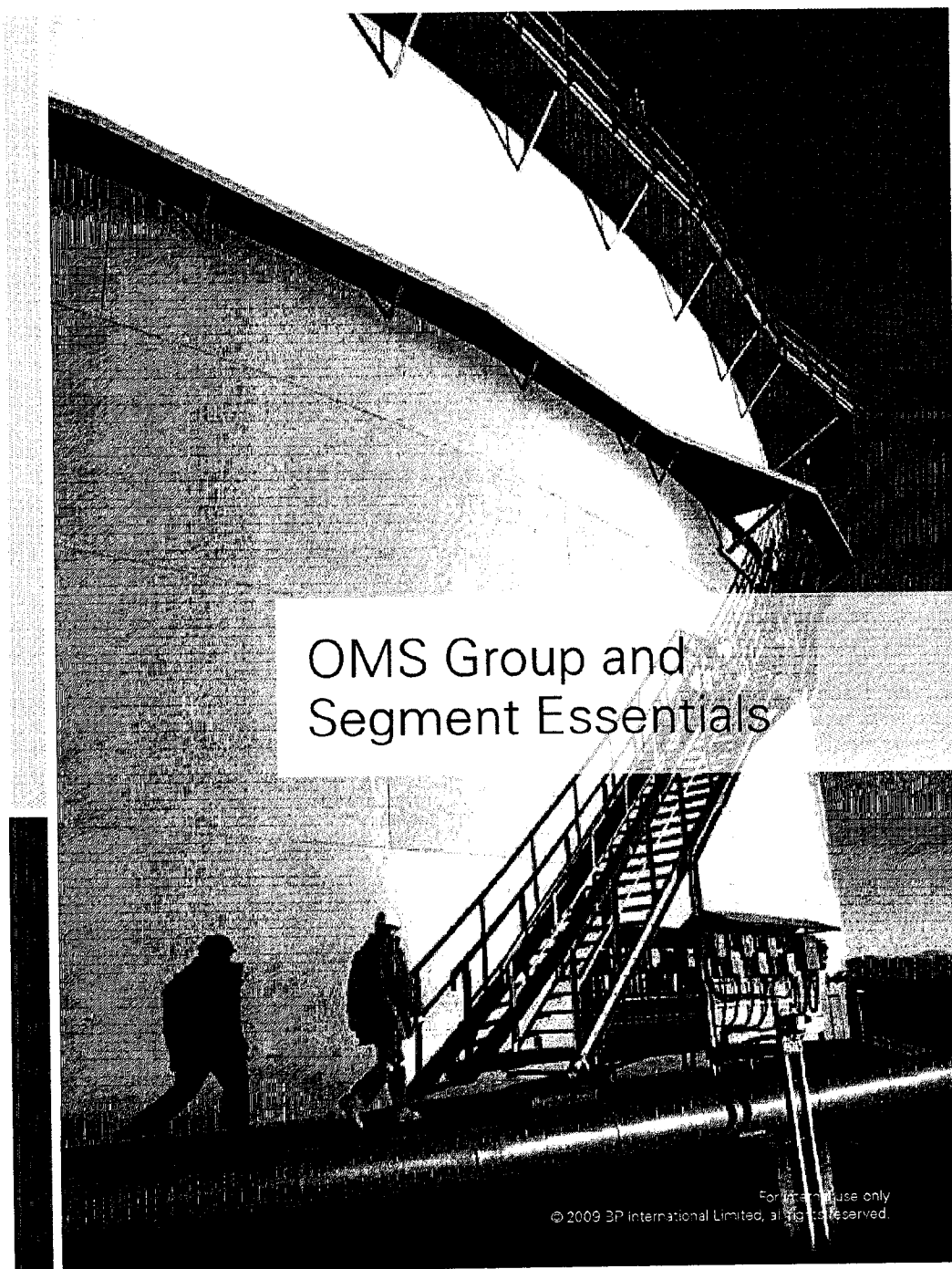
### Good Practices

- Verify that LT and ELT have clarity regarding the PIC and their role in its success.
- Clarify ownership of the processes, systems and components of OMS.
- Replicate OMS sustainability from existing management systems if systematic and controlled.
- OMS SPAs (line and function) remain accountable for process compliance with OMS.

### Information & Tools

- OMS Library – OMS Framework Part 3
- Learning Maps – PIC Module





## OMS Group and Segment Essentials

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## The Operating Essentials

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The Group OMS Framework describes the structure and minimum operating requirements for BP Segments. The E&P Segment engaged a broad cross-section of stakeholders to interpret what the Group Essentials mean for E&P operations. This group defined additional requirements needed for "getting the basics right" for the E&P Segment. Early implementation experience helped to refine the Group and Segment Essentials, and provided useful guidance in the form of recommendations, tools and examples to facilitate transition to OMS.

### Terms and Definitions Specific to OMS in E&P

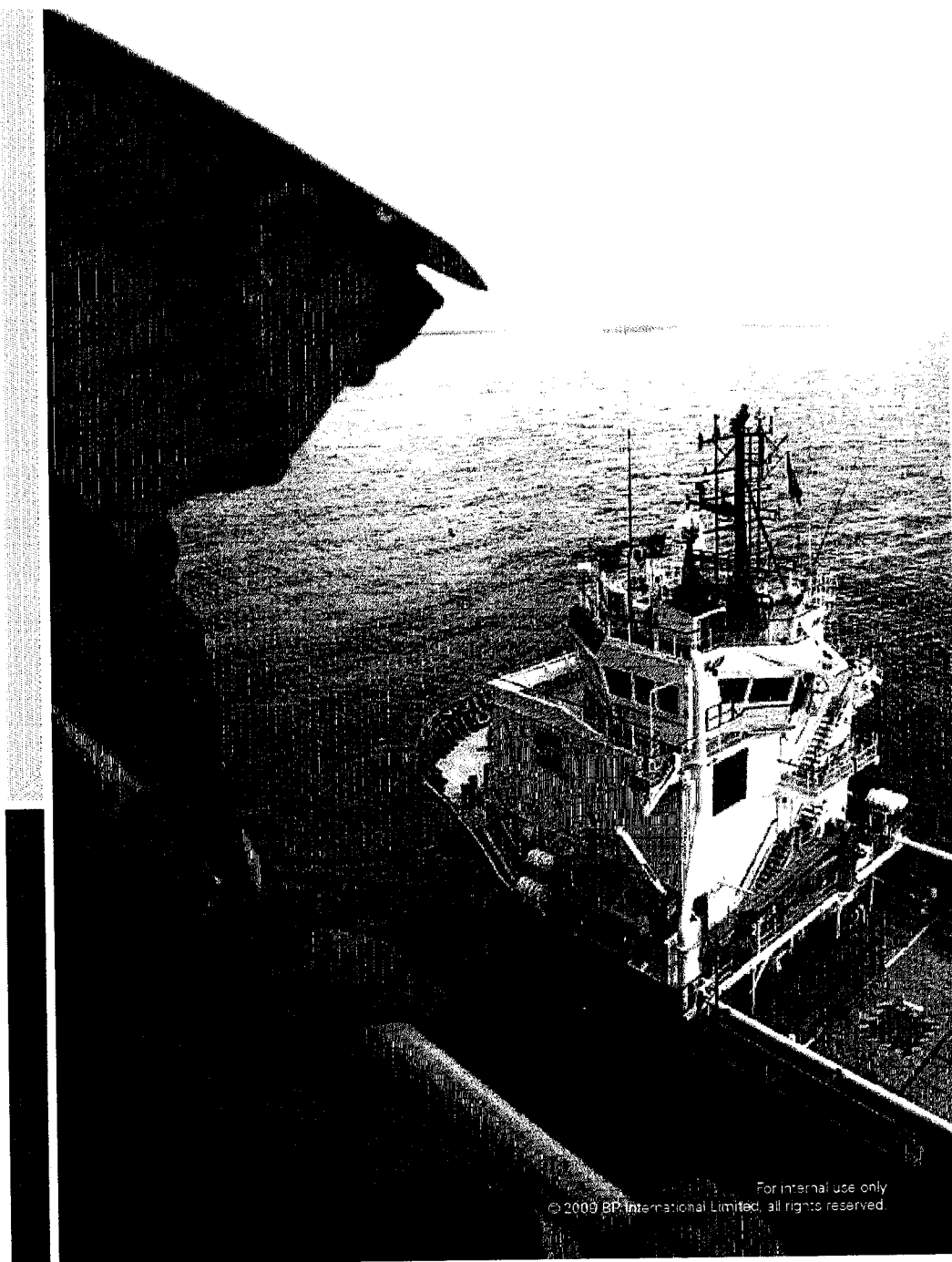
**Segment Essentials** under Group Essentials are mandated for E&P Segment. These minimum requirements, together with Group Essentials, form the benchmark for safe, responsible and reliable operations within the E&P Segment.

**Recommendations** provide operating guidance to businesses, with the goal of achieving consistent ways of working across the Segment.

**Tools and Examples** suggest ways in which businesses can implement local processes and procedures in service of minimum requirements.

Tools and examples are listed in the Manual. More complete information is available on the OMS Navigator at <http://omsnavigator.bpweb.bp.com>

Linkages between Segment Common Processes and OMS are shown in Appendix 1.



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# Leadership

**Principle:** Our operating leaders are competent, exhibit visible, purposeful and systematic leadership and are respected by the organizations they lead.

- 1.1 Operating Leaders
- 1.2 Operating Strategy
- 1.3 Planning and Controls
- 1.4 Resource and Implementation
- 1.5 Accountability
- 1.6 Communication and Engagement
- 1.7 Culture

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## Leadership

### 1.1 Operating Leaders

**Principle:** BP operating leaders provide clear direction to the people in their organization and then act in accordance with it.

- 1.1.1 Define and then annually review and communicate to the workforce an entity vision that includes details of how the application of OMS will enable continuous risk reduction and performance improvement and safe, responsible and reliable operating.

**Recommendations**

- Spend time in operations to inform your understanding of plant, process, people, performance and the current state of operations.
- Visibly support business plans across the organization.
- Understand the integrity and operating limits of your site.
- Know the business risks and consequences on your site.
- Share monthly, quarterly and annual performance results, and communicate the progress of business performance incentive programs periodically.

- 1.1.2 Demonstrate management commitment to compliance with legal and regulatory requirements, to the application of OMS and to conformance with BP Requirements.

- 1.1.2.1 Conduct periodic and planned leadership site reviews.

**Recommendations**

- Provide business boundaries and direction aligned with OMS.
- Build the language of OMS into your regular team briefings, meetings and reviews.
- Demonstrate inclusive behaviors, including delegating decision-making and sharing knowledge.
- Use the OMS framework to inform business decisions.

- *Discuss with the team consequences and implications of non-conformance.*
- *Encourage continuous improvement and local ownership for OMS implementation.*

**1.1.3** Model behaviors by personal example that reinforce continuous risk reduction and performance improvement.

- 1.1.3.1** Verify that operations integrity risks are systematically identified, understood, and managed.
- Verify understanding of risks with key stakeholders.
  - Review risk mitigation plans periodically, know the key elements, and communicate to stakeholders as needed.

#### **Recommendations**

- *Know the physical and mechanical condition of your operating site, act on those conditions and recognize and reward examples of well-maintained and well-managed operations.*
- *Participate in training and development alongside operations personnel.*
- *Engage in dialogue with teams to understand and recognize what is going well and what causes concern to personnel.*
- *Share Segment and local context with teams on a regular basis, demonstrating and reinforcing business priorities.*

#### **Tool**

Safety Observations & Conversations (SOC)  
<http://safetyandoperations.bpweb.bp.com/SOC/>

#### **Examples**

Azerbaijan SPU Safety Training Observation Program (STOP)  
<http://baku.bpweb.bp.com/dep/hse/stopcard/>  
 myHR Spot Recognition Awards  
[http://onehr.bpweb.bp.com/CYP/en/onehr\\_reward\\_bonuses\\_spot.aspx](http://onehr.bpweb.bp.com/CYP/en/onehr_reward_bonuses_spot.aspx)

## Leadership

- 1.1.4 Seek feedback on their leadership behavior, and reflect it in their personal development.

### **Recommendations**

- Establish a mechanism for receiving feedback on leadership behaviors.
- Establish mentoring relationships by selecting respected operations field leaders for personal coaching.
- Incorporate leadership continuous improvement actions into personal performance contracts.

---

*This document contains requirements for this sub-element:*

BP Leadership Framework (See Figure 1.1.1)

*This document contains guidance for this sub-element:*

Safety Leadership Toolkit



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Version 1.0

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As a BP leader, I:

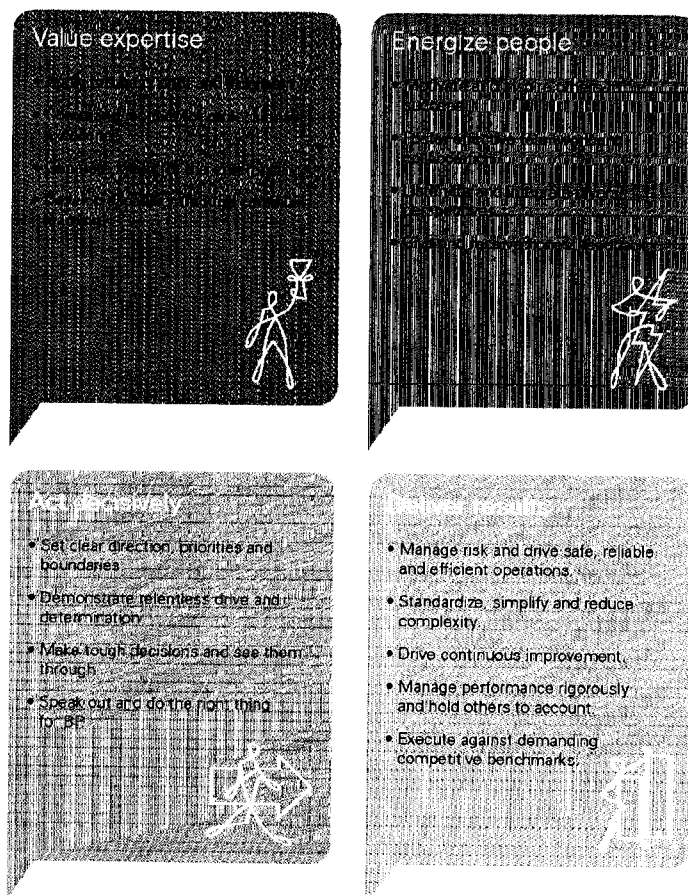


Figure 1.1.1 BP Leadership Framework

## Leadership

### 1.2 Operating Strategy

**Principle:** BP leaders integrate operating activities into business strategies and objectives to deliver continuous risk reduction and performance improvement.

- 1.2.1 Incorporate a strategy for continuous risk reduction and operating performance improvement into the entity business strategy.
- 1.2.2 Maintain and communicate to the workforce a local operating policy consistent with the entity vision and OMS, and that includes the BP Commitment to Health, Safety and Environmental Performance.
- 1.2.3 Develop and annually review a statement of intent aligned to the entity vision and operating policy, explaining the objectives and scope of the local OMS.
- 1.2.4 Monitor the external environment and update the strategy for continuous risk reduction and performance improvement in response to changing business needs.

*These documents contain recommendations for this sub-element:*

OPcp  
Ecp

Opportunity Progression (Depletion Planning) Common Process  
Exploration Common Process

### 1.3 Planning and Controls

**Principle:** BP leaders formulate annual plans aligned to the local operating policy to address risks, performance delivery and performance improvement opportunities, and establish controls to deliver intended outcomes.

- 1.3.1 Identify and document risks and opportunities to be addressed in a prioritized way through the local OMS and include them in the annual planning process.
- 1.3.2 Incorporate objectives, targets, actions and accountabilities into the annual plan to manage operating risk, to deliver the requirements of OMS, and to close gaps against the Group Essentials.
- 1.3.3 Establish control mechanisms to address risks to the delivery of the annual plan and assess performance against the plan.

---

*These documents contain recommendations for this sub-element:*

SRP 1.3-0001	Integrated Planning ( <i>formerly IFPcp</i> )
BMcp	Base Management Common Process



## Leadership

### 1.4 Resource and Implementation

**Principle:** BP leaders provide sufficient resources to manage risks and deliver performance improvement, and apply control mechanisms to identify and correct deviations from the annual plan.

- 1.4.1 Communicate the relevant parts of the annual plan and targets to the workforce and other identified stakeholders, and translate and include them in annual team and personal objectives.
- 1.4.2 Identify the resources needed to implement the annual plan. If resource constraints are identified, modify the annual plan consistent with the need to maintain safe, responsible and reliable operating.
- 1.4.3 Implement the annual plan mobilizing identified resources.
- 1.4.4 Apply control mechanisms to identify shortfalls against the annual plan, and put in place corrective actions.



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## 1.5 Accountability

**Principle:** BP operating leaders create and support clear delegation and accountability consistent with BP Requirements.

- 1.5.1 Appoint Engineering and Marine Authorities.
- 1.5.2 Work with their Segment and/or SPU Engineering, Marine and Operating Authorities to support the delivery of safe, responsible and reliable operating activities.
- 1.5.3 Assign accountabilities and delegations to deliver BP Requirements.

### **Recommendation**

- Confirm acceptance of delegations and communicate to the local business.

- 1.5.4 Provide BP employees with clearly defined and documented accountabilities. Set performance standards, goals and objectives which are aligned with their performance contracts and reward mechanisms.

- 1.5.4.1 Document and communicate the local progressive disciplinary policy and apply it consistently across the organization, including a description of consequences for:
  - Non-compliance with legal and regulatory requirements.
  - Unsanctioned deviations from local operating procedures and policies.

### **Recommendation**

- Confirm that people are performing their roles and delegated duties as established in their job descriptions.

These documents contain requirements for this sub-element:

GDP 5.0-C001 Integrity Management  
GRP 5.6-0001 Marine Operations  
(Note. This GRP is mandated for E&P Segment.)

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## Leadership

### 1.6 Communication and Engagement

**Principle** BP leaders, through their actions and behaviors, create an environment in which the workforce are informed, involved and enabled to do their jobs.

- 1.6.1 Communicate business context and plans for risk reduction and performance improvement to the workforce.

#### **Recommendations**

- *Develop and sustain a local communications and engagement plan that describes how communications will be used to support business objectives.*
  - *Document leadership accountability for business communications.*
  - *Define communication channels and use them consistently to deliver business messages.*
- *Share business messages in a structured and straightforward manner.*
  - *Plan and deliver business messages at a set frequency.*
  - *Provide training opportunities to build leadership communication competencies, i.e. strengthen their skills and capability to communicate effectively with the workforce.*
- *Work closely with the front line to develop understanding of operational issues.*
- *Promote involvement of the workforce through planned, regular and ad hoc face-to-face conversations.*

#### **Tools**

Planit Tool (Internal Communication Planning and Co-ordination Tool)  
<https://www.communication-planning.com/bp/>  
Powerful Questions for Leadership Guidelines



ES&P QMS - March 2009  
Version 1.0

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- 1.6.2 Communicate to BP employees the process that enables them to report, in confidence, operating concerns and concerns relating to legal compliance or conformance with BP Requirements.

**Recommendations**

- o *Implement a follow up process to track issues and provide resolution within a defined timeframe.*
- o *Include in the local process for raising concerns mechanisms that:*
  - *Encourage employees and contractors to identify issues and suggest opportunities for resolution.*
  - *Assess, mitigate and resolve harassment, intimidation, retaliation and discrimination cases.*

- 1.6.3 Apply reward and disciplinary programs to reinforce and reward behaviors consistent with legal and regulatory requirements and BP Requirements.

- 1.6.4 Not tolerate retaliatory action against any member of the workforce for reporting in good faith, to line management or in confidence via any available BP process, operating concerns or concerns relating to legal compliance or conformance to BP Requirements.

- 1.6.5 Implement and maintain a process to consult with the workforce to identify continuous risk reduction and performance improvement opportunities.

**Recommendations**

- o *Establish a consistent means of soliciting workforce input via meetings, suggestion systems, performance reviews, etc.*
- o *Respond consistently to ideas, issues and concerns from the workforce.*
- o *Encourage the workforce to provide input into the development of local business plans.*
- o *Include in HSE consultation forum design:*
  - *Documented objectives in a charter endorsed by management and socialized with staff.*



## Leadership

- Representation from local organizations and units (both voluntary and appointed).
- Management sponsor who attends meetings in an advisory capacity, as required.
- Dedicated budget for unplanned HSE improvements proposed by forum members.
- Involvement in an annual planning process and annual improvement targets established as part of the annual plan.

- 1.6.6 Develop a Local Operating Management System Handbook and communicate the contents to the workforce.

### **Recommendations**

- Create a Local OMS handbook that is Web-based and provides visual aids, pictures, diagrams, and links to subject matter experts and best practices.
- Include in the OMS communications and engagement plan:
  - Emphasis on face-to-face deployment.
  - Channels for employee and third-party feedback.
  - Clarity regarding OMS as the long-term BPWay of operating.

- 1.6.7 Require leaders to seek feedback at defined intervals on their communication and engagement activities and modify them as needed.

### **Recommendations**

- Use multiple feedback channels to improve communications and engagement over time.
- Include in the communications evaluation program:
  - 360° feedback specific to communications.
  - Periodic assessment of communication style and competency.
  - Mechanisms to gather feedback (formal and informal) from communication professionals and employees.

This document contains requirements for this sub-element:

Code of Conduct – OpenTalk



OSP OMS, version 2005  
Version 2.0

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## 1.7 Culture

**Principle:** BP leaders take action to develop and maintain a culture and behaviors that enable safe, responsible and reliable operating.

- 1.7.1 Define and communicate the desired operating culture and behaviors to the workforce; address behaviors that are inconsistent with the desired culture, and encourage and recognize behaviors that support it.
- 1.7.2 Assess the operating culture and behaviors at defined intervals and develop improvement plans as needed.

---

*These documents contain requirements for this sub-element:*

myHR — Control Processes  
— People Assurance Survey

*This document contains guidance for this sub-element:*

Safety Culture Toolkit



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# Organization

**Principle:** We have fit for purpose and agile organizations staffed with competent people and teams.

- 2.1 Organization Structure
- 2.2 People and Competence
- 2.3 Operating Discipline
- 2.4 Organizational Learning
- 2.5 Working with Contractors

# Organization

## 2.1 Organization Structure

**Principle:** BP entities establish organizations that allow them to deliver their planned business objectives effectively and efficiently through the deployment of competent people and adequate resources.

- 2.1.1 Document and implement an organization structure aligned to manage entity business and operating processes.
- 2.1.2 Establish clear line reporting relationships ensuring leaders have a manageable span of control, and BP employees have a clear understanding of their roles, accountabilities and objectives.
- 2.1.3 Allow functional experts access to entity leaders and independent access to their functional leadership to discuss operating risk concerns.
- 2.1.4 Identify activities to be carried out by contractors and other parties and provide BP resources to manage the interfaces.

*This document contains recommendations for this sub-element:*

GRP 2.5-0001 Working with Contractors



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## 2.2 People and Competence

**Principle:** BP entities deploy and maintain competent employees with appropriate qualifications, skills and knowledge for roles that impact integrity and operating performance and to meet current and future business needs.

- 2.2.1 Implement and maintain a people resourcing strategy to meet the current and anticipated needs of the business and which assigns accountabilities for recruitment, selection and retention of personnel

### **Recommendations**

- Develop resourcing plans that are linked to the local strategic business plans.
- Develop a headcount tracking system in Human Resources (HR) for BP employees and contractors.
- Document and communicate HR and line accountabilities for the resourcing process, i.e. HR is accountable for process and line is accountable for resourcing strategy.
- Develop broader cross-organization internal candidate pools.
- Use Talent Acquisition System (TAS) as the tracking system for both internal and external candidates.

### **Tool**

Talent Acquisition System (TAS)

[http://onehr.bpweb.bp.com/CYP/en/onehr\\_jcbs\\_externalresourcing\\_tas.aspx](http://onehr.bpweb.bp.com/CYP/en/onehr_jcbs_externalresourcing_tas.aspx)



## Organization

- 2.2.2 Define required competencies and training for roles to be filled by BP employees, including any legally required training.

- 2.2.2.1 Identify posts where jobholder competencies and proficiency can significantly impact HSE or operating integrity ("critical jobs"). Develop and maintain a register of those jobs.

### **Recommendations**

- Conduct periodic internal and external benchmarking of critical jobs related to HSE and operating integrity, led by functions.
- Include in role descriptions: specific skills, behaviors, experience, education, credentials, registrations, certifications and job-specific training.

- 2.2.3 Assess BP employees on entry into safety and production-critical roles, and at defined intervals thereafter, against the required competencies for their role; record assessments, identify any gaps, and take identified training and development action to close them.

- 2.2.3.1 Base training offers on recommended curricula from the function and involve the team leader in defining specific additional training necessary to achieve required competency and proficiency levels.

### **Recommendations**

- Develop and maintain competency profiles (core, foundation and technical skills) for each identified role.
  - Define and communicate line accountabilities for maintaining job competency profiles.
  - Use HR and CMAS templates for defining job competency profiles.
- Verify that team leaders are competent to provide feedback and guidance on employee Personal Development Plans (PDP).
- Document a career development discussion at least annually.
  - Use standard PDP forms.
  - Encourage employees to be accountable for the development and review of their PDPs with team leaders.
  - Agree on action plans and resources for development activities.
- Complete an organizational management of change for long-term gaps; use a written risk assessment until short-term gaps are closed.



BP OHS Value 2008  
Version 1.0

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- o Place under heightened work supervision any personnel assessed as not yet competent in a particular area; maintain heightened supervision until competencies reach required levels.

#### **Tool**

Learning Progression Map

<http://mylearning.bpweb.bp.com/calendar/training.htm>

- 2.2.4 Perform induction training covering HSSE and emergency procedures for new or transferred BP employees, contractor employees and visitors.

- 2.2.4.1 Include the local OMS as part of new employee orientation.

#### **Recommendations**

- o Define a timeframe in which new additions or transfers into the workforce are to complete the orientation process.
- o Implement a process to document that the workforce has been informed of and acknowledged their HSE responsibilities.
- o Conduct instructor-led orientation training.
- o Record attendees, provide a written test, and use a sign-off sheet.
- o Provide HSE coaching to personnel new to a location.
- o Monitor HSE awareness using STOP and SOC.

- 2.2.5 Maintain training materials and records, evaluate training effectiveness at defined intervals, and implement identified improvements as needed.

- 2.2.5.1 Implement CMAS-ican when migrating or upgrading the local business to an electronic competency assurance system.

#### **Recommendations**

- o Define local accountabilities for designing and implementing the assessment process.
- o Verify the effectiveness of HSE and operations training programs using independent external auditors.



## Organization

### Tool

CMAS-ican

<http://ots.bpweb.bp.com>

- 2.2.6 Implement and maintain performance management and career development processes to monitor and improve individual performance and enhance contribution.

### Recommendations

- Provide periodic informal feedback and coaching during the performance period, using the process as developed and recommended by HR.
- Use the People Assurance Survey (PAS) or other pulse checks to gauge the effectiveness of the performance management process.
- Use the standardized discussion guide (provided by HR) to aid team leaders with performance conversations.
- Include competency targets and HSE training requirements in performance contracts.

### Tool

myPerformance Process

<http://myhr.bpweb.bp.com>

*This document contains requirements for this sub-element.*

myHR – Control Processes

*This document contains recommendations for this sub-element:*

GRP 2.2-0001 Competency Assurance



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Version 1.0

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## 2.3 Operating Discipline

**Principle:** BP entity leaders hold the workforce accountable for performing their work in accordance with operating procedures and practices.

2.3.1 Require members of the workforce to stop work that they consider unsafe or likely to cause loss of containment causing damage to the environment.

2.3.1.1 Implement a local policy which defines the expectations to stop work that is unsafe, non-compliant with environmental regulations or not conforming to BP Requirements.

### **Recommendations**

- *Communicate management's commitment and expectations throughout the workforce to support stoppage of unsafe or environmentally unsound work, without threat of reprisal.*
- *Recognize and reward behaviors consistent and in line with the local policy.*
- *Include a statement in work permits to communicate the obligation to stop unsafe work.*
- *Incorporate within roles and responsibilities the expectation to stop unsafe or environmentally unsound practices.*
- *Include in the employee orientation program the expectation to stop unsafe work, including examples of the type of work an individual would stop and the process to stop the work.*

### **Tool**

Safety Observations & Conversations (SOC)  
<http://hsse.bpweb.bp.com/SOC/>

### **Example**

Azerbaijan SPU Safety Training Observation Program (STOP)  
<http://baku.bpweb.bp.com/dep/hse/stopcard/>



## Organization

2.3.2 Define and communicate to the workforce the consequences of non-compliance with legal and regulatory requirements, BP Requirements and local operating procedures and practices.

2.3.3 Monitor workforce understanding and observance of legal and regulatory requirements, BP Requirements and local operating procedures and practices. Apply defined consequences for non-compliance.

### **Recommendations**

- o Be consistent in managing and administering rewards and consequences for compliance with and/or deviations from procedures and practices.
- o Administer consequences through BP Contract Accountable Managers (CAMs) for contractors' deviations from operating procedures and practices (contract conditions)

---

*These documents contain requirements for this sub-element:*

Code of Conduct – Who must follow this code  
– Working with suppliers

*This document contains recommendations for this sub-element:*

GRP 4.1–0001 Operating Procedures



## 2.4 Organizational Learning

**Principle:** BP entities continuously improve their local OMS, both sharing and incorporating learnings from within and outside the entity or BP Group.

- 2.4.1 Share high value learnings and other lessons learned from incident or other local operating investigations and good operating practices with other members of BP Group.
- 2.4.2 Benchmark good operating practices from across the BP Group and/or external sources to identify opportunities for risk reduction and operating performance improvement.
- 2.4.3 Prioritize and incorporate into the local OMS specific improvement opportunities identified through self-assessments, audits, annual management reviews, project reviews, internal and external incident investigations, high value learnings and benchmarked good practice.

### Tool

Technical Networks and Communities of Practice (CoP)

---

*This document contains recommendations for this sub-element:*

GRP 2.4-0001 HSSE and Operating Learning



## Organization

### 2.5 Working with Contractors

**Principle:** BP entities systematically assure that goods, equipment and services provided by suppliers, contractors and other parties meet contractual and BP Requirements.

- 
- 2.5.1 Designate BP employee and contractor employee roles which have accountability for the management of contracts, the safety of the contractor employees and the safety of their work activity.
  - 2.5.2 Implement a process to screen and select contractors based on a combination of their capability, contractor employee competency, financial viability and HSSE performance, taking into account the technical, commercial and HSSE risks of the specific work.
- 

#### Examples

Contractor HSSE Performance Evaluation Practice  
North America Contractor HSE Toolbox  
<http://nasupplierHSSE.bpglobal.com/files/land/HSE%20Toolbox/Toolbox.htm>

---

- 2.5.3 Define contractually and inform contractors of the entity's HSSE requirements for the services and equipment to be provided, the scope of work of the contract and identified boundary conditions.
- 2.5.4 Contractually require contractors to communicate the entity's HSSE requirements to their employees and subcontractors and demonstrate that they follow them.
- 2.5.4.1 Confirm that contractor and subcontractor personnel receive a site- or project-specific induction that highlights BP's HSSE expectations, site hazards, and compliance tasks to be accomplished by them.



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- Require contractor and subcontractor personnel to confirm in writing that they have received and accept their obligations.
- Assign accountability to a BP representative to confirm that the contractor satisfactorily completes compliance tasks.

2.5.5 Contractually require contractors to confirm at defined intervals that their employees are competent and their equipment is fit for service, and their work is carried out in compliance with entity requirements.

2.5.6 Evaluate contractor performance at defined intervals to provide feedback, lessons learned and a basis for improving future contractor selection and performance.

**Table 2.5.6** Example KPIs for phases of contractor management

Phase	Example KPIs
<b>Process, Roles and Accountabilities</b>	<ul style="list-style-type: none"> <li>• Percent of BP job representatives trained on contractor management process</li> <li>• Percent of contracts that have BP and contractor owners</li> <li>• Percent of PHSSER gap review action items closed before contract is executed</li> </ul>
<b>Pre-qualification</b>	<ul style="list-style-type: none"> <li>• Percent of pre-qualification assessments completed</li> <li>• Percent of contractor audits completed</li> </ul>
<b>Selection</b>	<ul style="list-style-type: none"> <li>• Percent of proposals that included HSE weighting</li> <li>• Number of waivers from HSE standards</li> </ul>
<b>Contracts</b>	<ul style="list-style-type: none"> <li>• Percent of existing contracts that meet the requirements of the site where the work is being performed</li> </ul>
<b>Mobilization</b>	<ul style="list-style-type: none"> <li>• Number of contractors that have received induction</li> <li>• Resources compliant with contractor requirement</li> <li>• Percent of contract personnel compliant with competency requirements</li> <li>• Percent of kick-off or pre-job meetings conducted</li> </ul>
<b>Execution and Demobilization</b>	<ul style="list-style-type: none"> <li>• Number of completed evaluations</li> <li>• Percent of action items completed on time</li> <li>• Number of contract non-conformances</li> </ul>



## Organization

*These documents contain requirements for this sub-element:*

Code of Conduct – Working with suppliers  
DSS Digital Security Standard

*This document contains recommendations for this sub-element:*

GRP 2.5-0001 Working with Contractors

*This document contains guidance for this sub element:*

SPMcp Supplier Performance Management Common Process



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# Risk

**Principle:** The workforce at all levels of our organization understands and manages operating risk to prevent accidents and harm to people, to reduce damage to the environment and to achieve competitive performance.

- 3.1 Risk Assessment and Management
- 3.2 Personal Safety
- 3.3 Process Safety
- 3.4 Health and Industrial Hygiene
- 3.5 Security
- 3.6 Environment
- 3.7 Transportation

## 3.1 Risk Assessment and Management

**Principle:** BP entities assess, prioritize and manage operating risks consistent with BP Requirements.

- 3.1.1 Develop and then update at least annually an entity level risk register which considers hazards and risks relating to operating performance. The risk register shall include the assessed impact and probability for each identified entity level risk and identify plant, process, people and performance risk reduction measures that are in place to manage those risks.

### Recommendations

- Complete an annual review of the business's hazard evaluation processes led by the business Engineering Authority, including an overall assessment of IM compliance.
- Monitor key performance indicators per Table 3.1.1.

- 3.1.1.1 Document and implement a major hazards risk management policy.

- 3.1.2 At least annually communicate the importance of the risk reduction measures put in place to manage the identified entity level risks, and the reasons for them, to those members of the workforce who apply them and to those members of the workforce who may be affected by the identified entity level risks.

- 3.1.3 At least annually update a gap assessment of the entity's operating activities against the Group Essentials, GDPs and Segment, SPU and entity requirements. The gap assessment against the Group Essentials requires a full assessment with a facilitator who is external to the entity when first transitioning to OMS and thereafter every 3 years.

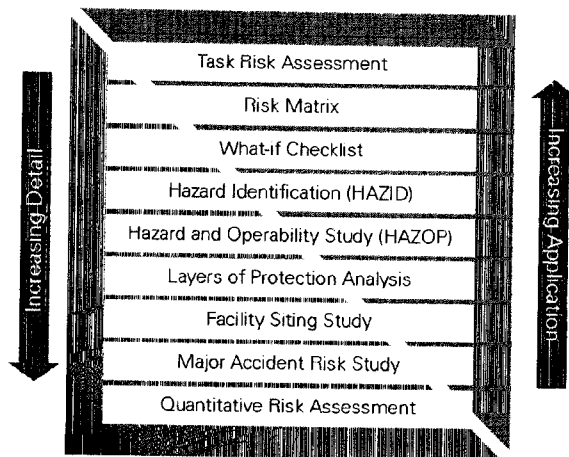
**Table 3.1.1** Key Performance Indicators

Asset Integrity	Hazard and Risk Management
Number and frequency of instances where the process has gone beyond Safe Operating Limits (SOL)	Number of outstanding HAZOP action items
Number and frequency of unplanned process upsets where inadequate management of asset integrity risks is a root cause	Number of incidents or near misses where inadequate hazard assessment or risk management is a root cause
Number of HIFOs, MIAs, and/or Near Misses where inadequate management of asset integrity risks is a root cause	Change in major accident risk level over time
Number of overdue integrity inspections or Safety Critical Equipment (SCE) work orders	Proportion of the workforce involved in hazard evaluation, risk assessment, and continuous risk reduction
Number and frequency of loss of containment events	Percentage of personnel trained and competent in the use of hazard evaluation and risk assessment tools
Number and frequency of pressure safety valve (PSV) activations	

- 3.1.4** Use the gap assessment results to identify and prioritize opportunities for risk reduction and performance improvement that can be delivered through improvements to both the specification and application of the plant, process, people and performance risk reduction measures that constitute the local OMS.

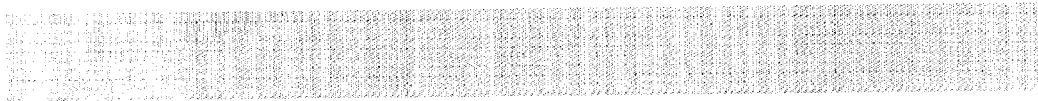
## Risk

- 3.1.5 Identify and apply tools to assess operating risks commensurate with the particular types of risk presented.



**Figure 3.1.5** Techniques for evaluating hazards and assessing risks

- 3.1.6 Document risk assessments and risk management control measures and include them in project approval documentation.
- 3.1.6.1 Document and manage residual risk throughout the project cycle.
- Record and communicate residual risk carried from one stage gate to another.
  - Assign accountabilities for recording and communicating residual risks at each stage gate.
  - Confirm that projects document and communicate hazards, residual risks and safeguards to be managed by operations in the Operate stage of a project, prior to handover to operations.



---

*These documents contain requirements for this sub-element:*

GDP 3.1-0001    Assessment, Prioritization and Management of Risk  
GDP 4.5-0001    Control of Work

*These documents contain recommendations for this sub-element:*

GRP 3.1-0001    Selection of Hazard Evaluation and Risk Assessment  
Techniques  
SRP                Reservoir Uncertainty Statement & Management (RUSM)

*This document contains guidance for this sub-element:*

HITRA            Hazard Identification and Task Risk Assessment Guide



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# Risk

## Appendix 3.1A

### Risk Matrix

GDP 3.1-0001 Assessment, Prioritization and Management of Risk requires businesses to use the following Risk Matrix to identify, assess and document scenario risks. This allows businesses to assess the probability and impact of scenarios in a consistent manner, taking into account the quality of barriers and other factors.

For each hazard, multiple scenarios can exist, each with potential impacts and associated probabilities. Businesses are expected to select and record the highest risk scenario as representative of the risk (see Figure 3.1A).

	SEVERITY LEVEL	Probability						
		An event that is considered extremely unlikely	An event that would be unlikely in industry	Has never occurred within industry but is foreseeable	Likely to occur within Group	Likely to occur within the lifetime of 10 similar facilities	Likely to occur in the facility lifetime	Event likely to occur more than once in the facility lifetime
Impact	A	8	9	10	11	12	13	14
	B	7	8	9	10	11	12	13
	C	6	7	8	9	10	11	12
	D	5	6	7	8	9	10	11
	E	4	5	6	7	8	9	10
	F	3	4	5	6	7	8	9
	G	2	3	4	5	6	7	8
	H	1	2	3	4	5	6	7

Figure 3.1A Risk Matrix (from GDP 3.1-0001 Assessment, Prioritization and Management of Risk)



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## Appendix 3.1B

### Task Hazard Checklists

During a Hazard Identification and Task Risk Assessment (HITRA) process, the identification of hazards is integral to risk reduction surrounding activities. The identification should include a list of significant hazards and a review to determine what foreseeable effects they could cause if not eliminated or controlled. To aid in the process, the following checklist provides a listing of types of hazards, the types of harm they could result in, and examples of those hazards.

A - Hazards associated with plant and equipment		
Category	Type of Harm	Examples of Hazards
Mechanical	Trapping (crushing, pressing, drawing in and shearing injuries)	Two moving parts, or one moving part and a fixed surface Conveyor belt and drive V belt and pulley Power press "In running nips" Mangle Guillotine Scissors Stapler Using hammer
	Impact (includes puncture)	Something that may strike or stab someone or can be struck against Moving vehicle, machine, ship, aircraft (including propellers and turbines) Drill, lathe Sewing machine Hypodermic needle Pendulum Crane hook or load

# Risk

## A – Hazards associated with plant and equipment *(continued)*

Category	Type of Harm	Examples of Hazards
Mechanical	Contact (cutting, friction or abrasion)	Something sharp or with a rough surface Knife, chisel, saw Fan blade Circular saw blade, including meat slicer Sanding belt Abrasive wheel Mower blade
	Entanglement (rotating parts)	Drill chuck and bit Power take-off shaft Pipe threading machine Abrasive wheel
	Ejection (of work piece or part of tool)	Cartridge tool Hammer and chisel Abrasive wheel Shotblasting
Electrical	Shock/burn/fire/explosion Ignition sources	Electricity above 220v Electricity at 220v Electricity at 110v Extra low voltage electricity DC electricity, especially batteries when charging Static Batteries
Pressure	Release of energy (explosion/injection/ implosion)	Compressed air Compressed gas Process fluid Steam Vacuum Hydraulic system
Stored energy	Flying/falling materials	Springs under tension Springs under compression Hoist platform cage Conveyor tension weight Raised tipper lorry body Counterweight Load carried by crane

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**A - Hazards associated with plant and equipment** (continued)

Category	Type of Harm	Examples of Hazards
Thermal	Burns/fires/scalds/ frostbite	Hot surface Portable or fixed heater Welding flame/arc Refrigerant Steam Process fluid Heat transfer medium
Radiation ionizing radiation	Burns, cancer	X-Rays Alpha or beta radiation Neutrons
Non-ionizing radiation	Burns	Microwave Radio frequency Laser Ultraviolet Infrared
Noise	Hearing loss, tinnitus	Noise > 85 dB(A) continuous
Vibration	Vibration white finger, whole body effects	Pneumatic drill Driving mobile plant Using jackhammer
Stability	Crushing	Inadequate crane base Fork lift truck on slope Machine not bolted down Mobile scaffold too high Scaffold not tied
Overload/ Defective due to mechanical failure	Crushing	Crane overload Chain sling Eye bolt overload Scaffold overload Hopper overload Structure overload, especially in extreme weather

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# Risk

## B – Hazards associated with materials and substances

Category	Type of Harm	Examples of Hazards
Fire/Explosion Combustion	Burns	Timber stack Paper store Grease Plastic foam
Increased Combustion	Burns	Oxygen enrichment
Flammable substances (including highly and extremely flammable) See also explosions below	Burns	Petrol, diesel, aviation fuel Crude oil, natural gas LPG LNG Hydrogen Carbon monoxide
Oxidizing substance	Burns	Organic peroxide, other oxidizing agents Potassium permanganate Nitric acid Commercial explosive detonators
Gas explosions	Burns, structural failure	Flammable gas or liquid above its flash point in a confined space Similar in a congested area Sudden failure of pressure system containing flammable liquid (BLEVE)
Dust explosions	Burns, structural failure	Wood dust Sulfur dust Coal dust Flour Aluminum powder
Health hazards Corrosive/irritating materials	Skin effects, especially eye Also lung effects	Sulfuric acid, other acids – especially hydrofluoric Caustic soda, other alkalis Ammonia, chlorine
Particles	Lung effects	Asbestos fibers Silica dust Wood dust Iron dust

**B – Hazards associated with materials and substances (continued)**

Category	Type of Harm	Examples of Hazards
Vapors	Acute and chronic effects on health	Benzene Toluene Acetone Some solvents
Fumes	Acute and chronic effects on health (local and systemic effects)	Lead fumes Rubber fumes Asphalt fumes
Gases	Acute and chronic effects on health	Carbon monoxide Hydrogen sulfide Sulfur dioxide
Mists	Acute and chronic effects on health	Oil mist, cutting fluids Printing ink mist Detergents Aerosols
Asphyxiants	Acute and chronic effects on health	Nitrogen Carbon dioxide Argon
Health hazard by ingestion	Burns to upper alimentary tract	Toxic, harmful, corrosive and irritant liquids
	Poisoning	Harmful aerosols Polluted water Contaminated food and drink
Hazards by contact	Cuts, abrasions	Swarf Rough timber Concrete blocks
	Burns, frostbite and structural failure	Molten metal Frozen food Cryogenic gases
Environmental hazards Hazardous waste storage and disposal	Groundwater/Soil pollution	Crude/condensate sea and road transportation and storage Storage of hazardous sludge/material in pits NORM waste (scales, sludge)

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# Risk

## C – Hazards associated with the place of work

Category	Type of Harm	Examples of Hazards
Pedestrian access	Tripping, slipping	Damaged floors Trailing cables Oil, grease spills Water on floors Debris Wet grass Sloping surface Uneven steps Changes in floor levels
	Vehicle collision	Poorly defined or unsegregated access routes – car parks, loading areas, docks, warehouses
Work at heights	Falls	Fragile roof Edge of roof Work on ladder Erecting scaffold Working on scaffold Hole in floor
Obstructions	Striking against	Low clearance Sharp projections
Stacking/storing	Falling materials	High stacks Insecure stacks Inadequate or overloaded racking Stacking at heights Damaged racking
Work over/near liquids, dusts	Fall into a substance, drowning, poisoning, suffocation	Tank Reservoir Sump Sewer Work over water
Emergencies	Trapping in fire	Locked exits Obstructed egress Long exit route Lone working at height (crane, tower)

#### D – Hazards associated with methods of work

Category	Type of Harm	Examples of Hazard
Manual handling	Back injury, hernia	Lifting Lowering Twisting Carrying Pushing Pulling Hot/cold loads Rough loads Live loads – persons
Repetitive movements	Work-related upper limb disorders	Keyboard work Using screwdriver Using hammer and chisel Bricklaying
Posture	Work-related upper limb disorders, stress	Seated work Work above head height Work at floor level

#### E – Hazards associated with the working environment

Category	Type of Harm	Examples of Hazard
Light	Eye strain, arc eye and cataracts	Glare, reflections Poor lighting Stroboscopic effect Arc welding Molten metal
Temperature	Heat stress, sunburn, melanoma, hypothermia, etc.	Work near or above furnace or oven Cold room Outdoor work Hot weather Cold weather Wind chill factor Work in rain, snow



# Risk

## E – Hazards associated with the working environment *(continued)*

Category	Type of Harm	Examples of Hazard
Confined spaces	Asphyxiation, explosion, poisoning, claustrophobia	Work in tank Chimney stack Pit, sewer Basement Unventilated room Vessel Excavation
Ventilation	"Sick Building Syndrome," nausea, tiredness	Fumes Odors Tobacco smoke

## F – Hazards associated with work organization

Category	Type of Harm	Examples of Hazard
All workers	Injuries and ill health to employees by contractors	Work above or near others Use of harmful substances Welding
	Injuries and ill health to contractors by employees	Process fumes Services (e.g. underground electricity cables) Stored hazardous materials
Organization of work	Injuries to employees	Monotonous work Stress Too much work Lack of control of job Work too demanding
Work in public area	Injuries and ill health of public	Trailing cables Traffic/Plant/Rig/Ship movement Road transport Work above public Drilling, storage, production near dwelling area



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## 3.2 Personal Safety

**Principle:** BP entities provide a safe working environment by systematically identifying and assessing safety hazards and mitigating potential risks to people.

**3.2.1** Systematically identify personal safety hazards, assess risk, and implement and maintain plant, process, people and performance risk reduction measures identified as necessary to manage the risk, and use as an input to the entity risk register. Personal safety hazards include but are not limited to breaking containment, working at heights, confined space entry, energy isolation, ground disturbance, power tools, electrocution, cranes and other lifting devices.

**3.2.1.1** Engage the workforce in the identification, assessment and mitigation of safety-related hazards through a documented process.

- Assess the engagement process at a frequency set by the local business and implement corrective actions as appropriate.

### **Recommendations**

- Form a representative work team (function and line) to develop the engagement process.
- Capture workplace safety observations to use as feedback to the workforce (e.g. photographs).
- Conduct face-to-face dialogue with the workforce to test their understanding of safety risks.

### **Tool**

NAG SPU JSEA

### **Examples**

Cherry Point Refinery Safety Committee Charter  
GoM SPU HSE Charter

## Risk

- 3.2.2 Implement and maintain a behavior-based safety process to continually improve operating behaviors through observation, recording and coaching.

- 3.2.2.1 Implement the Safety Observations & Conversations (SOC) program.

### Tools

Safety Observations & Conversations (SOC)

<http://safetyandoperations.bpweb.bp.com/SOC/>

S&O Behavioral Safety

<http://safetyandoperations.bpweb.bp.com/Safety/Safety%20culture%20and%20leadership/Behavioral%20safety/Behavioral%20safety%20-%20the%20process/>

### Examples

Azerbaijan SPU Safety Training Observation Program (STOP)

<http://baku.bpweb.bp.com/dep/hse/stopcard/>

NAG SPU IIF (Incident and Injury Free) Program

Cherry Point Refinery WYE (What's Your Exposure?)

<http://wyesafety.com>

Alaska SPU Prudhoe Bay PIRATE (Personal Involvement Reduces Accidents To Everyone)

[http://alaska.bpweb.bp.com/gpb\\_pirate/](http://alaska.bpweb.bp.com/gpb_pirate/)

*This document contains requirements for this sub-element:*

GDP 4.5-0001 Control of Work



### 3.3 Process Safety

**Principle:** BP entities manage the integrity of hazardous operating systems and processes by applying good design principles, engineering and operating practices which prevent and control incidents that have the potential to release hazardous materials or energy. Such incidents can cause toxic effects, fire or explosion and could ultimately result in serious injuries, environmental impact, property damage and lost production.

- 3.3.1 Systematically identify process safety hazards, assess risk, and implement and maintain plant, process, people and performance risk reduction measures identified as necessary to manage the risk, and use as an input to the entity risk register. Process safety hazards include but are not limited to sources of ignition, explosions, fires, and uncontrolled releases of hydrocarbons, toxic chemicals, high or low temperature materials and stored energy.

#### **Recommendations**

- Include plant (hardware), process (procedures), and people in layers of protection intended to address a hazardous scenario.
- Understand the design basis, confirm that this basis reflects any system modifications, and validate that site operating practices are appropriate for relief, blowdown, vent and flare philosophies.
- Define and monitor key performance indicators (KPIs) for reliability and availability of protective systems and devices and other layers of protection, including:
  - Number of overdue tests and inspections of Safety Critical Equipment (SCE) protective systems
  - Number of overdue tests and inspections of non-SCE protective systems
  - Number of shortfalls against functional specification for safety critical protective systems during testing and actual demands in service
  - Number of long-term overrides/bypasses in place
  - Status of fire and gas detection systems testing and availability
  - Status of hazardous/classified area electrical equipment inspections/tests/actions

## Risk

- Consider human factors in plant design, hazard evaluation, and emergency planning.

### Tool

BP Checklist for Human Factors in the Workplace

<http://safetyandoperations.bpweb.bp.com/Health/Your%20health/Human%20factors/Human%20factors%20-%20guidance%20tools%20and%20checklists/>

### Examples

CCPS Guidelines for Risk Based Process Safety

<http://www.aiche.org/CCPS/Publications/Print/Titles.aspx>

CCPS Guidelines for Safe and Reliable Instrumented Protective Systems

<http://www.aiche.org/CCPS/Publications/Print/Titles.aspx>

CCPS Guidelines for Preventing Human Error in Process Safety

<http://www.aiche.org/CCPS/Publications/Print/Titles.aspx>

- 3.3.2 Identify whether there is a potential for a major accident, and if so, complete an assessment of the major accident risks; use identified major accident risks as input to the entity level risk register.
- 3.3.3 Define, based on entity risks, the level of process safety and operating integrity expertise needed to design, construct and operate safely. Provide BP employees with access to this expertise through available internal or external resources.

### Recommendations

- Develop process safety accountabilities within the local organization.
- Make available sources of process safety knowledge through the Engineering Authority (EA).

### Examples

BP Process Safety Network

<http://processsafety.bpweb.bp.com/global/>

BP Process and Process Safety Engineering Network

<http://pe.bpweb.bp.com/Default.aspx?tabid=613>

*These documents contain requirements for this sub-element:*

GDP 3.1-0001	Assessment, Prioritization and Management of Risk
GDP 3.0-0001	Integrity Management
GP 01-01	Group Defined Engineering Technical Practices
GP 48-01	HSSE Review of Projects
GP 48-02	Hazard and Operability Study
GP 48-03	Layer of Protection Analysis
GP 48-04	Inherently Safer Design
GP 48-50	Major Accident Risk Process
ETP 12-60	Hazardous Area Electrical Installations
ETP 24-20	Fire and Explosion Hazard Management of Offshore Facilities
ETP 24-21	Fire Hazard Analysis
ETP 24-22	Gas Explosion Analysis
ETP 24-23	Active Fire Protection – Offshore
ETP 30-80	Safety Instrumented Systems – Implementation of the Process Requirements Specification
ETP 30-81	Safety Instrumented Systems – Operations and Maintenance
ETP 30-85	Fire and Gas Detection
ETP 44-30	Design and Location of Occupied Permanent Buildings Subject to Blast, Fire, and Gas Hazards on Onshore Facilities
ETP 44-31	Design and Location of Occupied Portable Buildings in Onshore Facilities
ETP 44-32	Protection of Personnel from Explosion, Fire, and Toxic Hazards on Offshore Facilities
ETP 44-34	Design and Location of Occupied Buildings in Onshore Facilities not covered by GP 44-30 and GP 44-31
ETP 44-60	API RP 500 Area Classification
ETP 44-65	IP 15 Area Classification
ETP 44-70	Overpressure Protection Systems
ETP 44-80	Design Guidelines for Relief Disposal Systems

*This document contains recommendations for this sub-element:*

GRP 3.1-0001	Selection of Hazard Evaluation and Risk Assessment Techniques
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# Risk

## Appendix 3.3A

### Application of Process Safety

Process Safety is addressed during the stages of capital project design and operation of a facility. The process safety framework (Figure 3.3A) is applicable to new projects and existing facilities.

The concept design of a new project or modification starts with the selection of key factors in inherently safer designs such as location, manning levels, technology, process. Considering the Inherently Safer Design (ISD) principles of substitution, intensification, attenuation, and simplification in developing the concept design, minimizes residual risks.

The resulting residual risk is addressed during detailed design by the addition of layers of protection (risk reduction measures) which may comprise plant (hardware), process (procedures), and people. Reduction measures, which employ ISD principles, are most effective if the following hierarchies are employed:

Prevention before Control before Mitigation; and  
Passive before Active before Administrative (procedural)

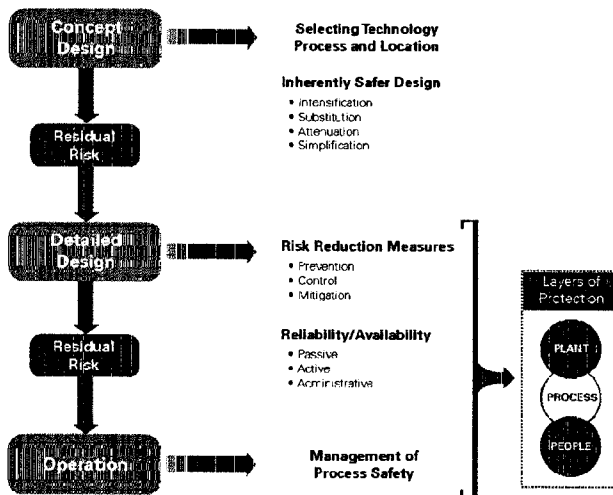


Figure 3.3A Process Safety Framework

At the end of detailed design and through to operation, residual risk must be managed through continual hazard identification and risk assessment, and application of appropriate risk reduction measures (Figure 3.3B).

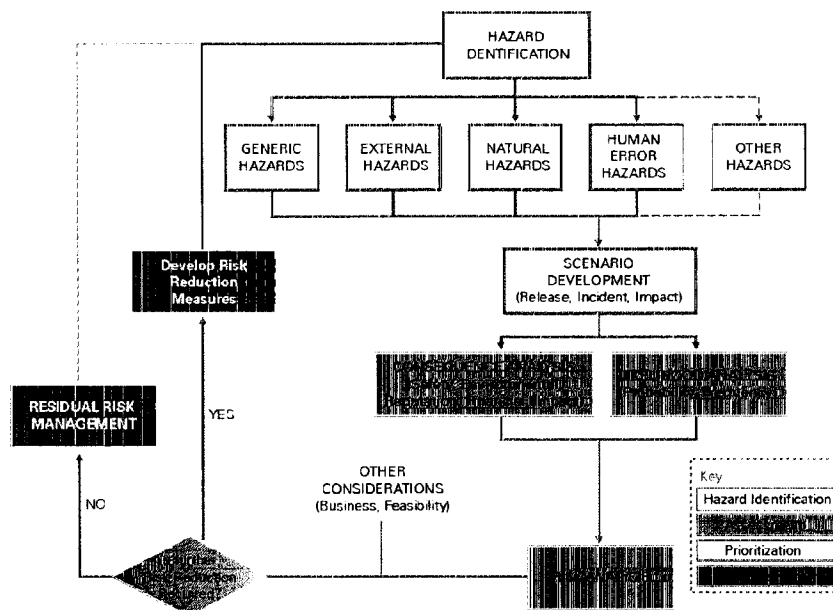


Figure 3.3B Hazard Identification and Risk Assessment (from GRP 3.1-0001)

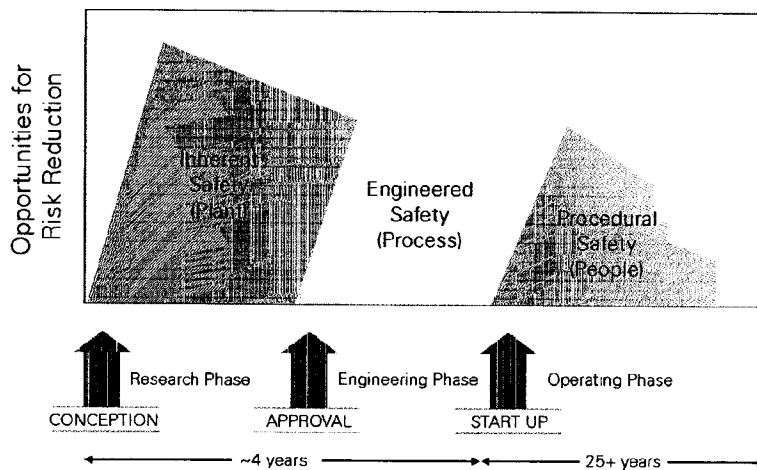
# Risk

## Appendix 3.3B

### Layers of Protection and Hazard Barriers

Layers of Protection (LOP) are more than just mechanical or instrumented devices; LOP include Plant, Process, and People, as shown in the process safety framework.

The opportunity for implementing incremental risk reduction decreases dramatically through the lifecycle of a facility (Figure 3.3C). Larger incremental risk reduction can also most effectively be achieved in the early stages of the facility's lifecycle, during its design. Implementing an effective inherently safer design process will provide fewer inherent hazards, achieving optimal capital investment while minimizing risks for the entity's lifecycle.



**Figure 3.3C** Layers of Protection and Hazard Barriers

Hazards are normally controlled by multiple LOP Barriers/Layers of Protection may include those in plant (physical engineered controls), process (practices and procedures), and people (competency and training). These barriers may be designed to prevent the event from occurring, to control the event once it has occurred, or to mitigate the consequences of the event.

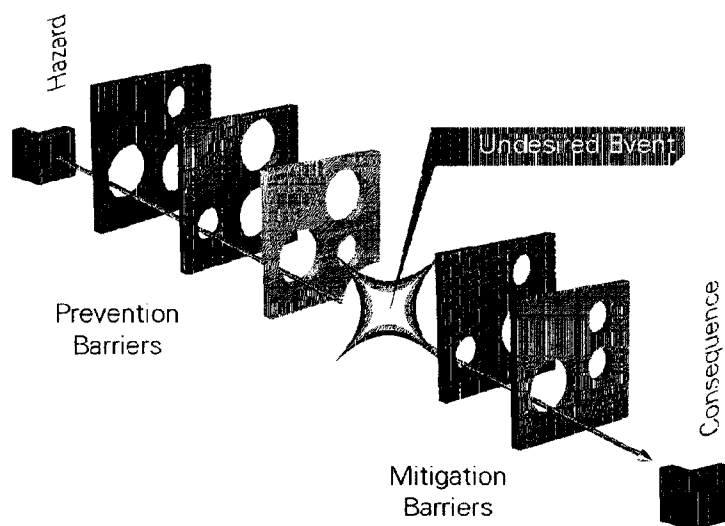


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Even the best barrier will not achieve perfect reliability; it will have holes (Figure 3.3D). The holes can be latent or actively opened or enlarged by the action or inaction of people. The robustness of the barriers changes with time, and depends on factors related to people, process and plant. Refresher training, conducting required maintenance, and updating operating procedures are examples of proactive activities that help maintain the effectiveness of the barriers.

There is a likelihood that the multiple barriers will fail to manage the hazard, which results in the undesired consequence being realized. The consequence may also be realized if the barriers were not designed to fully address the undesired consequence (possibly because the scenario was not envisioned during the design, or was not captured as a root cause in a failure analysis for a similar, less significant event).



**Figure 3.3D** Hazard Barrier diagram demonstrating layers of protection



## Risk

### 3.4 Health and Industrial Hygiene

**Principle:** BP entities manage their business to prevent harm to the health of employees, contractors, visitors and neighbors in local communities.

- 3.4.1 Systematically identify hazards including human factors in the work environment that could harm health. These include chemical, physical, biological, ergonomic hazards and psychosocial factors.

- 3.4.1.1 Assign Industrial Hygiene (IH) competent personnel to conduct hazard identification within the local business.

#### **Recommendations**

- o Include contractor workforce in the screening and assessment.
- o Build line competencies in health to support health risk assessment

#### **Tool**

UK H&SE Control of Substances Hazardous to Health (COSHH)  
<http://www.hse.gov.uk/coshh/>

- 3.4.1.2 Document and regularly review hazards under normal operating conditions and for emergency scenarios.

#### **Recommendations**

- o Prepare and utilize a chemical, biological and physical agent inventory to identify hazards.
- o Incorporate health risk identification and assessment in existing local risk assessment processes.
- o Include person(s) familiar with the work environment in the identification process.
- o Include identification of Industrial Hygiene as part of emergency response plans and test as part of drills.



#### Tools

Health Risk Assessment Training (OE1 Course)

<http://weblearnlogin.bpweb.bp.com>

Health Impact Assessment Training (OE1 Course)

<http://weblearnlogin.bpweb.bp.com>

OGP/PIECA Roadmap to Health Risk Assessment

OGP/PIECA Guide to Health Impact Assessments

#### Example

Industrial Hygiene Aspects of Emergency Response Guidance

3.4.2 Assess exposures and risks from identified health hazards, and implement and maintain plant, process, people and performance risk reduction measures identified as necessary to manage them. Use this as an input to the entity risk register.

3.4.2.1 Document applicable occupational exposure limits (OELs) for identified IH hazards.

#### Recommendations

- Address acceptable levels of exposure according to the American Conference of Governmental Industrial Hygiene (ACGIH) – Threshold Limit Values (TLVs), the American Industrial Hygiene Association (AIHA) Workplace Environmental Exposure Limits (WEELs) or an existing BP Group defined exposure limit. (Refer to the ACGIH Biological Exposure Indices and the documentation of the TLVs)
- Consider relevant exposure limits published by governmental agencies such as the UK Health & Safety Executive (H&SE) or the US National Institute for Occupational Safety and Health (NIOSH).

#### Tool

AIHA Exposure Assessment Process

[www.aiha.org](http://www.aiha.org)

#### Examples

Industrial Hygiene IH Management System Guidance

GoM SPU Exposure Assessment Plan



## Risk

- 3.4.2.2 Conduct quantitative workplace monitoring where potential exposure levels are uncertain relative to occupational exposure limits for identified IH hazards.

### Recommendations

- Use Similarly Exposed Groups (SEGs) to define which employees are represented by monitoring.
- Document applicable sampling and analytical methodologies for the local business based on regulatory requirements and recognized industry standards, e.g. AIHA, NIOSH, ISO.
- Perform follow-up activities as required for:
  - Documentation of worker exposures
  - Documentation of regulatory compliance
  - Identification of source of contaminant release
  - Assistance in design or evaluation of control systems
  - Correlation of disease or injury to specific stressors

### Tools

UK H&SE Methods for Determination of Hazardous Substances

<http://www.hse.gov.uk/pubns/mdhs/>

US NIOSH Manual of Analytical Methods

<http://www.cdc.gov/niosh/nmam/>

US OSHA Sampling and Analytical Methods

<http://www.osha.gov/dts/sltc/methods/>

- 3.4.2.3 Assess exposure for compliance and maintain records in accordance with local business standards and the Group Reporting Practice.

### Recommendations

- Use accredited laboratories to conduct analyses.
- Determine the effectiveness of controls through comparison of current results to previous results from similarly exposed groups.
- Review medical surveillance and incident reports to determine possible causation.



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**Tool**

AIHA The Occupational Environment: Its Evaluation, Control and Management  
[www.aiha.org](http://www.aiha.org)

**Example**

ISO/EC 17025. General Requirements for the Competence of Testing and Calibration Laboratories  
[www.iso.org](http://www.iso.org)

3.4.2.4 Document and implement IHL hazard control programs when there is the potential for exposures above applicable exposure limits.

**Recommendations**

- Provide employees with information, induction and training relative to the risks which might be encountered in the workplace.
- Involve affected workforce in the selection of control measures.

**Tool**

e-Learning  
<http://weblearn.bpweb.bp.com/>

**Examples**

NAG SPU Asbestos Management Practice  
NAG SPU Benzene Compliance Practice  
NAG SPU Hydrogen Sulfide Practice  
NAG SPU Welding Practice



## Risk

- 3.4.2.5 Report actual or potential exposures in excess of established exposure limits in accordance with local business reporting procedures.
- Conduct a management review upon identification of actual or potential exposures in excess of established limits.
  - Involve medical staff in evaluating the need for medical surveillance in the event of actual or potential exposures in excess of established limits.

### Tool

Tr@ction  
<http://traction.bpweb.bp.com/>

### Examples

NAG SPU Incident Reporting Practice  
NAG SPU PPE Practice

- 3.4.2.6 Communicate via local leadership the results of monitoring, and applicable related recommendations, to those that are potentially impacted.

### Recommendations

- *Inform SEGs of monitoring results.*
- *Perform notifications within one working month of receipt of results in the absence of local regulatory requirements.*

- 3.4.3 Implement and maintain exposure assessment programs to monitor the effectiveness of risk reduction measures to eliminate or manage exposures to identified health hazards.

### Recommendation

- *Use IH data to enroll exposed individuals in health surveillance.*

- 3.4.4 Define fitness for task requirements for identified tasks where fitness is needed for the safety and health of the individual or to deliver safety and production critical operating activity. Assess BP employees against the fitness for task requirements for their role, record assessments, identify any gaps, and take action to close them.

**Recommendations**

- a. Include fitness for task in Permit to Work risk assessments.
- b. Include evaluation of fatigue factors in permit revalidations, e.g. for shift extensions.
- c. Include provision for fitness for task for contractor staff within contract terms.

**Tools**

Fitness for Task and Health Surveillance Training (OE1 Course)  
<http://weblearnlogin.bpweb.bp.com>

Fatigue Training (OE1 Course)  
<http://weblearnlogin.bpweb.bp.com>

Group Health Fatigue Website  
[http://safetyandoperations.bpweb.bp.com/Health/Toolbox/Human\\_factors/Fatigue/](http://safetyandoperations.bpweb.bp.com/Health/Toolbox/Human_factors/Fatigue/)

Fatigue Assessment Checklist  
Investigating Fatigue-Related Incidents Checklist  
OGP/PIECA Managing Fatigue in the Workplace

**Examples**

UK Oil & Gas Medical Aspects of Fitness for Offshore Work  
<http://www.oilandgas.org.uk>  
GoM SPU Fitness for Work Policy  
Pakistan PU Fitness for Work Policy

- 3.4.5 Implement and maintain risk based programs to promote and monitor that individual performance of members of the workforce is not impaired by drugs and alcohol.

**Examples**

Alaska SPU Drug and Alcohol Policy  
Azerbaijan SPU Substance Abuse Management Policy

## Risk

- 3.4.6 Implement and maintain health surveillance programs to monitor the health of BP employees who may be exposed to known workplace health risks.

### **Recommendation**

- Require Contractors (in contract terms) to establish medical emergency plans aligned to the local Crisis and Emergency Response Plan.

### **Example**

Tangguh PU Medical Evacuation Plan  
<http://jakarta.bpweb.bp.com/hse/content/asp?mid=137462>

- 3.4.7 Develop expertise in conjunction with Group Health that provides ready access to BP employees to health and industrial hygiene advice and support required to effectively manage risk and promote health and wellness.

### **Recommendation**

- Include provision for access to health advice, promotion, medical facilities and support to contractor staff within contract terms.

### **Tool**

Travel Health Training (OE1 Course)  
<http://weblearnlogin.bpweb.bp.com>

### **Examples**

Tangguh PU Community Health Unit Programs  
<http://www.bp.com/subsection.do?categoryId=90047603&contentId=7002845>  
Azerbaijan SPU Food Safety Management Program  
GoM SPU Health Promotion Program  
[www.bphitanline.com](http://www.bphitanline.com)



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*This document contains requirements for this sub-element:*

Code of Conduct – Health, safety and security

*These documents contain recommendations for this sub-element:*

GRP 3.4-0001 Fatigue  
GRP 3.4-0002 Asbestos  
GRP 3.4-0003 Fitness for Task and Health Surveillance  
GRP 3.4-0004 Industrial Hygiene

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## Risk

### 3.5 Security

**Principle:** BP entities put processes in place to maintain the security of the workforce, premises, facilities, equipment and information.

- 3.5.1 Systematically identify security hazards, assess risk, and implement and maintain plant, process, people and performance risk reduction measures identified as necessary to manage the risk, and use as an input to the entity risk register. Security hazards include but are not limited to criminal conduct, intimidation, violence, sabotage, unauthorized access or damage to BP property, and unauthorized access to, alteration, use or disclosure of information.
- 3.5.2 Develop, implement and update at least annually a security management plan based on the results of the hazard evaluation and risk assessment.
- 3.5.3 Develop internal security expertise in conjunction with Group Security and designate individuals as subject matter experts and security advisors to entity management.
- 3.5.4 Implement and maintain processes for the workforce to securely handle valuable and sensitive information in all forms, including Confidential and Secret information.
- 3.5.5 Design and operate IT and digital process control systems to manage risk to system and information integrity, availability and confidentiality.





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*These documents contain requirements for this sub-element:*

SIS                    Security of Information Standard  
DSS                    Digital Security Standard  
Code of Conduct – Privacy and employee confidentiality  
                         – Digital systems and security  
                         – Insider trading

*This document contains recommendations for this sub-element:*

GRP 3.5-0001    Security



## 3.6 Environment

**Principle:** BP entities identify and systematically manage the impact of their activities on the environment and integrate environmental requirements into the local Operating Management System.

- 3.6.1** Systematically identify environmental hazards, assess risks and opportunities to minimize environmental impact, and implement and maintain plant, process, people and performance risk reduction measures identified as necessary to manage the risks and use as an input to the entity risk register. Environmental risks include but are not limited to emissions to air, discharges to water and land and the handling and disposal of waste.

### Recommendations

- o Establish the required environmental competencies to identify and evaluate the environmental aspects and impacts.
- o Include operations personnel in the environmental impact identification and mitigation process.
- o Document in the entity risk register a process to include business-critical environmental risks identified through Environmental Issues Identification (ENVIID), GRP 3.1-0001 and ISO 14001.
- o Develop and implement a process to identify emerging environmental issues which have the potential for a business impact, and imbed business-critical risks in the entity risk register.
- o Review your environmental risks at a defined frequency, at least annually, to:
  - Determine that operational controls implemented are effective.
  - Capture any new or changed environmental risks.

### Examples

Trinidad SPU Environmental Aspects Information  
<http://trinidad.bpweb.bp.com/ems/article.aspx?p=7>  
 GoM SPU Aspect Register  
 GoM SPU Environmental Aspects/Impacts Identification and Evaluation Procedure

- 
- 3.6.2 Identify the potential environmental, health and social impacts of projects, designing them to avoid or mitigate adverse impacts and reduce use of natural resources.

**Recommendation**

- Document within MoC or Decision Support Package the environmental, community health and social impacts and measures to avoid or mitigate these impacts.

**Example**

GoM SPU Environmental Design Guideline SIP  
[http://etpib.bpweb.bp.com/login/IntegratedLogin.jsp?docID=0900a26080217326&docType=etp\\_supplement](http://etpib.bpweb.bp.com/login/IntegratedLogin.jsp?docID=0900a26080217326&docType=etp_supplement)

- 
- 3.6.3 At Major operating sites, maintain external ISO14001 certification and produce an externally verified environmental statement at least every three years.

**Recommendation**

- At Major operating sites, map ISO requirements back into the local OMS to maintain certification.

**Examples**

List of Major operating sites  
<http://safetyandoperations.bpweb.bp.com/About%20Us/Performance%20Measurement/ISO%2014001%20and%20VES/ISO%2014001%20and%20VES%20Scorecards/>  
Verified Site Reports (VSR) Sharepoint  
<https://wss0.bp.com/Functions/hse/vsr/>

---

*This document contains requirements for this sub-element:*

GDP 3.6-0001 Environment for Access, Major Projects, Non-Major Projects in Sensitive Areas, and Acquisition Activities



## 3.7 Transportation

**Principle:** BP entities evaluate and manage transportation risks covering land, sea and air travel to prevent injury to people.

- 3.7.1 Systematically identify transportation hazards, assess risk, and implement and maintain plant, process, people and performance risk reduction measures identified as necessary to manage the risk, and use as an input to the entity risk register. Transportation hazards include but are not limited to road vehicle, bicycles, rail, ship, fixed-wing aircraft and helicopter travel
- 3.7.2 Require that all vehicles operated by members of the workforce while on BP business are operated and maintained to a defined standard, have fully functional seat belts installed, and that the seat belts are worn by all occupants at all times whenever the vehicle is in motion.
- 3.7.3 Require that members of the workforce while operating a vehicle on BP business do not use mobile phones or other two-way communication devices.
- 3.7.4 Require that motorcycles are not used on BP business unless a documented risk assessment is completed to support the advantages of their use rather than automobiles.
- 3.7.5 Require that in higher risk countries journey risk management plans must be in place.
- 3.7.6 Require that members of the workforce driving on BP business be appropriately assessed, licensed, trained and fit to operate the vehicle, be rested and alert, and do not operate any vehicle when fatigued.



- 3.7.7 Verify that all aircraft contracted or chartered to move the workforce for BP purposes, are operated and maintained to a defined standard, and that their use is in accordance with BP Requirements.
- 3.7.8 Implement and maintain a process to deliver safe, secure, timely and cost-effective BP employee business travel.

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*These documents contain requirements for this sub-element:*

GP 48-50 Major Accident Risk Process  
GRP 5.6-0001 Marine Operations  
(Note: This GRP is mandated for E&P Segment.)  
BP Company and Charter Aircraft Authorization Policy  
Administrative Instruction - Travel Policy

*These documents contain recommendations for this sub-element:*

GRP 3.7-0001 Aviation  
GRP 3.7-0002 Driving Safety





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# Procedures

**Principle:** We document and rigorously follow procedures for safe, responsible and reliable operating.

- 4.1 Procedures and Practices
- 4.2 Management of Change
- 4.3 Information Management and Document Control
- 4.4 Incident Management
- 4.5 Control of Work
- 4.6 Crisis and Continuity Management and Emergency Response

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Version 1.1



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## Procedures

### 4.1 Procedures and Practices

**Principle:** BP entities document, maintain and follow practices and procedures for the safety of their workforce and the safe, responsible and reliable operation of their assets, facilities, floating structures and transport equipment.

- 4.1.1 Develop, implement and maintain local CMS procedures and practices for human resources, HSSE, engineering, operations, maintenance, inspection and projects. Require that operations procedures cover normal operating conditions as well as startup, shutdown, upset and emergency conditions.

**Recommendation**

- Develop and communicate accountabilities for Site Operating Procedures (SOP) as defined in Table 4.1.1.

**Table 4.1.1** Site Operating Procedures (SOP) Accountabilities

Role	SOP Accountabilities
Operations Management	<ul style="list-style-type: none"><li>Maintain operating procedures in accordance with the review and update cycle.</li><li>Provide competent resources to support creation, review, approval and use of operating procedures.</li></ul>
First-Level Supervisor	<ul style="list-style-type: none"><li>Verify that approved operating procedures are used and relevant to the task and/or prevailing situation of the plant or equipment.</li></ul>
End-User	<ul style="list-style-type: none"><li>Follow approved operating procedures to complete tasks.</li><li>Provide sign-off when required to confirm that a procedure has been followed.</li><li>Provide feedback on any errors, omissions or opportunities to improve the quality of operating procedures.</li></ul>



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- 4.1.1.1 Specify guidelines for developing and using temporary operating and maintenance procedures.

- 4.1.2 Define which procedures and practices are applicable to identified BP employees or contractors, and make these procedures and practices available to them. Require contractors to follow these procedures or practices unless they have their own comparable procedures and practices.

#### Tools

Documentum

<http://docs.bpweb.bp.com/wiki/epnag/>

Maximo

<http://epapps.bpweb.bp.com>

- 4.1.3 Monitor that entity procedures and practices are up-to-date, understood and consistently followed, and take corrective action when gaps are identified.

#### Recommendations

- Use authorized up-to-date operating procedures as the basis for training and competence assessment.
- Utilize job safety assessments, toolbox talks, leadership site visits, safety walk-arounds and safety observation conversations to emphasize the value of operating procedures and confirm their use.
- Recognize exemplary performance of first-level supervisors, TAs and end-users in the development and use of operating procedures.
- Include in applicable Key Performance Indicators (KPIs):
  - Number of incidents with root causes related to procedures
  - Percentage of procedures up-to-date and out-of-date
  - Percentage of operations staff trained and assessed in the use of operating procedures



## Procedures

### Tools

Tr@ction

<http://traction.bpweb.bp.com>

VTA

<https://www2.virtualtrainingassistant.com/BPGlobal/>

- 4.1.4 Review and update entity procedures and practices at defined intervals, confirming that they are sufficient to control the related risks.
- 4.1.5 After each update, communicate any changes or additions to entity procedures and practices to the affected BP employees and contractors.

---

*These documents contain requirements for this sub-element:*

GDP 3.1-0001	Assessment, Prioritization and Management of Risk
GDP 5.0-0001	Integrity Management
GP 01-01	Group Defined Engineering Technical Practices
DWOP	Drilling and Well Operations Practice

*This document contains recommendations for this sub-element:*

GRP 4.1-0001    Operating Procedures



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## 4.2 Management of Change

**Principle:** BP entities employ a formal, systematic process to document, evaluate, approve and communicate temporary and permanent changes that could impact safe, responsible and reliable operating activity.

4.2.1 Implement and maintain a Management of Change (MoC) process for temporary and permanent changes.

4.2.1.1 Adopt eMOC when migrating the local business to an electronic MoC system.

**Tool**  
eMOC  
<http://moc.bpweb.bp.com>

**Example**  
NAG SPU Site Technical Practice for MoC

4.2.2 Monitor legal and regulatory requirements and BP Requirements so as to be aware of changes in these that might necessitate changes to the entity operating activity.

4.2.3 Specify criteria for determining which proposed changes to entity operating activity require application of the MoC process, paying particular attention to those affecting plant, material, equipment, technology, process, products, services, procedures, practices, people and organization.



## Procedures

- 4.2.3.1 Define criteria for determining the applicable MoC type (i.e. technical, organizational or administrative).

### Recommendation

- Describe subsets within the different types of MoC, e.g. within the technical MoC type; subsets may include Drilling and Wells, Major Projects, and Operations (see also Table 4.2.3.1).

### Example

NAG SPU Decision Tree

Table 4.2.3.1 MoC Types and Examples

MoC Types	Examples
<b>Technical</b>	<ul style="list-style-type: none"> <li>Changes to process safety system design, function or information</li> <li>Permanent bypass of safety system devices</li> <li>Addition or integration of new facilities or equipment into existing facilities</li> <li>Modification of existing facilities/processes</li> <li>Changes in operating conditions that may cause equipment or systems to operate outside of their normal operating limits (pressure, temperature, flow rate, etc.)</li> <li>Equipment changes/modifications which cause changes to pressure relief requirements</li> <li>Bypass connections around equipment normally in service or removing equipment from service</li> <li>Introduction of new or different process chemicals – if composition, function or reaction is changed</li> <li>Changes in operating procedure</li> <li>Project freezing</li> </ul>
<b>Organizational</b>	<ul style="list-style-type: none"> <li>Changes to the organizational structure or reporting relationships within the structure</li> <li>Organizational changes leading to a loss or transfer of personnel with specific knowledge or experience</li> <li>Changes in delegation of authority where health, safety or the environment is impacted</li> <li>Changes in financial delegation of authority</li> <li>Changing from company to third-party contracted services</li> </ul>
<b>Administrative</b>	<ul style="list-style-type: none"> <li>Deviation from operating procedures</li> <li>Deviation from established BP policies or practices</li> <li>Deviation from OMS requirements</li> </ul>

- 4.2.4 Include in the MoC process: risk assessment, identification and application of risk reduction measures; the required level of management approval; application of a review prior to implementing the change to verify that identified risk reduction measures are in place and identified training completed; and updating of relevant documents.
- 4.2.5 Communicate the details of the proposed change to affected members of the workforce.
- 4.2.6 Track MoC actions to closure.

**Recommendations**

- Define and document the workflow for various types and categories of change.
- Include a documented Pre-Startup Safety Review (PSSR) in technical MoCs.
- Use the workflow process illustrated and described in Figure/Table 4.2.6.1 to mitigate risk.

**Example**

NAG SPU PSSR Checklist

<http://im.bpweb.bp.com/element7/NAG-S1P-GP-00-05.doc>

# Procedures

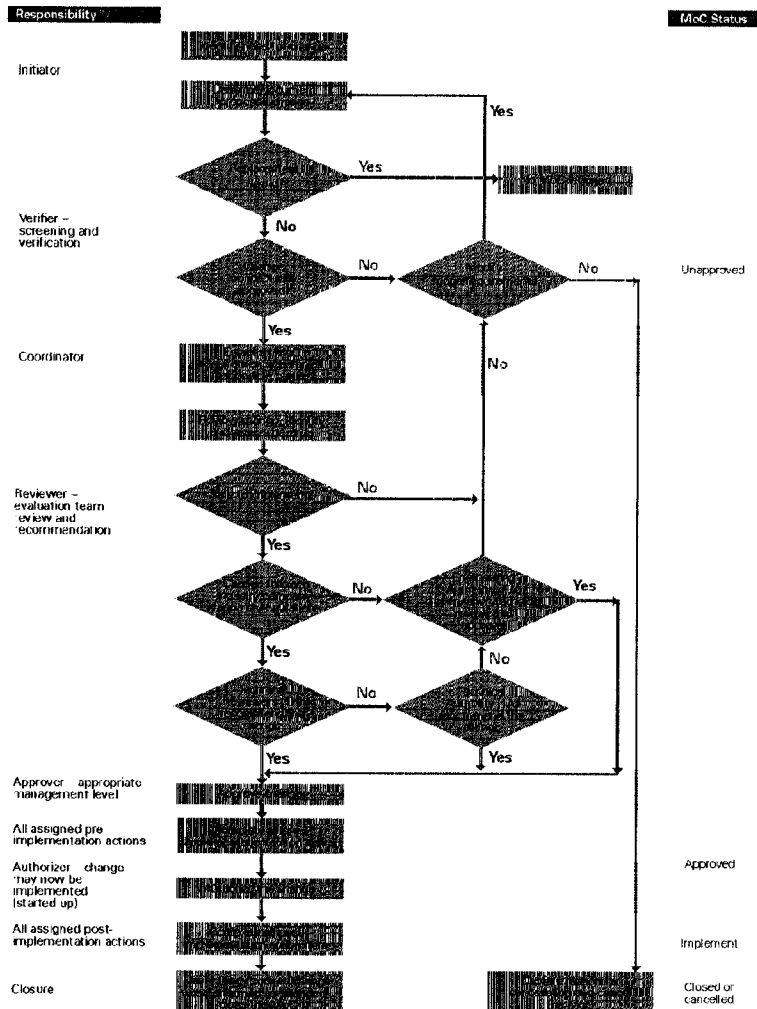


Figure 4.2.6.1 MoC Workflow



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**Table 4.2.6.1** MoC Workflow Process

Step	Description	Attributes
Initiation	The MoC process begins when an individual working at the facility identifies the need for a change. This person is the Initiator.	<ul style="list-style-type: none"><li>• The employee proposing change discusses with supervisor.</li><li>• Select Verifier(s) and provide information regarding a proposed change.</li><li>• Select technical reviewers.</li></ul>
Verification	The Verifier will screen the change to determine its feasibility and if the change meets the criteria for MoC.	<ul style="list-style-type: none"><li>• Scrutinize the requested change to determine whether the change fits within MoC applicability guidelines.</li><li>• Appoint the MoC Coordinator.</li></ul>
Coordination	The MoC is defined and the appropriate responsible parties are assigned.	<ul style="list-style-type: none"><li>• Assign personnel responsible to review, approve, complete required action items and authorize a proposed change.</li><li>• Resolve conflicts/concerns associated with the MoC.</li></ul>
Review	Changes are reviewed by the required disciplines and the appropriate risk assessment is performed.	<ul style="list-style-type: none"><li>• Identify hazards that the proposed change can create.</li><li>• Perform required risk analysis and address recommendations.</li><li>• Confirm adherence to applicable codes and industry standards.</li><li>• Confirm compatibility with existing processes or equipment.</li></ul>
Approval	The change is approved by Management. Approval is given before implementing the change.	<ul style="list-style-type: none"><li>• Approve scope of MoC.</li><li>• Confirm appropriate reviews have occurred.</li><li>• Identify Pre- and Post-Implementation activities.</li></ul>
Pre-Implementation	Required actions identified during the review process and risk assessment are implemented. A formal pre-startup safety review (PSSR) should be completed and documented for technical MoCs. Communication to affected parties typically occurs in this step.	<ul style="list-style-type: none"><li>• The change and associated risks, consequences and mitigation information and requirements will be communicated to, and acknowledged by, affected personnel.</li><li>• Applicable HSE and PSSR checklist items will be closed prior to startup.</li></ul>
Authorization	The change is authorized for implementation (startup) by Management.	<ul style="list-style-type: none"><li>• Authorization for implementation of change is contingent upon the HSE and PSSR actions being completed and closed.</li></ul>

# Procedures

**Table 4.2.6.1** MoC Workflow Process (continued)

Step	Description	Attributes
Post-Implementation	Relevant documentation is updated and made available to the appropriate employees. Examples include Piping and Instrument Diagrams (P&IDs), cause and effect charts, area classification diagrams, and procedure updates.	<ul style="list-style-type: none"> <li>Includes items such as:                             <ul style="list-style-type: none"> <li>Documented training of personnel</li> <li>Updating emergency response plans</li> <li>Updating relevant documentation and records to reflect as-built conditions</li> <li>Providing updated documentation to affected personnel</li> </ul> </li> </ul>
Closeout	Once the Coordinator confirms actions have been completed and documentation updated and circulated, then the MoC is closed.	<ul style="list-style-type: none"> <li>Confirmation by the Coordinator that changes were performed as intended</li> <li>Post-implementation action items are completed and closed out.</li> </ul>

- 4.2.7 Verify that the original scope and duration of temporary changes are not exceeded without review and approval.

## Example

GoM SPU MoC Delegation of Authority

*This document contains recommendations for this sub-element:*

GRP 4.2-0001 Management of Change



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## 4.3 Information Management and Document Control

**Principle:** BP entities develop, review and maintain secure and readily available the necessary and appropriate information, documents and records.

**4.3.1** Define and implement an information management and document control process to control the approval, publication, transmission, storage, change, retention and disposal of controlled documents.

**4.3.1.1** Identify document owners for controlled documents.

### **Recommendations**

- *Include in the document control procedure a document identification system, review and approval process, taxonomy, review frequency guidelines, document revision, and common templates for similar types of documents.*
- *Verify that document distribution and access are controlled, to reassure users that documents are accurate, up-to-date and readily accessible.*
- *Verify alignment of the document control procedure with the BP Group Security Standard.*
- *Apply the document control procedure to control the distribution of documents of external origin that have been identified as necessary for the functioning of the business.*
- *Define the types of changes applicable to controlled documents.*
  - *Define the level of review and approval for each type of change.*
  - *Define the way that the approval is substantiated and documented for an approved document change.*
  - *Incorporate the next review date or a general note depicting the review timing for documents requiring regular reviews.*
  - *Establish subject matter experts for document types (e.g. drawings, policies, procedures) to promote consistency and a common approach.*

## Procedures

- o *Define how controlled documents are labeled to indicate their status (e.g. "controlled," "obsolete," or "pending approval").*
  - *Designate the master copy of controlled documents that exist in more than one format (e.g. hard and soft copy).*
  - *Designate as "obsolete documents" copies of controlled documents kept for historical record purposes. Remove them from points of use*
- o *Define control procedures for printed documents.*
  - *Print documents in conformance with site format requirements.*
  - *Initiate and maintain a distribution list when paper documents are issued by the site.*
  - *Maintain records that detail transmittals of controlled documents*
- o *Define control procedures for electronic documents.*
  - *Define a software information migration strategy as appropriate.*
  - *Maintain software necessary to access and manage electronic data*

### Tools

Documentum  
<http://epapps.bpweb.bp.com>  
SharePoint  
eMoC  
<http://moc.bpweb.bp.com>

### Examples

NAG SPU Documentation Control Procedure  
ISO Document Control Procedures

- 4.3.2 Specify the types of information, documents and records that are to be controlled documents, and maintain formal registers of these controlled documents.

4.3.2.1 As a minimum, include the following as controlled documents:

- Local OMS
- Drawings
- Policies
- Internal standards
- Procedures and practices (i.e. operating and maintenance procedures)
- Regulatory compliance records
- Design data
- Training records

**Recommendations**

- Use standard formats and templates for controlled documents
- Establish a controlled documents review cycle.
- Include the following attributes for documents contained in the master document list (see also Tables 4.3.2.1 a and b):
  - Document number
  - Title
  - Latest version
  - Owner
  - Custodian
  - Authority
  - Controller
  - Next review date and location
- Combine information technology tools for controlled documents (i.e. SharePoint and Documentum).

**Tools**

RROS – Reserves Approval Memorandum (RAM)  
RROS – Reserves Support Package (RSP)



## Procedures

Table 4.3.2.1a Examples of Controlled Documents

Control Element Required Metadata/ Properties	Drawings	Policies	Standards, Procedures and Practices	Regulatory Data	Design Data
Document Authority	X	X	X		X
Document Custodian	X	X	X	X	X
Document Administrator	X	X	X	X	X
Applicability		X	X		
Issuing Department		X	X	X	
Original Issue Date	X	X	X	X	X
Effective Date		X	X		
Revision Date	X	X	X		X
Next Review Date			X		
Control Tier		X	X		
Title	X	X	X	X	X
Revision Log	X	X	X	X	X
Page Numbers	X	X	X		
Labeling for which printed copies are not controlled	X	X	X		
Location of Master Document	X	X	X		X
Unique Document Number	X	X	X		X



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**Table 4.3.2.1b** Examples of Uncontrolled Documents

Control Element Required Metadata/ Properties	Records and Reports	Operating Data	Lessons Captured
Document Authority	X		
Document Custodian	X	X	X
Document Administrator	X	X	X
Issuing Department		X	
Original Issue Date	X	X	X
Revision Date	X		
Title	X	X	X
Revision Log		X	
Page Numbers	X		X
Labeling for which printed copies are not controlled	X		
Location of Master Document	X		X
Unique Document Number	X		X



## Procedures

- 4.3.3 Provide ready and secure access to controlled documents, removing obsolete information and documentation from circulation.

### **Recommendations**

- *Develop legibility criteria for controlled documents.*
  - *Implement quality control procedures for scanned documents.*
  - *Inspect degradable documents periodically for legibility.*
- *Identify documents as current or not current in both the document control management system and on the document in printed or electronic form.*
- *Tag only one version of a controlled document as current in the document control management system.*
- *Include expiration dates on printed copies of controlled documents.*
- *Create a practice of periodically purging convenience (uncontrolled) copies.*
- *Include required document control management system attributes on an associated document control sheet.*
- *Develop and maintain a standard glossary, taxonomy or controlled vocabulary to describe tags, document names and related items.*
- *Pursue standardization of the document "attribute set" throughout the local business.*
- *Provide appropriate document access for point-of-use, location and local site management.*
- *Provide adequate training for documents records management.*

- 4.3.4 Maintain and retain BP employee health and medical records as medical confidential and occupational exposure records as confidential.



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*These documents contain requirements for this sub-element:*

GDP 4.5-0001 Control of Work  
Code of Conduct – Privacy and employee confidentiality  
– Trade restrictions, export controls and boycott laws  
– Working with suppliers  
– Dealing with governments  
– Accurate and complete data, records, reporting and accounting  
– Protecting BP's assets  
– Intellectual property and copyright of others  
– Digital systems use and security  
SIS Security of Information Standard  
BCP Business Continuity Planning Standard  
Global Document (including e-Document) Management Policy  
Global E-mail Policy  
Privacy and Data Protection Policy

*These documents contain recommendations for this sub-element:*

GRP 4.1-0001 Operating Procedures  
GRP 4.2-0001 Management of Change



## Procedures

### 4.4 Incident Management

**Principle:** BP entities report and investigate incidents; determine immediate and system causes and implement appropriate corrective actions; and share the learnings to reduce the likelihood of recurrence and improve operating performance.

- 4.4.1 Develop and maintain an incident response capability.
- 4.4.2 Report and investigate incidents to establish immediate and system causes. Identify action plans to address identified causes with due dates for completion and track to completion.
- 4.4.2.1 Implement systems, processes and procedures to report, investigate, and analyze HSSE incidents, non-conformances to BP requirements and regulatory non-compliances, based on risks faced by the local business.

#### **Recommendation**

- Use Antecedent-Behavior-Consequence (ABC) analysis to obtain a better understanding of intentional behavioral factors related to an incident.

#### **Tools**

RCA/CLC, including ABC Analysis  
<https://rca.bpglobal.com>  
Tr@ction  
<http://traction.bpweb.bp.com>

#### **Examples**

Trinidad SPU Incident Notification, Reporting, Investigation and Lessons Learned Procedure  
<http://trinidad.bpweb.bp.com/hsse1/article.aspx?p=88>  
Andean SPU Investigation and Reporting Procedure  
NAG SPU Regulatory Self-Disclosure Process  
NAG SPU Compliance Management System  
[http://eusuhse.bpweb.bp.com/05%20h\\_s\\_gen/CMS/CMS.htm](http://eusuhse.bpweb.bp.com/05%20h_s_gen/CMS/CMS.htm)



4.4.2.2 Use the E&P Segment incident reporting tool (Tr@ction) to record incidents.

**Recommendation**

Document incidents that are not reportable to BP Group in Tr@ction or another system designated by local leadership.

**Tool**

List of Incidents Reportable to Group

[http://finance.bpweb.bp.com/en/Standards\\_and\\_practices/Practices/Practices\\_Gp\\_HOSE\\_reporting\\_overview.aspx](http://finance.bpweb.bp.com/en/Standards_and_practices/Practices/Practices_Gp_HOSE_reporting_overview.aspx)

4.4.2.3 Investigate HSE incidents and non-conformances per Table 4.4.2.3, using the more severe of the actual and potential outcome classifications.

**Table 4.4.2.3** Severity Matrix (Derived from GDP 4.4-0002 Incident Investigation)

Actual Severity	Potential Severity	Minimum Level of Investigation
A – D E	—	An externally led investigation is required, as described in GDP 4.4-0002 Incident Investigation.
F	A – D E	A formal incident investigation is required, as described in GDP 4.4-0002 Incident Investigation.
G – H	F – H	Investigated at a level deemed appropriate by the local business leader.



## Procedures

### **Recommendations**

- o Agree to the investigation team makeup between the investigation team lead and entity leadership.
- o Include in a multifunctional/level team appropriate technical/SME/engineering and other expertise, operational representative, and representation from various levels within the organization.

### **Tool**

IM Incident Decision Tree

<http://integritymanagement.bpweb.bp.com>

- 4.4.3 Analyze collective results of incident investigations at defined intervals to identify trends in immediate and system causes. Develop action plans to address identified trends with due dates for completion and track to completion.

### **Recommendations**

- o Conduct trend analyses at a local and SPU level, and identify actions with input from appropriate technical expertise.
- o Define levels of authority, commensurate with the severity of the incident, to accept recommendations from incident investigations and verify closure of accepted actions formally.
- o Record corrective actions in Tr@ction.
- o Prior to sharing, determine the applicability of learnings to local business design, procedures, training or existing facilities.
- o Locate, receive and share the lessons with the entity, Segment, Company, and Industry through appropriate channels.
- o Feed back lessons related to engineering design, via the ETP Lessons Learned system.
- o Incorporate learnings related to operations in local business into relevant procedures.
- o Embed learnings in incident training through a periodic review of training content with respect to lessons learned.



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**Tool**

Major Incidents Reporting Database  
<http://miahipo.upweb.bp.com/>

**Examples**

Andean SPU Incident Analysis Report  
NAG SPU Anadarko End of Year Analysis  
GoM SPU Incident Alert Lessons Learned Procedure

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*These documents contain requirements for this sub-element:*

GDP 4.4-0001 Reporting of HSSE and Operational Incidents  
GDP 4.4-0002 Incident Investigation

*This document contains recommendations for this sub-element:*

GRP 3.5-0001 Security



## Procedures

### 4.5 Control of Work

**Principle:** BP entities employ a formal Control of Work process to provide a work environment that will allow tasks to be completed safely and without unplanned loss of containment causing environmental damage.

- 4.5.1 Implement and maintain a process to plan work, identify hazards, assess risk and put in place risk reduction measures to allow work tasks to be completed safely and without unplanned loss of containment causing environmental damage.

- 4.5.1.1 Define types of hazardous work that require a work permit.

**Recommendation**

- Refer to Table 4.5.1.1 and Figure 4.5.1.1 when defining types of hazardous work.

**Table 4.5.1.1** Hazardous Work

Work Type	Description
Hot Work	Tasks that threaten to cause or can potentially cause a flame, spark or other energy discharge and could result in a fire or explosion
Electrical Work	Tasks performed where it is possible to access electrical conductors that are or could be energized
Confined Space	Tasks that meet the following criteria: <ul style="list-style-type: none"><li>• Performed in a space large enough and configured so that personnel can enter</li><li>• Performed in a space with limited or restricted means for entry or exit, such as tanks, vessels or pits</li><li>• Performed in a space that does not accommodate continuous occupancy</li></ul>
Simultaneous Operations (SIMOPS)	Separate activities taking place simultaneously with the potential to affect one another adversely
Ground Disturbance	Excavation, construction or other activity that results in ground penetration or earth removal
Lifting Operations	Activity using cranes, hoists or other mechanical lifting devices
Cold Work	Tasks that do not fit the above categories but involves a wide range of hazards or a significant hazard. Examples include: <ul style="list-style-type: none"><li>• Breaking containment</li><li>• High-pressure water jetting</li><li>• Work affecting main escape routes or systems (e.g. lifeboats)</li></ul>



## Procedures

4.5.1.2 Document and communicate the roles, responsibilities and accountabilities within the permit to work (PTW) system, including any that are specific to hazardous work.

- Assign roles and responsibilities as set out in Table 4.5.1.2.
- Check that individuals assuming the roles know their responsibilities.
- Assign the roles of Performing Authority and Issuing Authority (or other roles responsible for issuing the permit) to different individuals for any given permit.
- Define criteria and circumstances under which individuals can perform multiple roles without compromising the integrity of the PTW system.
- Identify and document those roles in the PTW system that are exclusive to BP employees.

### **Recommendations**

- *Allocate duties to the roles defined for PTW as set out in the Group Guide "Permit to Work".*
- *Designate a Single Point Accountable (SPA) to continuously improve the PTW process and associated procedures (i.e. tools, training and systems), with responsibility to:*
  - *Authorize and approve changes to the PTW system and associated procedures.*
  - *Monitor compliance through periodic self-assessments against documented protocols.*
  - *Facilitate decisions to resolve issues caused by ambiguity and conflict.*

**Table 4.5.1.2 PTW Roles and Responsibilities**

<b>Role</b>	<b>Responsibility</b>
<b>Area Authority (AA)</b>	The Area Authority confirms that work activities conducted in their area of responsibility are consistent with CoW Policy, PTW procedures and requirements.
<b>Person in Charge (PIC)</b>	The PIC reviews active permits and hazard mitigation measures at the work site to determine if the proposed work can continue simultaneously with other PTW tasks.
<b>Issuing Authority (IA) (Delegation of Authority from AA)</b>	The IA issues permits consistent with associated procedures and permit requirements. The IA also confirms that work planning and hazard assessments are completed on appropriate work permit forms. The IA is accountable for control and safety activities within the permitted work task, including PTW issuance and approval.
<b>Performing Authority (PA)</b>	The PA establishes safe delivery of permitted activities and confirms that these activities are performed on the worksite. The PA may perform the task or supervise a group who performs the task.
<b>Affected Issuing Authority (AIA)</b>	The AIA reviews other active permits and hazard mitigation measures and determines if the proposed work can continue simultaneously with other PTW tasks. This role is present where multiple Issuing Authorities are involved.
<b>Isolating Authority (ISO)</b>	The Isolating Authority is responsible for energy isolation.

**4.5.1.3** Execute the PTW process described in the requirements listed in Table 4.5.1.3.

**Recommendation**

- Follow the recommended activities in Table 4.5.1.3 in executing the PTW process.

**Example**

GoM SPU Permit to Work



## Procedures

Table 4.5.1.3 PTW Process

Requirement	Recommendation
<b>Evaluate and plan the permitted work activity</b>	<ul style="list-style-type: none"> <li>Identify duration, equipment, competent personnel and other resources required to perform the work activity safely</li> <li>Prepare work packs as required (e.g. drawings, equipment, specifications, method statements and procedures).</li> <li>Identify and record personnel performing permitted work in the permit.</li> <li>Identify the type of permit required.</li> <li>Evaluate the impact on simultaneous operations and identify conflicting activities.</li> <li>Apply Management of Change (MoC) procedures when required.</li> <li>Maintain communication between Issuing and Performing Authorities.</li> <li>Conduct a risk assessment commensurate with the hazard involved to identify potential hazards associated with the work activity. (Refer to sub-element 3.1 Risk Assessment and Management.)</li> </ul>
<b>Conduct a risk assessment for the proposed work activity</b>	<ul style="list-style-type: none"> <li>Include a representative from each team performing the work in the risk assessment.</li> <li>Visit the work site as part of the risk assessment.</li> <li>Document the control measures associated with the work (including required monitoring of the work) as part of the risk assessment.</li> <li>Document, sign off and communicate the risk assessment in writing.</li> <li>Verify that isolations meet minimum requirements for safe isolation and reinstatement of plant.</li> </ul>
<b>Define isolation of energy sources required to perform the work safely</b>	<ul style="list-style-type: none"> <li>Verify that isolation plans reference current and up-to-date engineering drawings such as Process and Instrumentation Diagrams (P&amp;IDs).</li> <li>When common energy isolations exist for multiple permits, document these isolations as part of the work permit process and maintain the isolations until associated permits are closed out.</li> </ul>



**Table 4.5.1.3** PTW Process (continued)

Requirement	Recommendation
<b>Authorize the permitted work activity</b>	<ul style="list-style-type: none"> <li>• Confirm that the permit is consistent with safe working practices and local requirements.</li> <li>• Confirm that the work is planned and risk-assessed and that appropriate controls are in place as documented on the permit.</li> <li>• Confirm that personnel who will be performing the work activity are competent.</li> </ul>
<b>Communicate and sign off the permitted work activity</b>	<ul style="list-style-type: none"> <li>• Verify that the person accepting the permit understands the contents of the permit.</li> <li>• Verify that personnel involved in the activity sign the permit and/or risk assessment to acknowledge their understanding of the scope, hazards and controls.</li> <li>• Validate the permit requirements with another competent person as required, when working locally or at a remote location.</li> </ul>
<b>Monitor ongoing work</b>	<ul style="list-style-type: none"> <li>• Periodically monitor the work to confirm that conditions detailed on the permit have not been compromised and that the work is continuing in a safe manner.</li> <li>• Confirm that work scope does not deviate from that described on the permit without documented risk assessment, review and change authorization where appropriate according to the MoC process.</li> </ul>
<b>Define and document the permit closure process</b>	<ul style="list-style-type: none"> <li>• Verify that work as described on the permit is completed and that the work site is safe and tidy before closing the permit. Refer to Addendum 3: Safe Isolation and Reinstatement of Plant (SIRP) of Group Guide PTW.</li> <li>• Return work packs to the Issuing Authority, if applicable.</li> <li>• Reinstate controls and remove isolations. (Refer to Isolation above.)</li> <li>• Reassess site conditions and appropriate control measures before resuming normal operations.</li> <li>• Close the permit by signature from the appropriate authority and update the Permit Register to indicate closure of permit.</li> <li>• File and retain closed permits.</li> </ul>

## Procedures

**Table 4.5.1.3** PTW Process (continued)

Requirement	Recommendation
Define and document maximum permit duration and permit extension criteria	<ul style="list-style-type: none"> <li>Require permit revalidation by the appropriate authority at the beginning of every shift.</li> <li>Limit the duration of any permit to 7 days or 14 shifts.</li> </ul>
Document and communicate permit suspension	<ul style="list-style-type: none"> <li>Suspend the permit any time unsafe conditions occur or work is suspended prior to completion.</li> <li>Suspend the permit if changes to work scope or conditions dictate.</li> <li>Communicate permit suspension to affected personnel.</li> <li>Confirm that applicable isolations and isolation certificates remain in place during permit suspension.</li> <li>Where practical, reinstate for the duration of suspension any safety system that may have been disabled for the purpose of performing the work; or implement other precautions, such as a continual assignment of a firewatch.</li> <li>Following permit suspension or other work interruptions (e.g. alarms, work breaks, emergency situations and shift changes), reassess site conditions and appropriate control measures and reissue the permit before allowing work to resume.</li> </ul>

*This document contains requirements for this sub-element:*

GD<sup>2</sup> 4.5-0001 Control of Work

*This document contains guidance for this sub-element:*

PTW Permit to Work Guide



BP OVS March 2008  
Version 1.0

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## 4.6 Crisis and Continuity Management and Emergency Response

**Principle:** BP entities prepare for and respond promptly to crisis and emergency events threatening harm to BP employees and contractors, company assets, and neighboring communities and interruption in business operations.

- 4.6.1 Identify crisis and continuity management scenarios utilizing the entity risk register, the output of the entity's Major Accident Risk assessment and other information

### **Recommendations**

- Use a common template for local business Incident Management Plans.
- Include security crisis response plans in the Incident Management Plans by attachment, appendix, or reference.

### **Examples**

GoM SPU ERP Guidance Document  
Pakistan PU Incident Management Plan  
Andean SPU Crisis Management Plan

- 4.6.2 Implement and maintain crisis and continuity management plans to manage the scenarios identified. These will include procedures from initiation to response and recovery. At site level these plans shall include arrangements for evacuation and, where needed, for initial shelter-in-place.



## Procedures

### Recommendations

- *Communicate Crisis Management and Business Continuity Plans to internal and external stakeholders as determined by local business leadership and in accordance with local regulations.*
- *Manage the Crisis Management and Business Continuity Plans as controlled documents within the business document management system.*

### Tool

Houston Crisis Center Incident Management Team Position Checklists

### Example

Pakistan PU Business Continuity Plan

- 4.6.3 Validate the plans through exercising them at defined intervals. Review the plans at least annually to reflect changes in hazards, risks, organization or contact details, and implement identified improvements.

### Recommendations

- *Determine criteria for timing and types of change to plans that are to be managed through the formal MoC process, including appropriate review by the Single Point Accountable for Integrity Management.*
- *Incorporate lessons learned from incidents and exercises in plans, training, and future exercises.*
- *Include response scenarios based on identified risks in the exercise program.*
- *Include plan-specific and general awareness training at local business level.*

### Tool

Tr@ction

<http://traction.bpweb.bp.com>

### Examples

NAG SPU Exercise Executive Summary

GoM SPU Lessons Learned Procedure

GoM SPU Lessons Learned Flowchart

- 4.6.4 Provide access to trained personnel, resources, medical emergency and other facilities needed to implement and execute the crisis and continuity management plans.

**Recommendation**

1. Delegate financial authorities to enable execution of the plans

**Examples**

E&P Business Continuity Plan Toolkit  
BP Shipping Financial Authority Accountability

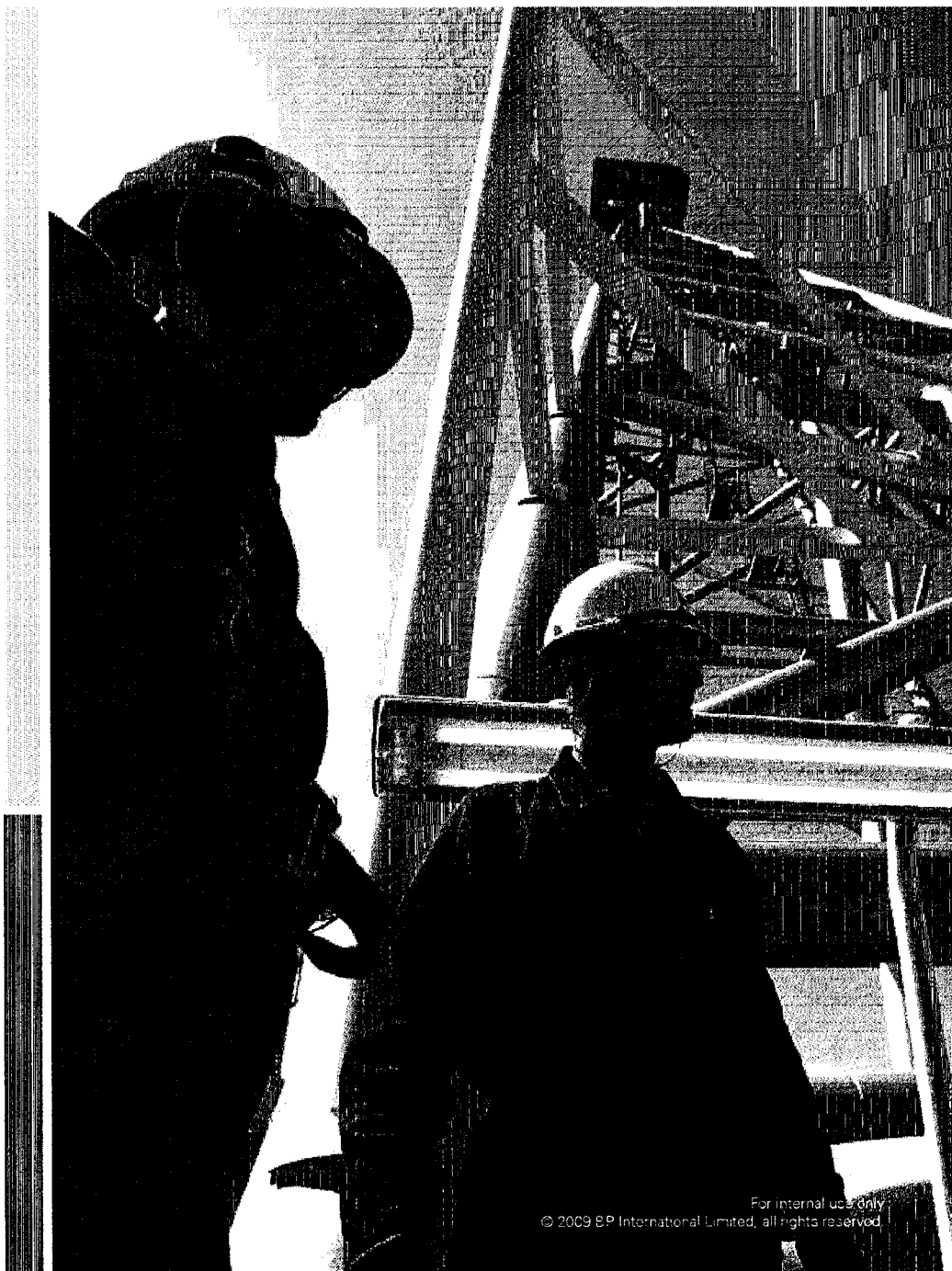
- 4.6.5 Implement, maintain and exercise a documented process for accounting for personnel during and after an emergency evacuation.

**Example**

GoM SPU PCB Report

These documents contain recommendations for this sub-element:

GRP 4.6-C001 Crisis and Continuity Management  
GRP 4.6-C002 Medical Emergency Response



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# Assets

**Principle:** Our plants, facilities, assets and floating systems are fit for purpose throughout the lifecycle of the operation

- 5.1 Project Management
- 5.2 Design and Construction
- 5.3 Asset Operation
- 5.4 Inspection and Maintenance
- 5.5 Decommissioning and Remediation
- 5.6 Marine Operations

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## Assets

### 5.1 Project Management

**Principle:** BP entities manage projects for design and construction of new or modified plant, facilities, assets and floating structures to prevent injury to people, damage to the environment and achieve competitive performance over the lifecycle.

- 5.1.1 Implement and maintain a documented system for managing projects which provides for five stages of project development (Appraise, Select, Define, Execute and Operate) with approval at each stage gate by an identified gatekeeper.
- 5.1.2 Identify legal and regulatory and BP Requirements applicable to the design, procurement, construction, commissioning, startup and handover of the project facilities.
- 5.1.3 Document the project objectives in a statement of requirements and have them agreed by the identified gatekeeper.
- 5.1.4 Develop and implement a documented project execution plan which covers concept selection through to handover.
- 5.1.5 Implement and maintain a comprehensive Quality Assurance/Quality Control process for project design, procurement, construction, commissioning, startup and handover.
- 5.1.6 Integrate operations, maintenance, HSSE and, where applicable, marine expertise during concept selection, definition of engineering scope, and design, construction, commissioning and handover of facilities.
- 5.1.7 Identify and assess the risks associated with the project interfaces to existing operations and implement plans to manage the identified risks.



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- 5.1.8 Conduct documented HSSE reviews, pre-startup safety reviews and operational readiness reviews for projects, including projects on existing facilities, and close-out agreed actions.
- 5.1.9 Conduct documented post-project reviews to identify lessons for future projects.

**Tool**

MPcp to OMS Bridging Document Template (to be issued in 2009)

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*These documents contain requirements for this sub-element:*

GP 48-01	HSSE Review of Projects
MPcp	Major Projects Common Process
GIAAP	Group Investment Assurance and Approvals Process

*This document contains recommendations for this sub-element:*

BtBcp	Beyond the Best Common Process
-------	--------------------------------



## 5.2 Design and Construction

**Principle:** BP entities design, construct, modify plant, assets, facilities and floating structures to prevent injury to people, damage to the environment and achieve competitive performance over the lifecycle.

- 5.2.1 Establish the basis of design following BP Requirements and considering new technology, business requirements, performance improvement, normal and abnormal operating conditions, startup, shutdown, ramp-up, turndown and decommissioning.
- 5.2.2 Design plant, assets, facilities and floating structures (including engineered systems, marine systems, structures and protective systems) in accordance with inherently safer design principles and BP Requirements.
- 5.2.3 Procure and construct plant, assets, facilities and floating structures in accordance with the design.
- 5.2.4 Develop and maintain a Marine Assurance Plan, to encompass the specification, design, construction and commissioning of the marine structure and systems of all floating production and storage units, in conjunction with BP Shipping and the Segment Marine Authority.
- 5.2.5 Delegate the supervision of the specification, design, construction and commissioning of all Marine Vessels to BP Shipping.
- 5.2.6 Manage and control deviations from design standards, entity practices and procedures through a deviation process. Manage subsequent changes through the MoC process.
- 5.2.7 Identify safety and production critical equipment and systems. Define and set safe operating envelopes, alarm parameters and required levels of inspection and maintenance.

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5.2.8 Develop and implement a commissioning, startup, handover and operating plan including a post startup review to confirm that construction is in accordance with design, all required verification testing is complete and all deviation and MoC actions are complete.

5.2.8.1 Develop full lifecycle asset integrity strategies and supporting implementation plans in conformance with ETPs as appropriate, and hand over to Operations on completion of projects and drilling programs.

---

*These documents contain requirements for this sub-element:*

GDP 5.0-0001 Integrity Management  
GP 48-02 Hazard and Operability Study  
GP 48-03 Layer of Protection Analysis  
GP 48-04 Inherently Safer Design  
GP 43-49 Pipeline Integrity Management Systems  
MPcp Major Projects Common Process  
Engineering Technical Practices (ETPs) mandated by E&P Segment

*These documents contain recommendations for this sub-element:*

GRP 4.2-0001 Management of Change  
Operations in Projects Guidance Manual



### 5.3 Asset Operation

**Principle:** BP entities operate plant, assets, facilities, floating structures and transport equipment to prevent injury to people, damage to the environment and achieve competitive performance over the lifecycle.

5.3.1 Operate plant, assets, facilities, floating structures and transport equipment within defined safe operating envelopes, in accordance with documented operating procedures and taking due account of manufacturers' recommendations.

- 5.3.1.1 Define safe operating limits (SOL) and operating envelope for equipment covered by operating procedures or inspection plans.
- Identify critical operating parameters (e.g. pressure, temperature, flow, level, vibration) that, if exceeded, may compromise equipment integrity (see Figure 5.3.1.1).
  - Specify upper and lower limits within which the equipment/process/system can operate safely.

**Recommendations**

- *Maintain a register of SOL.*
- *Reference SOL in Operating Procedures.*
- *Review the number of excursions outside of SOL.*

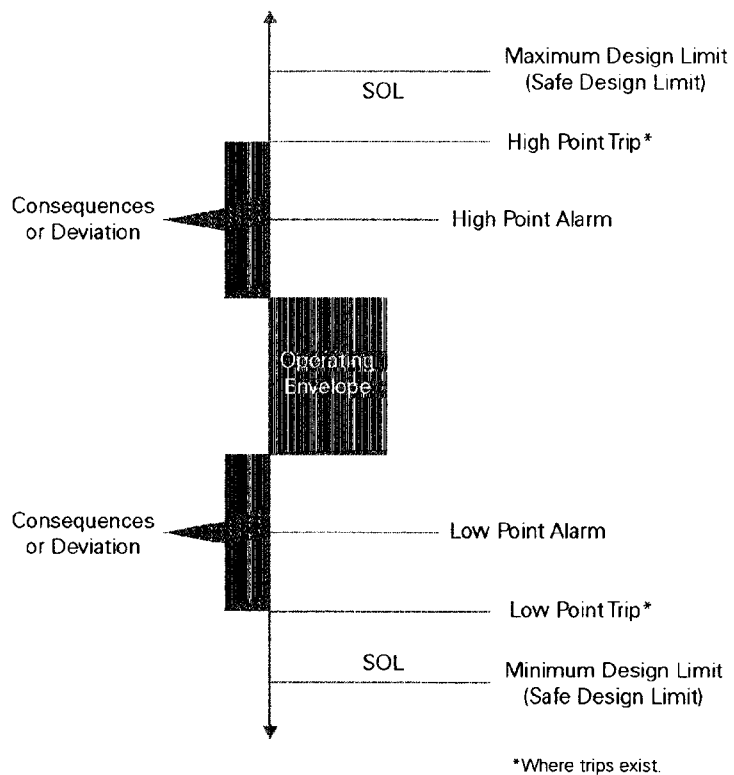


Figure 5.3.1.1 Safe Operating Limits

# Assets

5.3.1.2 Establish accountabilities for defining and updating equipment safe operating limits, including but not limited to the following:

**Table 5.3.1.2** Roles and Accountabilities for defining and maintaining equipment Safe Operating Limits

Role	SOP Accountabilities
<b>Engineering Authority/ Technical Authority</b>	<ul style="list-style-type: none"> <li>Establish a process to define and update SOL for the local business and perform self-assessments of the process on a defined review cycle.</li> </ul>
<b>Operations Management</b>	<ul style="list-style-type: none"> <li>Define and update SOL throughout the equipment lifecycle.</li> <li>Document and investigate excursions outside the SOL.</li> <li>Utilize the MoC process as required in sub-element OMS 4.2 to update SOL.</li> </ul>

5.3.2 Monitor, investigate and document excursions outside safe operating envelopes and unexpected failures of structures, materials and equipment. Identify and implement corrective actions.

## Tool

Tr@ction  
<http://traction.bpweb.bp.com>

5.3.3 At defined intervals, review safety and production critical equipment and upgrade them as necessary to continue to achieve safe, responsible and reliable operation and competitive performance.

- 5.3.4 Verify both the adequacy and accuracy of production metering instrumentation at defined intervals.
- 5.3.5 Measure, report and investigate performance shortfall, and develop a prioritized plan to reduce such shortfall and address identified immediate and system causes.

---

*These documents contain requirements for this sub-element:*

GDP 5.0-0001 Integrity Management  
GDP 4.4-0002 Incident Investigation

*This document contains recommendations for this sub-element:*

GRP 4.1-0001 Operating Procedures



## 5.4 Inspection and Maintenance

**Principle:** BP entities inspect and maintain plant, assets, facilities, floating structures and transport equipment to prevent injury to people, damage to the environment and achieve competitive performance over the lifecycle.

- 5.4.1 Develop and implement an inspection, maintenance and turnaround strategy to manage identified risks and deliver availability in line with the entity business strategy. Include inspection, maintenance and turnaround actions in the annual plan.

- 5.4.1.1 Implement a risk-based inspection, maintenance and reliability management system with tools developed and outputs documented.

### Recommendations

- Use the Maintenance Management Pyramid (Figure 5.4.1.1) to assist in implementation of the maintenance strategy.
- Develop an inspection, maintenance and reliability strategy with visible and regularly updated performance indicators, goals and objectives.
- Build organizational capability to execute the Common Maintenance Strategy (CMS).
- Use formal reliability analysis (ESMP/RCM, PHA, RBI, RCFA) to identify and optimize baseline/standard and turnaround (TAR) worklist items. Worklist reviews should contain reliability analysis recommended activities.
- Provide employees with classroom and practical training in each CMS process and tool that is applicable to their job.



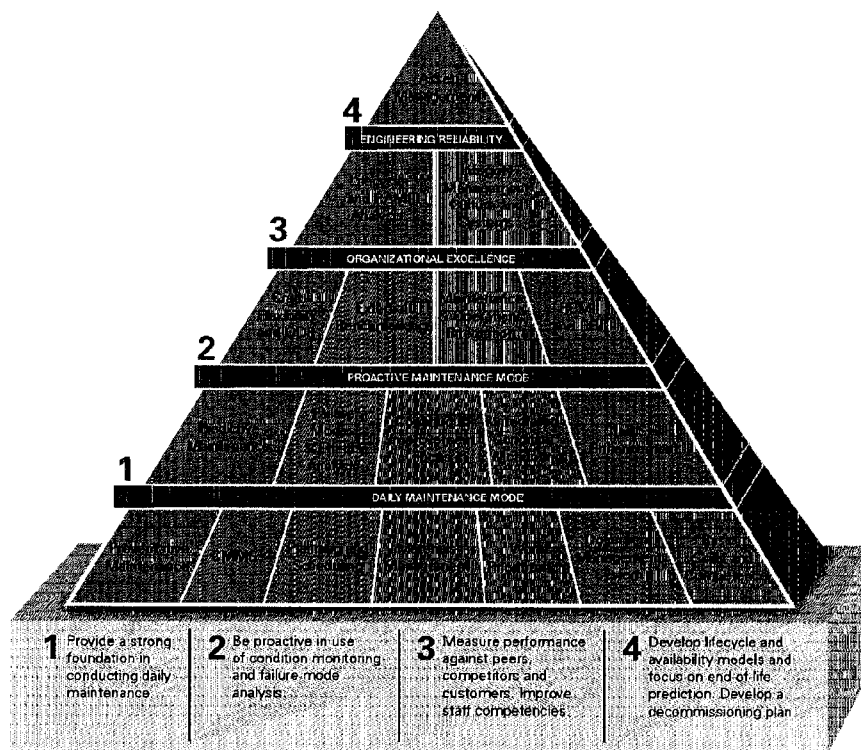


Figure 5.4.1.1 Maintenance Management Pyramid

## 5.4.1.2 Apply the Capital Value Process for Turnarounds (CVP-TAR) for full facility outages and for major TAR.

### Recommendations

- Justify and plan TARs aligned to business objectives (see Figure 5.4.1.2).
- Introduce an integrated turnaround team and assign clear roles and responsibilities.
- Apply rigor at each stage gate milestone during Front End Loading.
- Plan TARs to allow for cost-effective material procurement and efficient delivery.
- Put a formal quality assurance/control (QA/QC) program in place to monitor the quality of work, repairs, equipment, and materials during TARs.

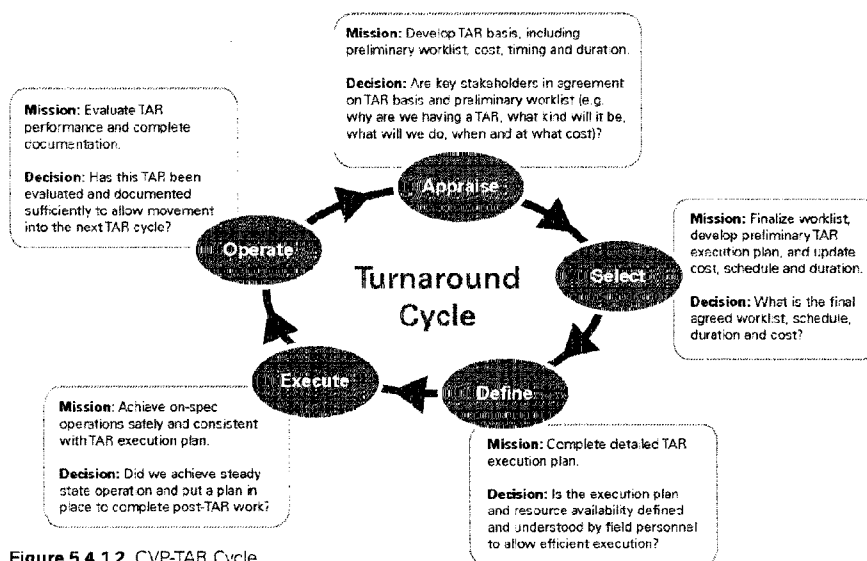


Figure 5.4.1.2 CVP-TAR Cycle



5.4.2 Implement and maintain an inspection program to determine the condition of safety and production critical equipment and systems, and verify and document they are fit for service. Verify that deficiencies identified from the inspection program are investigated and corrected on a timely basis.

5.4.2.1 Track critical equipment failures and apply appropriate defect elimination techniques.

#### **Recommendations**

- ① *Develop the inspection and maintenance program using risk analysis tools (ESMP/RCM/RCFA/RBI). Justify and optimize proactive inspection and maintenance activities and reviews.*
- ① *Develop, document and implement inspection, maintenance and reliability management systems and tools (e.g. CMMS, ESMP/RCM, RCFA, RBI, data analysis tools, materials management system).*
- ① *Determine the correct "out-of-range" alarm settings, including response actions for condition monitoring and predictive inspection/maintenance tasks (e.g. vibration, thermography, oil analysis, ultrasonic testing, line-of-flight, equipment performance).*
- ① *Put in place a formal engineered lubrication program, including lubricant identification, correct lubricant application, labeling, storage, sampling, quality, contamination prevention. Utilize used oil (lubricating and hydraulic) analysis (spectrography and ferrography) to assess equipment health and lubricant condition.*
- ① *Use vibration analysis to assess rotating equipment health. Optimize vibration data collection frequency.*
- ① *Use diagnostic analysis tools (e.g. thermography, borescope, ultrasonic analysis and motor current analysis) to assess equipment condition.*
- ① *Use mini-RCFA and cross-functional equipment improvement teams (EITs) to investigate minor/repetitive equipment failures and identify and prioritize reliability improvement opportunities.*
- ① *Use RCFA to investigate significant equipment failures: make improvements based on the recommendations.*
- ① *Provide inspection and maintenance training, including condition-based techniques, to key personnel. Assign data collection and analysis duties based on level of competence.*
- ① *Involve operators in equipment maintenance, including front line response, process data collection and assisting with task execution.*



## Assets

### Examples

Process Data Collection

<http://pride.bpweb.bp.com/>

Azerbaijan SPU Sangachal Terminal Electrical Condition Monitoring

<http://baku.bpweb.bp.com/cms/Sangachal/Operations/Maintenance>

5.4.3 Implement and maintain a maintenance management system to plan, schedule, resource and record the results of inspection and maintenance work. Maintain engineering data and related process safety information for equipment requiring inspection.

5.4.3.1 Adopt Maximo when upgrading the local business electronic work management system.

### Recommendations

- Utilize the functions of the Maintenance Management System (MMS) and align with the work process.
- Define and monitor inspection and maintenance KPIs and make performance improvements based on trends.
- Maintain historical performance information and make it easily accessible
- Train facility personnel in the use of information from the Computerized Maintenance Management System (CMMS).
- Conduct cross-functional team meetings with structured agendas, specified leaders, action items, meeting minutes, and make decisions based on business objectives.
- Prioritize and plan inspection and maintenance work, including estimates for skills, materials and tools.
- Determine the standard for the amount and quality of information captured in the Computerized Maintenance Management System (CMMS).
- Manage contractor staffing levels for routine maintenance activities.
- Establish inventory levels using risk-based analysis.
- Verify inventory quality (e.g. quality acceptance criteria, Positive Material Identification, including special handling and storage for parts).
- Schedule inspection and maintenance work and identify windows of opportunity to reduce production impact.
- Utilize campaign maintenance philosophy to maximize efficiency and lower overall lifecycle costs.

#### Tools

Maximo

<http://epapps.bpweb.bp.com>

ESMP in Maximo

Common Maintenance Strategy

#### Example

Azerbaijan SPU Sangachal Terminal WMS–Maximo – Brilliant Work Management

<http://baku.bpweb.bp.com/azspu>

5.4.4 Evaluate inspection program results and maintenance regimes, and modify the programs to take account of the risk of equipment and system failure.

5.4.4.1 Assess, evaluate and utilize inspection and condition monitoring data when making risk-based decisions on scope of equipment repair and program optimization.

#### Recommendation

c. *Collect, analyze, and use condition monitoring (and predictive inspection/maintenance) results to make decisions on the scope of equipment repairs and overhauls (see Figure 5.4.4.1)*

5.4.5 Implement and maintain a process to verify that equipment replacement or modification maintains operating integrity.

5.4.6 Verify equipment that has been out of service is fit for service prior to use.

## Assets

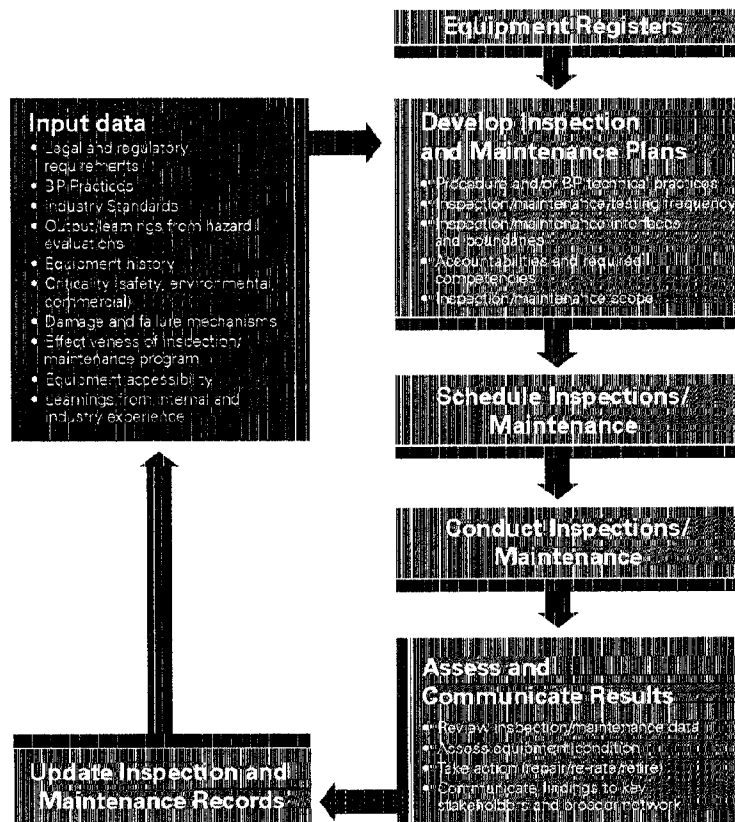


Figure 5.4.4.1 In-service Inspection and Maintenance Process

5.4.6.1 Develop and utilize quality assurance/quality control processes, performance acceptance criteria and/or certified testing prior to putting equipment back into service after repair.

5.4.6.2 Confirm that operating parameters of equipment returned to service remain valid.

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*These documents contain requirements for this sub-element:*

GDP 5.0 0001	Integrity Management
GP 32-30	Inspection and Testing of Equipment in Service
GP 43-49	Pipeline Integrity Management Systems
GP 06-10	Corrosion Management
GP 06-14	Erosion Control
GP 06-20	Materials for Sour Service
GP 06-25	Design for the Prevention of Corrosion under Insulation and Fireproofing
GP 06-70	Corrosion Monitoring
GP 12-60	Hazardous Area Electrical Installations
GP 30-80	Safety Instrumented Systems (SIS) – Implementation of the Process Requirements Specification
GP 30-81	Safety Instrumented Systems (SIS) – Operations and Maintenance
GP 30-85	Fire and Gas Detection
GP 32-20	Site Inspection, Testing, and Commissioning of Plant and Facilities
GP 32-40	In-Service Inspection and Testing – Common Requirements
GP 35-20	Isolation of Equipment for Maintenance
GP 36-15	Material Selection and Specification for Topsides
GP 43-17	Pipeline Risk Management
GP 43-50	Pigging, Pig Launchers, and Receivers
GP 43-52	Inspection and Integrity Assessment of Pipeline Systems
GP 44-25	Guide to Depressurization
CVP for TAR	Capital Value Process for Turnarounds



## Assets

*These documents contain recommendations for this sub-element:*

GRP 2.2-0001	Competence Assurance
GRP 2.5-0001	Working with Contractors
GRP 3.1-0001	Selection of Hazard Evaluation and Risk Assessment Techniques
GRP 3.2-0002	Driving Safety
GRP 3.2-0003	Golden Safety Rules
GRP 3.4-0001	Asbestos
GRP 4.1-0001	Operating Procedures
GRP 4.2-0001	Management of Change
GRP 7.1-0001	HSSE Compliance Framework

*These documents contain guidance for this sub-element:*

CMS	Common Maintenance Strategy <a href="https://epti.bpglobal.com/sites/Maintenance_Reliability/default.aspx">https://epti.bpglobal.com/sites/Maintenance_Reliability/default.aspx</a>
GN 35-010	Reliability Based Maintenance
GN 35-020	Common Maintenance Strategy for New Projects
GN 35-030	Exploration & Production Segment TAR Management
GN 35-040	Work Management
GN 35-050	Work Management Data Standard
GN 35-060	Materials Management
GN 35-070	Performance Management



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## 5.5 Decommissioning and Remediation

**Principle:** BP entities plan for and manage the decommissioning or abandonment of plant, asset, facilities and floating structures and the remediation of the resulting HSSE impacts and risk.

5.5.1 Identify and consider decommissioning and remediation needs during project concept selection and design approval, updating them as needed over the lifecycle of the asset

5.5.1.1 Incorporate regulatory and BP requirements for local businesses pertaining to decommissioning and remediation activities.

- Include the requirements for addressing soil and groundwater contamination and waste.

### **Recommendations**

1. Consult Remediation Management (RM) Team during the Appraise Stage of Major Projects, and throughout lifecycle
2. Consider decommissioning and remediation requirements as they relate to asset divestitures and acquisitions.

### **Tool**

RM Prevention Assessment Tool (PAT) Survey  
<http://rm.bpweb.bp.com/Default.aspx?tabid=401>

### **Examples**

Decommissioning Community of Practice Guides  
<http://d-net.bpweb.bp.com>  
RM Group Guides  
<http://rm.bpweb.bp.com>



## Assets

- 5.5.2 Develop a risk-based plan prior to decommissioning, long-term shutdown, demolition or remediation and implement when required.

### Recommendation

- Consider lifecycle cost, ownership strategy, and synergy among related and nearby assets in establishing estimated decommissioning dates.

### Example

Handover to Remediation MoC

- 5.5.3 Identify and manage HSSE impacts of decommissioning and remediation on existing operations, neighbors and the local community.

### Examples

North West Hutton Decommissioning Program

<http://www.bp.com/northwesthutton>

BTC Pipeline Public Consultation and Disclosure Plan

<http://www.bp.com/genericarticle.do?categoryId=9006630&contentId=7010942>

Jakarta Stakeholder Relationships

<http://jakarta.bpweb.bp.com/hse/content.asp?mid=145>

Lubricants Communication and Engagement Toolkit

<http://lubricants.bpweb.bp.com/Portals/0/Documents/Tools/Communications/Communications%20toolkit%20for%20Project%20Managers.pdf>

*These documents contain requirements for this sub-element:*

GRM	Group Reporting Manual: 1.32 Decommissioning Costs
GIAAP	Group Investment Assurance and Approvals Process
RROS	Resources and Reserves Operating Standard

*These documents contain recommendations for this sub-element:*

GP 43-57	Guidance on Practice for Pipeline Decommissioning and Removal from Service
E&P Segment Decommissioning Guidelines	

## 5.6 Marine Operations

**Principle:** All marine activity in the BP Group is carried out in such a way as to prevent injury to people, damage to the environment and to achieve competitive performance over the lifecycle of the asset.

- 5.6.1 Recognize BP Shipping's sole accountability for marine activity related to the transportation of cargo by bulk, with particular reference to the execution of the chartering, purchasing, leasing, selling and recycling of cargo carrying marine vessels and the provision of manning and technical management, voyage operation (including non-customer-facing scheduling), and vetting services for all cargo carrying marine vessels.
- 5.6.2 Procure, charter, select, contract, operate and maintain marine vessels used in exploration, development and production to a defined standard.
- 5.6.3 Conduct the scheduling of customer-facing hydrocarbon transportation to a defined standard.
- 5.6.4 Operate and maintain Marine Terminals to a defined standard. Implement and maintain procedures that specify the requirements of a ship/shore interface.
- 5.6.5 Require that any marine vessel contracted for use by the BP entity meets a defined standard, fit for purpose and is vetted and approved by a defined process.
- 5.6.6 Produce an annual marine report on the scale of marine activity within the entity identifying associated marine risks.

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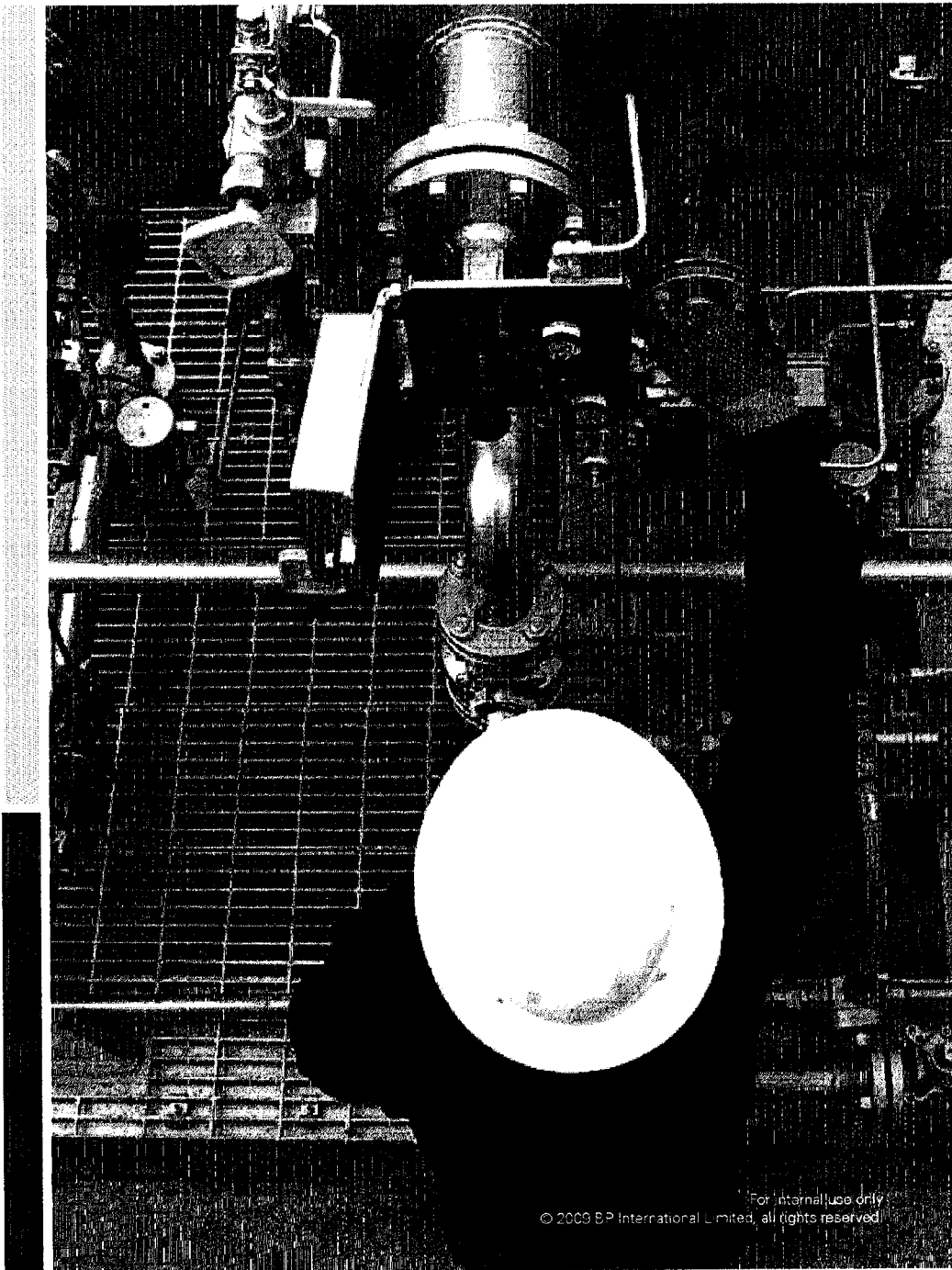
*These documents contain requirements for this sub-element:*

GRP 5.6-0001 Marine Operations  
(Note: This GRP is mandated for E&P Segment.)  
BP Shipping Marine Assurance Policy

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# Optimization

**Principle:** Our operations are continuously optimized to improve performance and delivery from our assets.

- 6.1 Plant Optimization
- 6.2 Energy
- 6.3 Feedstock and Product Scheduling and Inventory
- 6.4 Quality Assurance
- 6.5 Technology
- 6.6 Procurement
- 6.7 Materials Management
- 6.8 Continuous Improvement

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# Optimization

## 6.1 Plant Optimization

**Principle:** BP entities identify, evaluate and capture opportunities to improve operating unit performance.

- 6.1.1 Identify and evaluate operating improvements and put prioritized plans in place to implement them.

### Recommendations

- Implement appropriate measurement, monitoring, data archiving systems and tools to optimize plant operation.
- Provide targets for plant and process optimization and translate them into a set of operating conditions that are within the operating envelope.
- Identify inputs for the optimization of each set of operating units, including the following, as appropriate:
  - Safe operating limits
  - Financial/commercial/stakeholders
  - Volumetric (throughput)
  - Product quality
  - Environmental
  - Energy efficiency
  - Reliability/availability
- Communicate operating conditions corresponding to process optimization to appropriate operating personnel.

### Tools

Crystal Ball (Risk Analysis and Forecasting Tool)  
<http://risk.bpweb.bp.com/crystalballtool.html>  
Integrated Asset Management (IAM)  
<http://upstream.bpweb.bp.com/ept/content/page.asp?id=2574>  
HYSYS (Process Simulator), OLGA (Transient Multiphase Flow Simulator),  
PIPESIM (Pipeline Multiphase Flow Simulator), GAP (Integrated Asset Modelling)  
<http://epapps.bpweb.bp.com/>

### Examples

Andean SPU Operating Forecast  
Trinidad SPU RCFA (Root Cause Failure Analysis)

- 6.1.2 Analyze production variances and put prioritized plans in place to reduce them.

**Recommendations**

- Establish a single asset hopper process to progress appropriate de-bottlenecking projects from concept to execution.
- Maintain a register of de-bottlenecking opportunities as well as de-bottleneck actions already implemented at the operating unit level.
- Promote work force involvement in identifying options to improve process optimization.
- Include the optimization inputs in the de-bottlenecking process.
- Test the effect of the proposed de-bottlenecking action through dynamic modeling before implementing.
- Design the improvement plan to address:
  - Tolerance for variance from targets before action is warranted.
  - Access to accurate historical process data.
  - Document control requirements for plant operating data.
  - Using results to improve and update forecasts.

**Tool**

PEI Toolkit

<http://epsegment.com/process.bp/web.bp.com/Default.aspx?tabid=139>

**Examples**

GoM SPU Request for Action (RFA) and MoC Training

GoM SPU Request for Action (RFA) Decision Making Process

- 6.1.3 Monitor the impact of changes to feedstocks and operating conditions on maintenance and inspection activities.

*These documents contain recommendations for this sub-element:*

SRP 6.1-0001	Production Efficiency Improvement (formerly PEIcp)
SRP 1.3-C001	Integrated Planning (formerly IFPcp)
SRP	Production Forecasting
SRP	Surveillance
SRP	Waterflood Excellence

For SRP 1.3-PEI, see  
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## Optimization

### 6.2 Energy

**Principle:** BP entities employ energy strategies to improve energy usage.

- 6.2.1 Include energy usage in the entity business strategy and annual plan.
- 6.2.2 Assess, prioritize and implement technologies and other systems for improving energy usage.



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Version 2.0

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## 6.3 Feedstock and Product Scheduling and Inventory

**Principle:** BP entities manage feedstock inventories and schedule operations to meet production requirements that satisfy business and customer needs.

- 6.3.1 Develop and implement a logistics, inventory and production scheduling process to meet business needs.
- 6.3.2 Review the effectiveness of this scheduling process at defined intervals and implement identified improvements.



## Optimization

### 6.4 Quality Assurance

**Principle:** BP entities assure the quality of their materials, operating activities, products and services.

- 6.4.1 Establish feedstock, intermediates and product specifications based on customer and business needs and operational considerations.
- 6.4.2 Implement and maintain quality assurance programs to assure BP, contractor or supplier activities that are material to operating performance.
- 6.4.3 Monitor that products sold by BP meet product specifications. Respond to variances, identify immediate and system causes and take corrective action.



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## 6.5 Technology

**Principle:** BP entities identify and implement technology to improve operating performance.

- 6.5.1 Identify opportunities for application of new or existing technologies consistent with the business entity strategy.
- 6.5.2 Evaluate, select and apply preferred technologies.

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*These documents contain guidance for this sub-element:*

SPU Technology Planning Guidelines (Delivering Value from Technology)  
SS&W Reservoir Technical Limits (RTL)



## Optimization

### 6.6 Procurement

**Principle:** BP entities purchase feedstocks, materials and services to meet specifications, standards, delivery, and operating requirements which address lifecycle cost.

- 6.6.1 Implement and maintain a procurement process for materials and services that defines specifications and standards; establishes a supplier selection process based on criteria that include HSSE considerations; meets delivery requirements; considers lifecycle cost; and provides clear procedures for changes to suppliers, materials and services.
- 6.6.2 Review the effectiveness of the procurement process at defined intervals and implement identified improvements.

---

*These documents contain requirements for this sub-element:*

Code of Conduct – Working with suppliers  
PSCM Procurement and Supply Chain Management Guiding Principles



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## 6.7 Materials Management

**Principle:** BP entities manage materials to provide the required quality and availability to deliver operating performance.

- 6.7.1 Identify and maintain the material inventories required to deliver operating performance.
- 6.7.2 For stored materials, implement and maintain a system to identify, inspect and protect them from deterioration, paying particular attention to those that form part of safety and production critical equipment.
- 6.7.3 Review materials management performance at defined intervals and implement identified improvements.

## Optimization

### 6.8 Continuous Improvement

**Principle:** BP entities develop a culture in the workforce to improve operating performance through defect identification, measurement and elimination.

- 6.8.1** Engage the workforce to build continuous improvement (CI) culture and behaviors.

#### **Recommendations**

- Build local teams in the line with authority and accountability to eliminate defects in their particular areas of responsibility.
- Document and communicate learnings regarding defect elimination and process improvement.
- Formalize and employ available technology (e.g. Advanced Collaborative Environments) to support best practice sharing, two-way dialogue and collaborative problem solving.
- Include in leaders' personal performance contracts:
  - Delivery of process improvement results
  - Development of team capabilities in the application of CI tools and techniques
- Include the following in senior leadership performance contracts:
  - Personally engaging with employees
  - Recognizing proactive activity
  - Personal attendance at meetings to discuss CI (e.g. CI Forum)
- Celebrate successful implementation of improvements, and acknowledge and learn from failures.
- Build capability for CI through training events targeted to business improvement need.



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- 6.8.2 Systematically identify defects in the plant, process, people and performance elements of the entity's operating activity and implement improvements utilizing continuous improvement methodologies and tools.
- 6.8.2.1 Identify gaps and build plans to act on specific opportunities for eliminating defects in the local business in a systematic manner.
- 6.8.2.2 Include resources for local CI activities in the annual business plan, including process evaluation and standardization, implementation of lessons learned/best practices, and capability development.

**Recommendations**

- Measure and communicate current operating performance and targets at an appropriate frequency (e.g. daily, weekly, monthly and annually).
- Enable "action teams" within site teams with the remit to facilitate the CI process locally (i.e. identify, suggest and implement opportunities for improvement), and measure and track improvements.
- Embed CI coaches in site organizations and provide training and development to build their capabilities to the necessary level, including use and application of CI tools and techniques, i.e. data gathering, statistical analysis, causal analysis, process mapping, and communication and building business cases for improvement.
- Track activity, cost and revenue improvements in operating expenses through appropriate accounting measures.
- Develop a list (hopper) of potential CI projects for each site.

- 6.8.3 Implement and maintain a process to capture learnings and sustain performance improvements in the local OMS.



## Optimization

### **Recommendations**

- *Monitor progress of process improvement through the following CI KPIs:*

#### *Leading:*

- *Percent of staff engaged in improvement projects*
- *Number of open CI projects*
- *Number of trained/certified CI coaches*

#### *Lagging:*

- *Number of CI project closeout reports*
- *Quarterly operations cost and revenue gains*
- *Cost savings achieved in the period*
- *Number of CI projects completed per total identified*
- *Defect elimination rate, defect density*
- *CI project cycle time*

- *Place responsibility for measuring and tracking performance improvements with local teams, and for consolidating overall CI activities with site leadership.*
- *Provide channels to communicate learnings through closeout reports from implemented CI projects.*
- *Involve leaders in supporting successful teams by sharing experiences and skills with others on a continual basis.*
- *Reward and recognize teams who successfully implement CI projects and share the lessons effectively, i.e. people incorporate improvements in their habits and practices.*
- *Identify improvement opportunities for learning and sharing across the business*



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# Privilege to Operate

**Principle:** We deliver what is promised and address issues raised by our key stakeholders.

- 7.1 Regulatory Compliance
- 7.2 Community and Stakeholder Relationships
- 7.3 Social Responsibility
- 7.4 Customer Focus
- 7.5 Product Stewardship

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## Privilege to Operate

### 7.1 Regulatory Compliance

**Principle:** BP entities comply with applicable legal and regulatory requirements.

**7.1.1** Identify applicable legal and regulatory HSSE requirements, determining how these apply to the entity's projects, operations, maintenance, inspection, marine, decommissioning and remediation activities, and products and services.

**7.1.1.1** Develop and maintain a compliance matrix of HSSE regulatory and other legal HSSE requirements applicable to the local business.

- List obligations for HSSE permits and authorizations associated with the local business.
- Assign specific accountability for the development and management of the local HSSE compliance matrix.
- Make the HSSE compliance matrix readily available across the organization.

#### **Recommendations**

- *Identify local business Activities, Products and Services (APS) based on the scope of the business.*
  - *Define what the local business does or sells, and the associated operating tasks and activities*
  - *Demonstrate sufficient knowledge of local APS in order to perform an adequate regulatory and other legal requirements applicability determination.*
  - *Select a method for defining APS, as recommended in the global HSSE compliance framework for identifying APS (i.e. operations method, unit method or location method).*
- *In identifying regulatory and other legal requirements applicable to the local business:*
  - *Identify SMEs to assist in determining applicability*
  - *Integrate compliance considerations into business planning*

and decision-making processes, including capital projects and acquisitions.

- Identify potentially applicable regulatory and other legal requirements.
- o Assemble an applicability review team with representation from Operations, Legal and SMEs to develop the list of applicable external requirements
- o Document the rationale for decisions when determining applicability of unclear regulatory and other legal applicability decisions.
- o Include contractual requirements in applicability review (e.g. joint ventures, articles of incorporation, and operating agreements with public and private partners).
- o Track changes to legal requirements by using multiple sources where available, including industry trade organizations, to stay current with legal requirements.
- o Use screening services to help evaluate changes to national and local legal requirements.
- o Provide access to resources for regulatory advocacy, as required.

#### Examples

HSSE Compliance Management System

<http://hssecms.bpglobal.com>

NAG SPU Regulatory Affairs Flowchart and Regulatory Change Form

<http://i48reg.bpweb.bp.com/RegProcess.doc>

- 7.1.2 Put a process in place to identify and where necessary implement an MoC for changes to applicable legal and regulatory HSSE requirements.
- 7.1.3 Identify and document specific compliance tasks to meet applicable legal and regulatory HSSE requirements.

#### Recommendations

- o Confirm that existing practices and operational controls are appropriate and fit for purpose
- o Identify and classify the type of tasks based on legal and regulatory requirements (e.g. direct, event-driven, continual, and tracked tasks).
- o Define specific tasks to a level of detail to allow the organization to understand and implement them.
- o Conduct a risk-based analysis of legal and regulatory requirements to guide task development and continual improvement.



## Privilege to Operate

- o Confirm that each applicable requirement identified in the legal and regulatory compliance matrix is satisfied, regardless of its level of risk
- o Include the following in training programs for personnel assigned compliance tasks:
  - Compliance awareness workshops
  - Instruction on tasks and related operational controls

- 2.1.4 Establish and implement operational controls needed to accomplish the identified compliance tasks to meet applicable legal and regulatory HSSE requirements.

### Recommendations

- o Identify existing operational controls, such as standard operating procedures, that are related to compliance requirements.
- o Use a risk-based approach to evaluate and plan development of operational controls.
- o Standardize local operational controls where appropriate.
- o Communicate to operations personnel which operational controls are linked to a legal or regulatory requirement.
- o Employ a document control process to manage legal and regulatory compliance document-based operational controls.
- o Evaluate and modify existing operational controls to adjust to new compliance requirements before creating additional controls.
- o Designate a competent team (i.e. line management and SMEs) to assign accountabilities.
- o Seek legal advice as necessary to clarify the appropriate assignment of accountability.
- o Include compliance responsibilities in performance contracts and routine performance reviews.
- o Align accountabilities for task completion with operational roles.

### Tool

Maximo  
<http://epapps.bpweb.bp.com>

- 7.1.5 Assign and document accountabilities for the identified compliance tasks to meet applicable legal and regulatory HSSE requirements, and communicate these to the accountable individuals.

**Recommendations**

- Develop and maintain a compliance matrix that shows the relationships between applicable regulatory and other legal requirements, compliance tasks, operational controls, accountabilities and completion evidence.
- Review periodically the status of task completion.
- Provide timely notice of upcoming tasks to the person or role accountable for completing the task.

- 7.1.6 Verify completion of the identified compliance tasks to meet applicable legal and regulatory HSSE requirements, report and investigate instances of non-compliance and take action to prevent recurrence.

**Recommendations**

- Develop and document KPIs to measure compliance performance
  - Build KPIs by measuring inputs (e.g. tasks scheduled) and outputs (e.g. tasks completed) from the compliance matrix.
- Monitor the following compliance KPIs:
  - Notice of Violations (NOV) or other enforcement notices by regulatory authorities
  - Permit exceedances
  - Percentage of planned operational control revisions completed on time
  - Percentage of compliance tasks completed on time

**Tool**

OpenTalk

<http://cpentalk.bpweb.bp.com>

## Privilege to Operate

- 7.1.7 Implement and maintain a program for verifying compliance with other (non-HSSE) legal and regulatory requirements.
- 7.1.8 Communicate to the workforce the existence and importance of these compliance programs.

---

*These documents contain requirements for this sub-element:*

Code of Conduct – Trade restrictions, export controls and boycott laws  
– Dealing with governments  
– Protecting BP's assets  
– Intellectual property and copyright of others  
– Confidentiality  
RROS Resources and Reserves Operating Standard  
Global Document (including e-Document) Management Policy  
Privacy and Data Protection Policy

*This document contains recommendations for this sub-element:*

GRP 7.1-0001 HSSE Regulatory Compliance



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## 7.2 Community and Stakeholder Relationships

**Principle:** BP entities act to enhance their reputation with key stakeholders as a neighbor, partner, employer and investment of choice, and engage key stakeholders on the issues that affect them.

- 7.2.1 Identify key communities and stakeholders involved in or affected by its operating activities and designate accountabilities for managing the relationships with them.
- 7.2.2 Build relationships with identified key communities and stakeholders through early engagement, listening and responding to their expectations and concerns about its operations, projects and products.
- 7.2.3 Record external commitments made by the entity to the identified key communities and stakeholders and take action with respect to these commitments.
- 7.2.4 Establish and implement a process to receive communications from key communities and stakeholders and document responses.
- 7.2.5 Identify and manage the environmental, health and social impacts of changes to operating activities on key communities and stakeholders.

---

*These documents contain requirements for this sub-element:*

Code of Conduct – Community engagement  
– External communications



## Privilege to Operate

### 7.3 Social Responsibility

**Principle:** BP entities deliver responsible operations conforming to BP Requirements and seek to have a positive influence on the communities in which they operate.

- 
- 7.3.1 Identify whether there are social responsibility issues associated with their operating activities, and manage the associated impacts.

## 7.4 Customer Focus

**Principle:** BP entities develop and maintain transparent, sustainable BP customer relationships.

- 7.4.1 Manage BP customer relationships consistent with the entity business strategy and annual plan.
- 7.4.2 Implement and maintain a process to make relevant members of the workforce aware of the importance of maintaining BP customer relationships.
- 7.4.3 Implement and maintain a process to receive and respond to BP customer feedback on HSSE, service and quality issues.
- 7.4.4 Implement and maintain a process for managing or assuring all BP supervised activities involved in the safe transportation, storage and delivery of products to BP customers.

## Privilege to Operate

### 7.5 Product Stewardship

**Principle:** BP entities manage products throughout their lifecycle to satisfy legal and regulatory requirements and communicate potential HSSE impacts of products.

- 7.5.1 Maintain a register of products, and systematically assess them for HSSE hazards and risks and the legal and regulatory HSSE requirements applicable to BP in relation to the products from development through to end-user for anticipated conditions of storage and use, and reassess when changes occur.
- 7.5.2 Inform the workforce, BP's customers and other identified stakeholders about the relevant identified HSSE hazards and risks relating to products through the provision of material safety data sheets, warning labels or other communication media.
- 7.5.3 Implement and maintain a process to record, investigate and learn from product related HSSE effects and incidents reported to BP by other parties.
- 7.5.4 Implement and maintain a product recall procedure and emergency response procedure for product-related HSSE effects and incidents reported to BP by other parties. Exercise the procedures at defined intervals.
- 7.5.5 At defined intervals assess, document, and implement opportunities that are consistent with the entity business strategy, to replace chemical constituents or products that may present a significant risk to health or the environment, with chemical constituents or products that may present a lesser risk.



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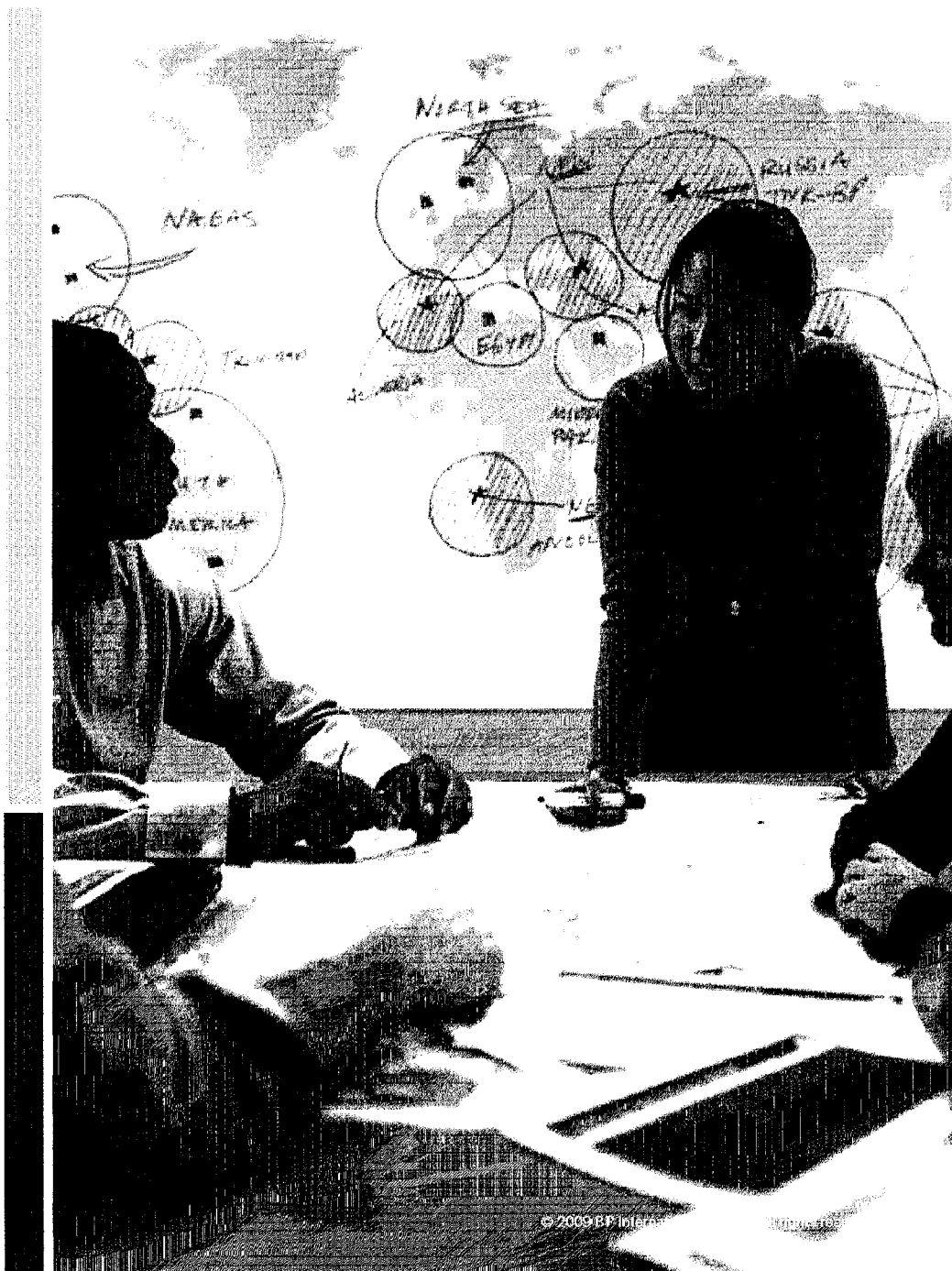
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# Results

**Principle:** Measurement is used to understand and sustain performance.

- 8.1 Metrics and Reporting
- 8.2 Assessment and Audit
- 8.3 Performance Review
- 8.4 Budget Management

## Results

### 8.1 Metrics and Reporting

**Principle:** BP entities establish metrics to monitor and report delivery of business and operating targets and to promote continuous improvement.

- 8.1.1** Use leading and lagging indicators to monitor progress against the objectives and targets in the annual plan.

#### **Recommendations**

- Define local business reporting requirements, including indicator purpose, frequency, person accountable, recipient and data gathering process.
- Use trending to evaluate progress and to drive continuous improvement.
- Communicate progress towards targets per the reporting process.

#### **Tools**

PEI Toolkit  
<http://epsegmentcommonprocess.bpweb.bp.com/Default.aspx?tabid=139>  
Tr@ction  
<http://traction.bpweb.bp.com>  
Maximo  
<http://epapps.bpweb.bp.com>

#### **Examples**

Data Warehouse, IPMS, MIDAS (Financial/Accounting Programs)  
<http://epapps.bpweb.bp.com>  
Andean SPU HSE Trending  
Andean SPU HSE Reporting Mapping  
IFPcp Suite of KPIs  
PEIcp Suite of KPIs



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- 8.1.2 Provide employee access to performance indicator information to support delivery of the annual plan.

**Recommendations**

- Identify appropriate metrics to be accessible to the organization.
- Appoint SPA for managing communication of metrics within the local business.
- Establish communication mechanism and feedback loop for discussing the metrics with the workforce.

**Tool**

Business Objects  
<http://epapps.bpweb.bp.com>

**Examples**

NAG SPU Plan and Performance Tracking  
<http://nagas.bpweb.bp.com/Default.aspx?tabid=946>  
NAG SPU HSE Plan and Performance Reports  
[http://ousbahse.bpweb.bp.com/10%20hse\\_performance/hse\\_perf.htm](http://ousbahse.bpweb.bp.com/10%20hse_performance/hse_perf.htm)  
Andean SPU Operations Scorecard  
Alaskan SPU Weekly HSE Report  
Alaska SPU S&O Scorecard

- 8.1.3 Report operating performance data in accordance with BP.

*These documents contain requirements for this sub-element:*

GCM                      Group Internal Control over Financial Reporting Manual  
Finance                What You Must Report and When  
Code of Conduct – Accurate and complete data, records, reporting and  
                                 accounting

## Results

### 8.2 Assessment and Audit

**Principle:** BP entities perform assessments and audits of operating performance and management processes to assure compliance with legal and BP Requirements, and drive risk reduction and performance improvement.

- 8.2.1 Implement and maintain a risk-based internal self-assessment program to monitor that operating activities are being carried out in accordance with the local OMS; this shall include auditing of procedures and processes to validate they are operating as intended
  - 8.2.1.1 Include leaders in the monitoring of operating activities through systematic self-verification, and in the follow-up of corrective actions.
  - 8.2.1.2 Define and document the key competencies required for team members participating in self-assessments, according to the type of self-assessment.

#### **Recommendations**

- When determining competency for assessment team leads, take into consideration experience, training, knowledge of regulatory requirements, previous experience and accreditation where relevant.
- Share self-assessment and audit findings with the personnel assessed/audited.
- Define and implement a program of internal and external assessments and audits, to include the following:
  - Regulatory compliance audits
  - Assessments and audits against BP Requirements

- Assessments and audits against OMS implementation
- Any other assessment as deemed necessary by the business or operation based on risk or trends
- o Establish the frequency of assessments based on health, safety, environmental and operations risk assessments, regulatory and other relevant authority feedback, findings from previous self-assessments and lessons learned from HSE trends and internal and external incidents
- o Define and communicate to site leadership the scope of each self-assessment/audit
- o Define assessment and audit reporting levels commensurate with risk.
- o Incorporate pre-audit, audit, post-audit, and report preparation and follow-up phases in each assessment and audit, as appropriate.
- o Update the assessment and audit schedule at least annually, based on identified risks.
- o Identify for the organization those audits and assessments that are mandatory for regulatory compliance.

#### **Tools**

BMcp Self Assessment Tool  
Depletion Planning Quality Assurance Tool

#### **Examples**

NAG SPU HSE Audit and Assessment Guidelines  
S&O Audit Terms of Reference  
<http://safetyandoperations.bpweb.bp.com/SandOaudit/>  
GoM SPU HSSE/EMS Audit Plan

#### **8.2.2 Plan and prepare for audits by Group S&O as per the S&O audit program.**

##### **Recommendations**

- o Communicate audit protocol to participating personnel, emphasizing the need to provide complete information during the audit.
- o Assign a single point of contact to coordinate the audit.  
Responsibilities include:
  - Provide and maintain communications between the business being audited and the auditing team.
  - Coordinate logistics for the audit
  - Collate and provide information as required by S&O audit team.
  - Verify that the audit team complies with local HSE requirements during field verifications.

## Results

- 8.2.3 Identify and implement corrective actions with due dates for completion to address the findings of these self-assessments and audits, and track to completion.

### **Recommendations**

- *Maintain records of the results from assessments and audits.*
- *Assign a responsible local party to verify that agreed-upon actions arising from group S&O audits are closed.*
- *Confirm that responsible parties agree on the scope and completion criteria required to complete of corrective actions.*
- *Document action deferrals to maintain records and audit trails for action changes.*
- *Where a finding requires a longer-term solution (i.e. more than 12 months):*
  - *Implement actions to mitigate risks in the short term.*
  - *Integrate longer-term corrective actions into annual and five-year business plans.*

- 8.2.4 Assess at defined intervals the results from self-assessments and audits to identify trends, emerging risks, opportunities to improve risk reduction measures and identify local OMS improvement opportunities.

## 8.3 Performance Review

**Principle:** BP entities use the results of assessments and audits, as well as inputs from other internal learning activities, to periodically review the continued adequacy and appropriateness of the existing local OMS and drive systematic improvements in performance.

- 8.3.1 Conduct formal documented Management Reviews at least annually of the local OMS to determine its effectiveness in delivering continuous risk reduction and performance improvement across the Elements of Operating.
- 8.3.2 Implement and maintain a process to revise the local OMS with learnings identified at Management Reviews and in response to updates to Group, Segment and SPU requirements.
- 8.3.3 Track to completion improvement action items resulting from Management Reviews, reporting overdue action items to entity management at defined intervals.

## Results

### 8.4 Budget Management

**Principle:** BP entities operate safely and profitably, planning and managing financial and human resources consistent with the annual plan, and to deliver operating performance.

- 8.4.1 Develop the annual budget to provide resources to deliver the activities in the annual plan.
- 8.4.2 Monitor and control costs and record reasons for any variances against the annual budget. Report to the budget approver new or changing risks which may cause significant variances.

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*This document contains requirements for this sub element:*

Code of Conduct – Accurate and complete data, records, reporting and accounting



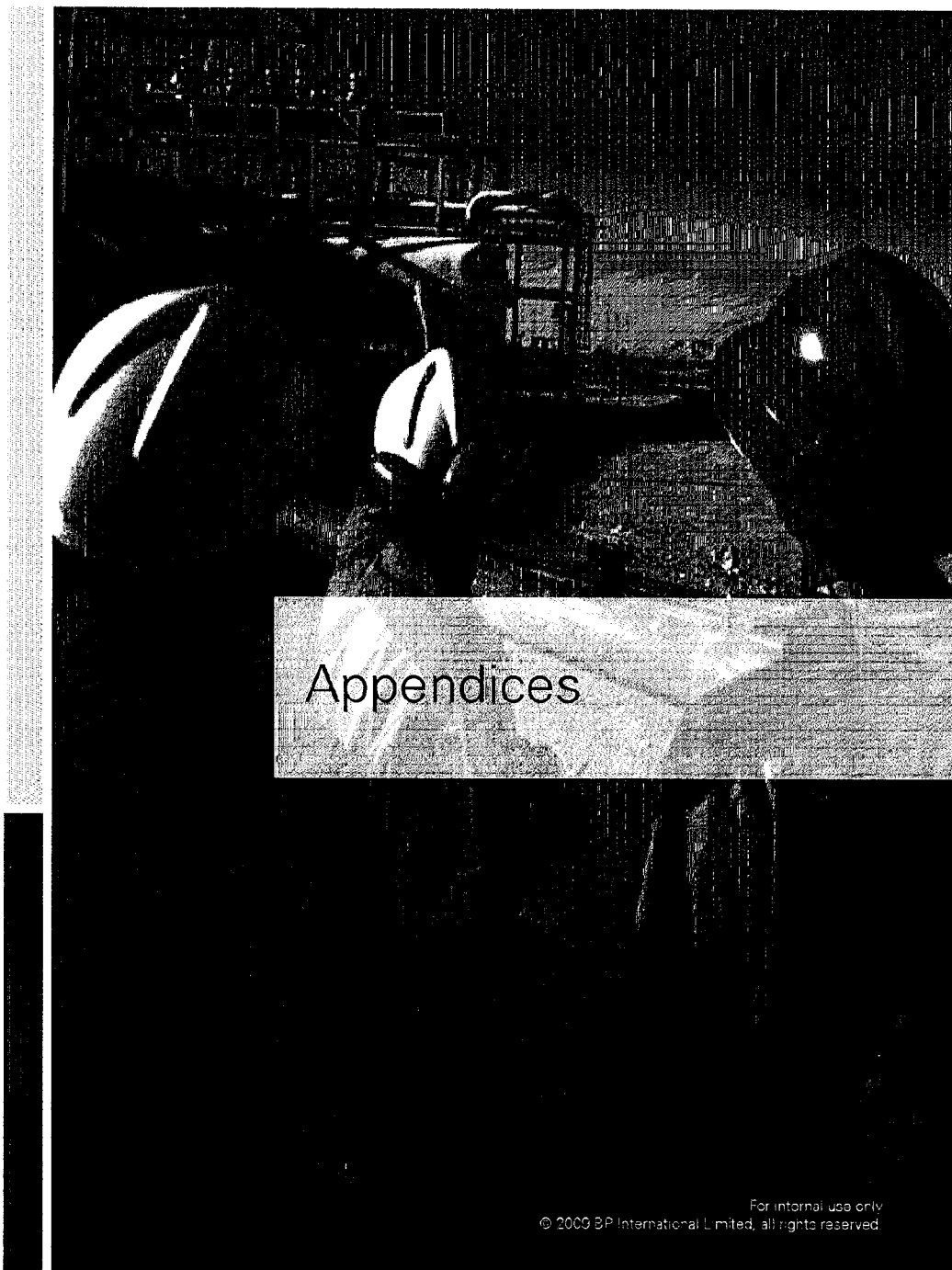
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## Appendices

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## Appendix 1

### E&P Segment Common Processes

Common Processes	OMS Sub-element	Linked Sub-elements
Major Projects (SDP)	5.1 Project Management 5.2 Design and Construction	2.5 Working with Contractors 3.3 Process Safety 4.6 Crisis and Continuity Management and Emergency Response 5.5 Decommissioning and Remediation
Beyond the Best (SRP)	5.1 Project Management	1.3 Planning and Controls 2.4 Organizational Learning 6.4 Quality Assurance 8.1 Metrics and Reporting
Opportunity Progression (SRP)	1.2 Operating Strategy	1.3 Planning and Controls
Base Management (SRP)	1.3 Planning and Controls	5.3 Asset Operations 6.1 Plant Optimization
Integrated Field Planning (SRP)	1.3 Planning and Controls 6.1 Plant Optimization	1.1 Operating Leaders 1.5 Accountability 1.6 Communication and Engagement
Production Efficiency Improvement (SRP)	6.1 Plant Optimization	2.4 Organizational Learning 8.1 Metrics and Reporting 8.2 Assessment and Audit 8.3 Performance Review
Exploration (SRP)	1.2 Operating Strategy	—
Supplier Performance Management (Guidance)	2.5 Working with Contractors	6.6 Procurement 6.7 Materials Management

## Abbreviations

<b>ACGIH</b>	American Conference of Governmental Industrial Hygienists	<b>GIAAP</b>	Group Investment Assurance and Approvals Process
<b>AIHA</b>	American Industrial Hygiene Association	<b>GoM</b>	Gulf of Mexico SPU
<b>API</b>	American Petroleum Institute	<b>GP</b>	Group Practice
<b>BCP</b>	Business Continuity Planning	<b>GRM</b>	Group Reporting Manual
<b>BLEVE</b>	Boiling Liquid Expanding Vapor Explosion	<b>GRP</b>	Group Recommended Practice
<b>BM</b>	Base Management	<b>HAZID</b>	Hazard Identification
<b>BtB</b>	Beyond the Best	<b>HAZOP</b>	Hazard and Operability Study
<b>BTC</b>	Baku-Tbilisi-Ceyhan	<b>HIPO</b>	High Potential Incident
<b>CCPS</b>	Center for Chemical Process Safety	<b>HR</b>	Human Resources
<b>CI</b>	Continuous Improvement	<b>HSE</b>	Health, Safety and Environment
<b>CMAS-ican</b>	Competence Management Assurance System	<b>HSSE</b>	Health, Safety, Security and Environment
<b>CMS</b>	Common Maintenance Strategy	<b>IEC</b>	International Electrotechnical Commission
<b>COSHH</b>	Control of Substances Hazardous to Health	<b>IFP</b>	Integrated Field Planning
<b>CoW</b>	Control of Work	<b>IH</b>	Industrial Hygiene
<b>cp</b>	E&P Segment Common Process	<b>IM</b>	Integrity Management
<b>CVP-TAR</b>	Capital Value Process for Turnarounds	<b>IP</b>	Institute of Petroleum
<b>DSS</b>	Digital Security Standard	<b>ISD</b>	Inherently Safer Design
<b>DWOP</b>	Drilling and Well Operations Practice	<b>ISO</b>	International Organization for Standardization
<b>E&amp;P</b>	Exploration & Production Segment	<b>IT</b>	Information Technology
<b>EA</b>	Engineering Authority	<b>JSIA</b>	Job Safety and Environmental Analysis
<b>ELT</b>	Extended Leadership Team	<b>KPI</b>	Key Performance Indicator
<b>eMoC</b>	Electronic MoC Program	<b>LOMS</b>	Local OMS
<b>EMS</b>	Environmental Management System	<b>LOP</b>	Layer of Protection
<b>ENVIID</b>	Environmental Issues Identification	<b>LT</b>	Leadership Team
<b>ERNP</b>	Environmental Requirements for New Projects	<b>MIA</b>	Major Incident Announcement
<b>ERP</b>	Emergency Response Plan	<b>MMS</b>	Maintenance Management System
<b>ESMP</b>	Equipment Specific Maintenance Plan	<b>MoC</b>	Management of Change
<b>ETP</b>	Engineering Technical Practice	<b>MPcp</b>	Major Projects Common Process
<b>GAT</b>	Gap Assessment Tool	<b>NAG</b>	North American Gas SPU
<b>GDP</b>	Group Defined Practice	<b>NORM</b>	Naturally Occurring Radioactive Material
<b>gHSEr</b>	getting HSE right	<b>ODR</b>	Operator Driven Reliability
		<b>OE</b>	Operations Excellence
		<b>OEL</b>	Occupational Exposure Level
		<b>OGP/IMECA</b>	Oil and Gas Producers/International Petroleum Industry Environmental Conservation Association

## Appendix 2

<b>OMS</b>	Operating Management System	<b>SOP</b>	Standard Operating Procedure
<b>OP</b>	Opportunity Progression	<b>SPA</b>	Single Point Accountable
<b>P&amp;ID</b>	Piping and Instrumentation Diagram	<b>SPM</b>	Supplier Performance Management
<b>PAS</b>	People Assurance Survey	<b>SPU</b>	Strategic Performance Unit
<b>PdM</b>	Predictive Maintenance	<b>SRP</b>	Segment Recommended Practice
<b>PEI</b>	Production Efficiency Improvement	<b>STOP</b>	Safety Training Observation Program
<b>PHA</b>	Process Hazard Analysis	<b>STP</b>	Site Technical Practice
<b>PIC</b>	Performance Improvement Cycle	<b>TA</b>	Technical Authority
<b>PIM</b>	Preventative Maintenance	<b>TAR</b>	Turnaround
<b>POB</b>	Personnel on Board	<b>TLV</b>	Threshold Limit Value
<b>PSCM</b>	Procurement & Supply Chain Management	<b>ToR</b>	Terms of Reference
<b>PSSR</b>	Pre-Startup Safety Review	<b>UK H&amp;SE</b>	UK Health & Safety Executive
<b>PSV</b>	Pressure Safety Valve	<b>US NIOSH</b>	US National Institute for Occupational Safety and Health
<b>PTW</b>	Permit to Work	<b>US OSHA</b>	US Occupational Safety and Health Administration
<b>PU</b>	Performance Unit	<b>WEEL</b>	Workplace Environmental Exposure Limit
<b>QA/QC</b>	Quality Assurance/Quality Control	<b>WMS</b>	Work Management System
<b>RBI</b>	Risk Based Inspection		
<b>RCA/CLC</b>	Root Cause Analysis/Comprehensive List of Causes		
<b>RCFA</b>	Root Cause Failure Analysis		
<b>RCM</b>	Reliability Centered Maintenance		
<b>RFA</b>	Request for Action		
<b>RM</b>	Remediation Management		
<b>RP</b>	Recommended Practice		
<b>RROS</b>	Resources and Reserves Operating Standard		
<b>S&amp;O</b>	Safety & Operations		
<b>SCE</b>	Safety Critical Equipment		
<b>SDP</b>	Segment Defined Practice		
<b>SEG</b>	Similarly Exposed Groups		
<b>SIRP</b>	Safe Isolation and Reinstatement of Plant		
<b>SIS</b>	Security of Information Standard		
<b>SIS</b>	Safety Instrumented Systems		
<b>SME</b>	Subject Matter Expert		
<b>SOC</b>	Safety Observations & Conversations		
<b>SOL</b>	Safe Operating Limit		

## Glossary of Terms

### A

**Activity** – a specific action or pursuit.

**Aircraft** – fixed wing, rotary wing and lighter-than-air vehicles capable of flight.

**Annual Plan** – the documented outcome of the annual planning process each part of the business uses to address risks, performance delivery and performance improvement opportunities and allocate resources and budgets accordingly.

**Antecedent – Behavior – Consequence (ABC) Analysis** – a technique for understanding why people intentionally behave as they do, and identifying how to change this type of behavior for another desired behavior.

**Assess** – to consider and make a judgment upon.

**Asset** – any item of physical equipment or plant; a value-generating resource, activity or project, including sub-surface reservoirs, wells, facilities and export systems.

**Assurance** – a guarantee, giving certainty.

**Auditing** – a formal or official examination and verification.

**Authority** – a position that has the power to make a judgment; an individual cited or appealed to as an expert who has specific accountabilities within their role.

**Availability** – a measure of the number of hours/days for which a unit/plant is available to run, normally expressed as a percentage.

### B

**BP Business** – any activity performed to meet BP's business needs as defined by "work-related" under the US OSHA record-keeping requirements.

**BP Commitment to Health, Safety and Environmental Performance** – a document approved by the BP Group Chief Executive officer describing BP's HSE goals and commitments to HSE performance.

**BP Company** – a company in the BP Group, or a company or other legal entity where BP has operational control.

**BP Employee** – a person employed by a BP Company.

**BP Job Representative** – a person who has been assigned accountability on behalf of BP to interface with the contractor over fulfillment of its responsibilities under the contract.

**BP Operations** – Business Units, projects, facilities, sites and operations that are operated by BP.

**BP Premises** – any site, location, vehicle or vessel that is owned or operated by or for a BP Company.

**BP Project** – a project wholly owned and operated by BP or where BP has operational control.

**BP Requirements** – the total of the requirements created within the five Bolts (Code of Conduct, OMS, HR, IT&S, Finance). Each one of the Bolts is a set of consistent principles and processes that bind the Group together.

**BP Workforce** – BP employees and contractors and their subcontractors.

**Business Processes** – activities undertaken to achieve a specific business outcome

BP

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## Appendix 3

**Chartering** – contractual arrangements for the hire of a marine vessel or aircraft for use on a single or multiple journeys, or for a set period of time for the carriage or storage of petrochemicals, hydrocarbons and other goods or the carriage or accommodation of people.

**Common Maintenance Strategy (CMS)** – a set of measurable elements and sustaining processes used to develop a common approach to maintenance management.

**Competency** – the ability to perform a task in the correct manner with the correct understanding and reasoning behind the task.

**Competent Person** – a person who has the professional qualifications, technical skills, knowledge, understanding, experience and personal qualities (attributes, attitude and aptitude) which enable them to: (1) carry out their assigned duties at the level of responsibility allocated to them to meet a required standard; (2) understand foreseeable hazards related to the task(s) or equipment under consideration; (3) detect and recognize any technical defects or omissions in that task or equipment and recognize any HSE implications caused by those defects or omissions; (4) specify remedial actions necessary to mitigate those HSE implications.

**Compliance** – meeting the requirements of applicable laws and regulations.

**Compliance Tasks** – specific action(s) required to meet the identified legal requirement.

**Condition Monitoring (surveillance monitoring)** – the ongoing surveillance of a process and its associated equipment to detect abnormalities indicative of an impending failure or that the equipment has already failed.

**Confidential** – information of which the disclosure, modification, misuse, or destruction, could be significantly prejudicial to the interests of BP businesses and functions or their employees.

**Secret** – information of high value or sensitivity, the disclosure or misuse of which could cause serious damage to the interests of BP businesses and functions and which needs to be restricted to a small number of specifically-identified individuals.

**Confined Space** – an enclosed or partially enclosed space that is large enough for personnel to enter, has limited or restricted means of entry, and is not designed for normal or continuous occupancy.

**Confirm** – to support or establish the certainty or validity of; verify.

**Conformance** – meeting the requirements of BP Standards and Practices.

**Consequence** – a measure of the expected effects of an incident should it occur.

**Continuous Improvement** – doing better as a result of regular, consistent efforts rather than episodic or step-wise changes, producing tangible positive improvements either in performance, efficiency or both (Center of Chemical Process Safety).

**Contract** – a legally binding agreement between two or more parties.

**Contractor** – an individual under a contractual relationship to supply BP or one of its subsidiary companies with goods and/or services.

**Contractor Employee** – an individual who works for a contractor.

**Contractor Workforce** – those individuals who work for contractors, including subcontractors.

**Control** – a mechanism used to regulate a physical process or activity.

**Controlled Documents** – documents, records and information that are required to maintain safe, responsible and reliable operating activity. These could include but are not limited to procedures and practices, technical studies, drawings, P&IDs, models, processes, hazard lists, and technical design and operations data, medical, occupational exposure and compliance-related records.



## Glossary of Terms

**Control of Work (CoW)** – a formal process for managing risk. See GDP 4.5–0001 CoW.

**Critical Equipment** – equipment that must be in operation in order to maintain operational capability in terms of safety, environment, and production.

### D

**Defect** – a condition that causes deviation from design or expected performance.

**Decommissioning** – a formal process to remove something from active status.

**Documented Risk Assessment** – a formal risk assessment supported by written evidence.

**Drugs and Alcohol** – includes alcohol, controlled substances, drugs and other medication which is capable of affecting performance or judgment.

### E

**Elements of Operating** – describe operating in BP. Includes the eight elements of Leadership, Organization, Risk, Procedures, Assets, Optimization, Privilege to Operate, and Results.

**Employees** – people directly employed by a company. These can be BP employees if working directly for BP or contractor employees if working directly for a contractor.

**Engineering Authority** – as described in GDP 5.0–0001 Integrity Management.

**Entity or BP Entity** – an organizational unit within BP which may be a Performance Unit, Business Unit, Strategic Performance Unit, Segment or some logical sub-group of one of these, defined by the Segment, Function or Region.

**Entity Business Strategy** – a multi-year (typically five) look ahead identifying key business risks and opportunities, outlining the actions needed to address them and estimating resource needs.

**Entity Level Risk(s)** – as described in GDP 3.1–0001 Assessment, Prioritization and Management of Risk.

**Equipment Specific Maintenance Plan (ESMP)** – a technique used to develop an optimized proactive maintenance program to meet predetermined facility reliability and availability goals.

**Event** – the occurrence of a particular set of circumstances.

**Environmental Aspects** – elements of activities, products and services which can interact with the environment, including air emissions, water discharges, solid and liquid waste, energy consumption, and noise.

**Environmental Impact** – any change to the environment, positive or negative, that wholly or partially results from BP's activities, products or services.

### F

**Facility** – a portion of or complete plant, unit, site, complex, or any combination thereof, for the purpose of exploration, drilling, production, storage or transportation.

**Failure** – an item of equipment has suffered a failure when it is no longer capable of fulfilling one or more of its intended functions.

**Failure Modes and Effects Analysis (FMEA)** – an assessment of the common types of equipment failure and the corresponding effects of these failures on safety, environment, production, and operator response.

## Appendix 3

**Fatigued** – state of tiredness that is associated with long hours of work, prolonged periods without sleep, or the requirement to work when the individual would normally be resting.

**Fit for Service** – the current condition of a piece of equipment that is capable of operating at defined operating conditions for a defined operating period.

**Fitness for Task** – fitness of persons to perform specific tasks that have been identified as carrying risks that could harm the health and safety of themselves, others or the integrity and safety of the operations.

**Floating Production, and/or Storage Unit** – any type of floating structure, system or platform specifically designed to drill, produce and/or process oil and/or gas, and store it until the oil or gas can be offloaded onto waiting tankers, or sent through a pipeline.

**Floating Structure** – the structure involved in the maintenance of global strength, stability and watertight integrity, and/or the integrity of bulk hydrocarbon/petrochemical storage within a vessel, unit or floating platform.

**Frequency** – the number of occurrences of an event per unit of time.

**Formal** – a process or agreement that is written, recorded and audited.

### G

**Gap Assessment Tool (GAT)** – a Group-developed tool for entities to identify and prioritize gaps against the Group Essentials statements.

**Ground Disturbance** – work that involves a man-made cut, cavity, trench or depression formed by earth removal, or driving piles into the earth surface, any indentation, interruption or intrusion in the earth's surface as a result of work being carried out.

**Group Defined Practice (GDP)** – the Group mandatory practices defining engineering and operating Group requirements, primarily focused on identifying, prioritizing and managing risk.

**Group Recommended Practice (GRP)** – Group engineering and operating practices containing recommended practices that entities are encouraged to use to deliver the Group Essentials.

**Group Essentials** – a consolidated list of BP Group requirements categorized against OMS sub-elements.

**Guideline** – suggestions to help design and implement the requirements.

### H

**Handover** – the detailed review of an operating unit's status, condition and ongoing work.

**Hazard and Operability Analysis (HAZOP)** – the systematic, qualitative approach for hazard identification that uses a structured questioning method to identify hazards and operability problems.

**Hazard** – a condition or practice with the potential to cause harm to people, the environment, property or BP's reputation.

**Hazard Evaluation** – the analysis of the significance of hazards associated with a process or operation.

**Hazardous Materials** – any solid, liquid or gas that can harm people, other living organisms, property, or the environment.

**Health Surveillance** – the systematic monitoring of employees exposed to certain health risks for early signs of biological changes that could indicate damaging exposure to work-related health risks.

## Glossary of Terms

**High Potential (HIPO) Incident** – an incident or near miss, including a security incident, where the most serious probable outcome is a Major Incident.

**High Value Learning** – learning which results from internal or external incident investigation, analysis of events that may impact the Group's Operating Management System or may be applicable to the whole of BP.

**Higher Risk Countries** – countries where specific additional requirements will apply (based on higher risk countries identified by World Health Organization in 2004, and subject to regular review).

**Hopper Process** – a process of generating forward view improvement opportunities

**Human Factors** – the interaction of people with one another, equipment and facilities, the work environment, and their organization and management; environmental, organizational and job factors, and human and individual characteristics, which influence behavior at work in a way which can affect health and safety.

**Human Machine Interface (HMI)** – a boundary across which information is transmitted between a process and a person.

**Impact** – loss or harm to people, the environment, compliance status, Group reputation, assets or business performance if an event should occur.

**Implement** – put in place a plan, process or procedure and act in accordance with it.

**Incident** – an unplanned event or sequence of events that results in undesirable consequences (e.g. the loss of containment of material or energy).

**Joint Venture (JV)** – a partial ownership of an asset agreement between BP and one or more other companies. Degree of control of the asset is usually determined by the percent ownership.

**Key Performance Indicator (KPI)** – a metric for measuring and reporting on performance or progress on achieving a goal.

**Layer of Protection Analysis (LOPA)** – a semi-quantitative method to evaluate the effectiveness of independent protection layers in reducing the likelihood or severity of an undesirable event.

**Layers of Protection** – risk reduction measures taken to intervene against the hazards of a process.

**Leading and Lagging Indicators** – metrics used to measure and/or monitor performance. Leading indicators measure the inputs leading to an outcome, and lagging indicators measure the actual outcome.

**Legal and Regulatory Requirements** – obligations established by applicable legislation, regulation, administrative order, consent decree, contract or any other instrument enforceable by a court of law in the relevant jurisdiction.

**Legal and Regulatory HSSE Requirements** – those legal and regulatory requirements relating to health, safety, security and/or the environment.



## Appendix 3

**Lifecycle** – the total period, from initial design and construction through to decommissioning and site remediation, during which a facility, or an asset within a facility, exists.

**Lifecycle Cost** – the total cost of an item (ownership, operation and maintenance) throughout its life, including design, manufacture, operation, maintenance and disposal.

**Likelihood** – a measure of the expected probability or frequency of occurrence of an event.

**Local OMS Handbook** – a document describing the local OMS for an operating entity. (See also OMS Framework Part 4.)



**Maintenance** – any activity performed on an asset to assure that the asset continues to perform its intended functions, or to repair the equipment.

**Major Accident** – an incident with the potential for:

- Three or more fatalities, and/or
- Major damage to the environment, leading to a potentially serious adverse societal reaction (GP 48–50 Major Accident Risk Process provides further explanation and detail.)

**Major Incident** – an incident, including a security incident, involving any one of the following:

- A fatality associated with BP operations
- Multiple serious injuries
- Significant adverse reaction from authorities, media, NGOs or the general public
- Cost of accidental damage exceeding US \$500,000
- Oil spill of more than 100 barrels, or less if at a sensitive location (1 barrel = 159 litres = 42 US gallons)
- Multiple serious injuries

**Major Operating Site** – a site or grouping of sites that produce or manage petroleum, chemical, or manufactured products where such products, their production processes, or their exploration processes have the potential to cause significant impact on the environment or the safety and health of employees, neighbors, or consumers. Group S&O Function maintains and publishes a list of Major Operating Sites.

**Management of Change (MoC)** – a formal method to manage and control changes within an organization.

**Management Review** – a formal, documented process followed out by an entity leadership team to review the effectiveness of the entity local OMS, and to identify, implement and sustain improvements.

**Management System** – the framework of processes and procedures used to assure that an organization can fulfill tasks required to achieve its objectives.

**Marine Activity** – the procurement, chartering or contracting, selection, inspection, approval, vessel operation, commercial operation, scheduling, design, construction, commissioning, and/or disposal of marine vessels (but excluding the "mission systems," e.g. diving systems on diving vessels) and the floating structure or marine systems of a floating production and/or storage unit and the operation of, and equipment associated with, the ship-to-shore interface of marine terminals including single-buoy or single-point moorings.

**Marine Systems** – systems used in conjunction with marine activity. (See also GRP 5.6–0001 Marine Operation.)

**Maximo** – a computer maintenance management system (CMMS) provided by MFO.

**"May"** – used where alternatives are equally acceptable.

**Medical Confidential** – the ethical principle or legal right that information relating to a patient will not be shared and will be kept safe by health professionals, unless the patient gives consent permitting disclosure.



## Glossary of Terms

**Mitigation** – an action or event which prevents or minimizes the effects of an incident or condition.

**Monitoring** – the routine function of regular inspections conducted by a responsible and competent person.

**"Must"** – is used where a provision is a statutory requirement.

### N

**Near miss** – an undesired event that, under slightly different circumstances, could have resulted in harm to people, damage to environment or property, or loss to process.

**Non-compliance** – the failure or refusal to align with the specification of a law, regulations, or term of a contract.

**Non-conformance** – not meeting the stated standard, used within BP in the context of BP internal requirements and defined/recommended practices.

### O

**Occupational Exposure Limit (OEL)** – the maximum average occupational parameters (e.g. air concentration, noise) to which most workers can be exposed for an 8-hour work day, 40-hour work week for a working lifetime without experiencing significant adverse health effects.

**Operating** – forms of business activity that are involved in managing Projects and Operations including but not limited to aspects of Engineering, Marine and HSE activities.

**Operating Management System (OMS) Framework** – a control process that describes the BP Elements of Operating, Performance Improvement Cycle, and the requirement for development of a local OMS at each BP operating entity.

**Operating Procedure** – a step-by-step set of instructions that enable a competent person to accomplish a task safely.

**Operational Control** – a procedure, physical control, checklist, employee competency, or other means of controlling operations to drive completion of compliance obligations as specified.

### P

**Performance Improvement Cycle (PIC)** – the annual systematic improvement process applied at each entity based on the Plan/Do/Check/Act cycle, but with intent and Risk Assessment and Prioritization steps added at the start of the process.

**Performance Indicator** – a standard which represents how well a process, activity, or function is achieving its intended purpose.

**Permit** – a formal and detailed document containing location, time, equipment to be serviced, hazard identification, mitigation/precaution measures used, identifying persons authorizing the work and who is performing the work.

**Permit To Work (PTW)** – written permission for specific work activities to be conducted within a specific area and for a designated time period.

**Personal Development Plan (PDP)** – a tool to help employees plan their personal development and establish an action plan to help them achieve their career objectives.

**Policy** – a set of principles set by the company (BP) with which personnel must comply.



## Appendix 3

**Predictive Maintenance (PdM)** – use of measured physical parameters against known engineering limits for detecting, analyzing, and correcting equipment problems before a failure

**Preventive Maintenance (PM)** – a maintenance activity performed at predetermined intervals and intended to reduce the likelihood of a functional failure.

**Principle** – a high-level statement summarizing the intent of each Element and sub-element of Operating. Principles are used by members of the operating community to guide judgments and support decision-making, especially in the absence of any specific Group or Segment requirement.

**Probability** – the expression for the likelihood of occurrence of an event during an interval of time.

**Procedure** – a detailed document that sets out sequential or parallel actions which are to be followed by those engaged in executing an activity.

**Process** – a detailed description of a management system or a production operation.

**Process Safety Information** – information that might be used to aid in the understanding of the hazards of a facility, including P&IDs, control information, equipment design data, process limits, materials of construction, safety system design, MSDS and relief design basis data.

**Production Critical Equipment** – equipment where failure results in immediate loss of production.

**Production Variance** – the difference between planned and actual production.

**Psychosocial Factors** – factors that may affect employees' psychological response to their work and workplace conditions (including working relations).

### Q

**Quality Assurance (QA)** – the plans, standards and methods that assure satisfactory work quality.

**Quality Control (QC)** – the actions that assure acceptable quality.

### R

**Recommendations** – suggestions to help design and implement requirements.

**Remediation** – a process of returning sites to a suitable condition for positive reuse, or to decommission them in the most cost-effective manner possible.

**Regulation** – a rule adopted by a federal or state government executive branch agency, based on and carrying out a law.

**Reliability** – the probability that equipment, machinery or a system will perform its required function satisfactorily under specific conditions within a certain time period.

**Reliability Centered Maintenance (RCM)** – the optimization of maintenance intervention and tactics to meet predetermined reliability goals.

**Repair** – the restoration of an item to an acceptable condition by the renewal, replacement, or mending of worn or damaged parts.

**Risk** – a measure of loss/harm to people, the environment, compliance status, Group reputation, assets or business performance in terms of the product or the probability of an event occurring and the magnitude of its impact.

**Risk Assessment** – formal and informal techniques used to identify health, safety, and environmental hazards and to develop controls to minimize, mitigate and/or eliminate them.

**Risk Based Inspection (RBI)** – a methodology that uses risk analysis to optimize the management of inspection programs for fixed equipment and piping.

## Glossary of Terms

**Risk Management** – the process by which the results of a risk assessment are used to make decisions regarding risk reduction strategies.

**Risk Reduction Measures** – measures and actions taken to reduce risk or prevent an incident occurring, and/or control its impact or frequency, and/or mitigate its effect on people, the environment, or our business.

**Risk Register** – a document that identifies hazards and risks relating to the operating activity of the entity. It will detail the impact and probability of risks and identify plant, process, people and performance risk reduction measures to manage the risks.

**Roles** – the documented description of personnel functions within a management structure.

**Root Cause Failure Analysis (RCFA)** – a study of failures to analyze root causes, develop improvements and eliminate or reduce the recurrence of these failures.

**Safe Operating Limit (SOL)** – the safe upper or lower process limit within which a process must be operated to prevent an uncontrolled release, leading to a hazard situation.

**Safe Operating Envelope** – the boundaries described by the upper and lower safe operating limits. These safe operating limits are the limits above (or below) which it is considered unknown or unsafe to operate.

**Safety Critical Equipment (SCE)** – equipment whose failure could result in a significant impact on safety.

**Segment Defined Practice (SDP)** – specific business processes or practices mandated to deliver the Segment Essentials.

**Segment Recommended Practice (SRP)** – those Engineering, Technical and Operating (including Marine, HSE and Project) Practices which provide Segment recommendations as to how the Segment Essentials should be delivered.

**"Shall"** – used where a provision is mandatory.

**Shortfall** – planned or unplanned operating losses that cause market or sales contractual nominations to not be met.

**"Should"** – used where a provision is preferred.

**Sub-Element** – the sub-elements of the Elements of Operating that provide a more detailed list of operating activities.

**Subcontractor** – an individual or company hired by a contractor to perform a specific task as part of the overall work scope.

**Subject Matter Expert (SME)** – an acknowledged expert in a particular field.

**Supplier** – any firm that provides people, material, service or equipment.

**Task** – an activity in support of a piece of work.

**Talent Acquisition System (TAS)** – an Internet-based system for advertising and applying for vacant BP positions.

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## Appendix 3

**Technical Authority (TA)** – a person with an empowered role and responsibility to make decisions affecting technical integrity within a specific scope or nominated area.

**Time Weighted Average (TWA)** – the average concentration a person may receive of a known substance over a given amount of time.

**Training** – the teaching of a person to a desired degree of proficiency in some activity or skill.

**Threshold Value Limit (TVL)** – the amount of a material that a person may be subjected to at any time, usually expressed as STEL (Short Term Exposure Limit) or TWA (Time Weighted Average).

**Turnaround (TAR)** – a period of time during which a plant, department, process or asset is removed from service specifically for maintenance, usually referring to unsparred assets or processes that affect the production rate.

**Vehicle** – a collective term for motorized vehicles, including heavy vehicles, light vehicles, motorcycles and mobile plants.

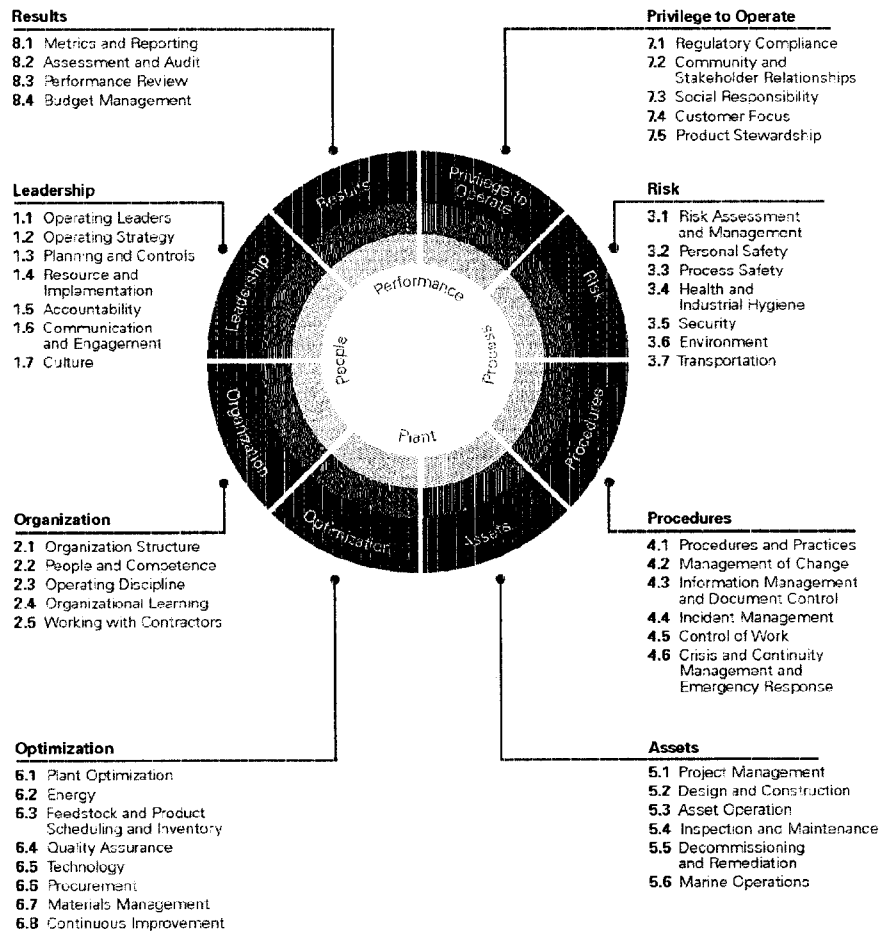
**Virtual Training Assistant (VTA)** – a computer-based training site which assigns and tracks various training items to employees.

**Workforce** – BP and contractor employees working at a BP entity.

**Work Management System (WMS)** – a system developed, deployed and sustained for improving work management processes, reducing costs and increasing the efficiency and safety of operations.



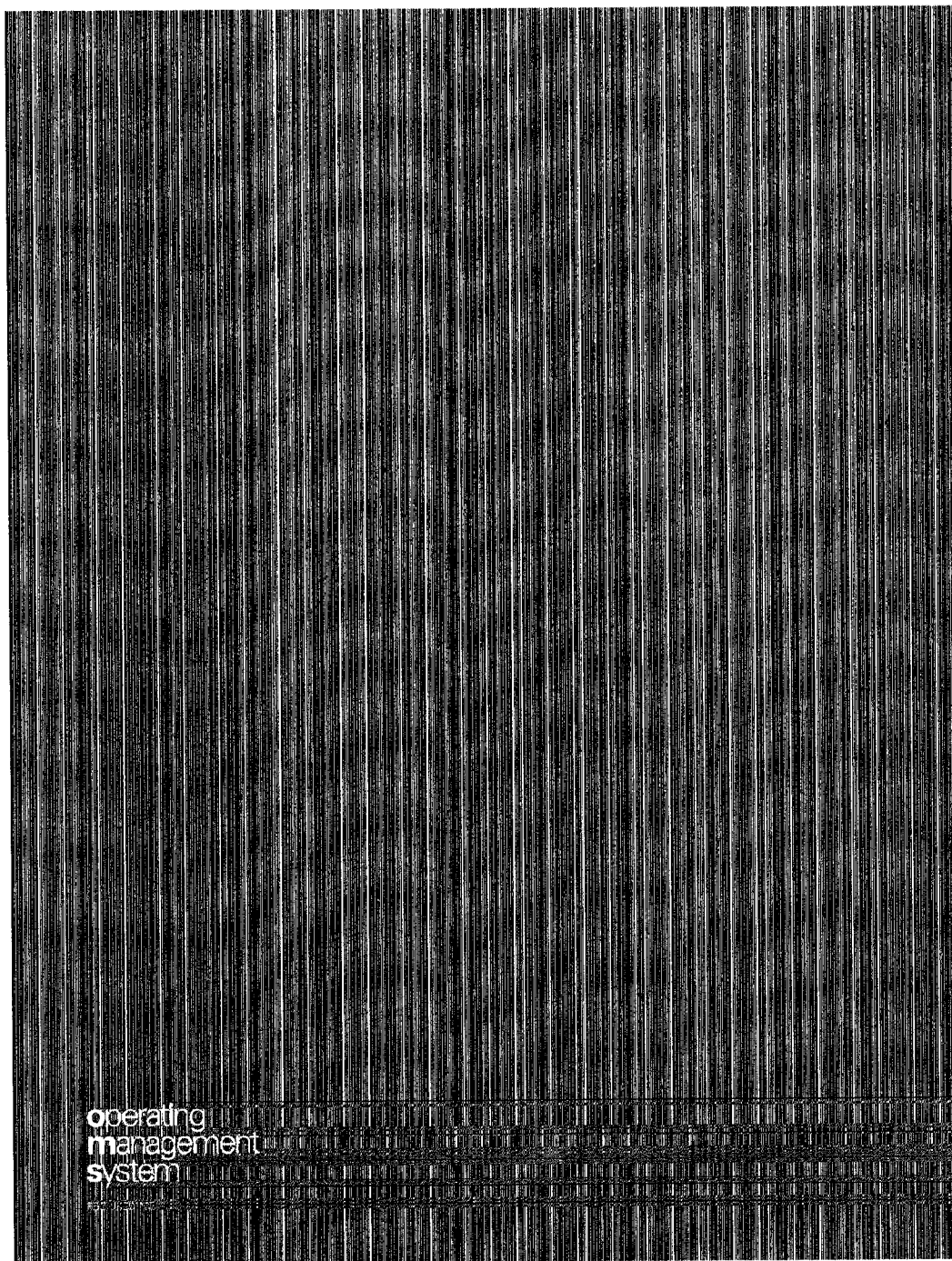
## OMS Elements of Operating and Sub-Elements



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