



## **SAFETY AND ENVIRONMENTAL INFORMATION**

## 1.0 Purpose

This element identifies the required Safety and Environmental Information for its Safety and Environmental Management System (SEMS) Program and applies to all Petsec operations on Petsec properties. Petsec Management is responsible for collecting, developing and/or maintaining (safe-keeping) this Information for all of its facilities operating under this SEMS Program.

## 2.0 Process

Petsec Management requires safety and environmental information be developed and maintained for all of its OCS facilities; information compiled for satellites (unmanned platforms) is usually maintained on the field's manned (main) platform for the life of the facility. Petsec does not have backup information on most of these documents. Hazards Analyses are used in determining the extent and detail of the information required and retained for the time period required.

### 2.1 Process Design Information

The Process Design Information for each facility is reviewed and analyzed during the Hazards Analysis by operations and safety and compliance personnel and their designees to determine if any aspects of the process contained any critical defects that could result in injuries to personnel, peril to the environment and/or damage to the equipment or facilities if a deviation occurred; see **Attachment A, Safety and Environmental Information Inventory**. Below is the review and analysis conducted to ensure compliance:

<b>NOTE</b>	<b>The simplified <i>Process Flow Diagram, Upper and Lower Limits, Relief Valve</i> information, S.A.F.E. Charts and Layout Drawings are submitted to and approved by BOEMRE prior to commissioning the production facility. Updates are subsequently submitted to and approved by the BOEMRE as they occur.</b>
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2.1.1 **Simplified Process Flow Diagram** (drawing) contained design flow rates, fluid properties (gravities), temperatures, pressures, flows, composition and other items relative to the production process: relief, vent and drain systems; controllers and control valves; manual valves; flow safety valves; pressure safety valves; and safety devices. The drawing also shows PSV set points, MAWP ratings for vessels and piping, compressors and other process and non-process components and equipment.

<b>NOTE</b>	<b>One diagram can be maintained at the main facility for one or more "similar, nearly identical" facilities.</b>
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- 2.1.2 **S.A.F.E. Charts** for the production process and ESD/Fire Loop Safety Systems are reviewed and compared to API RP 14C (latest edition) to determine that the S.A.F.E. Chart is accurate, indicating the safety systems provide satisfactory protection on each facility.
- 2.1.3 **Layout drawings** (process, utility, life support, quarters, buildings, risers, escape routes, evacuation equipment replacement, and fire and blast walls, as applicable) are compared to the physical layout of the platform and the placement of personnel protective equipment found on the facility. Periodic inspections are conducted during the hazards analysis and each facility is modified to ensure compliance with current regulations, standards and practices.
- 2.1.4 **Acceptable Upper and Lower Limits** for each component (in the production process) are reviewed for pressure, temperature, flow and/or composition and found to be within specifications.
- 2.1.5 **Relief Valve** characteristics and specifications are reviewed and analyzed during the hazards analysis and engineering review to verify that all combinations of high pressure deviations could be contained and/or controlled if an usual event occurred.
- 2.1.6 **Process Design Materials** are reviewed by engineers to verify that the material used in the construction of the equipment and interconnecting piping are adequate and suitable for the flow of products found on each facility.
- 2.1.7 **API RP 14J**, *Recommended Practice for Design and Hazards Analysis for Offshore Production Facilities* (latest edition).

<b>NOTE</b>	<b>Safety and environmental information fo0r “similar” facilities can be maintained at the main facility in lieu or information for each facility.</b>
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## 2.2 Mechanical Design Information

The Mechanical Design Information for each facility was reviewed and analyzed during the Hazards Analysis by operations, engineering and safety and compliance personnel and/or their designees to determine if any aspects of the construction/fabrication had any critical defects that could result in injuries to personnel, peril to the environment and/or damage to the equipment or facilities if a deviation occurred. Below is the extent of the review and analysis conducted to ensure compliance:

<b>NOTE</b>	<b><i>Pipe and Instruments, Electrical Area Classifications, Production Equipment Arrangements and Isometrics Drawings</i> are generated according to API RP 14J and are submitted to and approved by BOEMRE prior to commissioning the production facility. Updates are subsequently submitted to and approved by the BOEMRE as they occur.</b>
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- 2.2.1 **Pipe and Instrument Drawings** are reviewed during the Hazards Analysis process to verify the integrity of the mechanical and facility design information, the development of operating procedures and the discussion of the process hazard analysis (PHA).
- 2.2.2 **Electrical Area Classification Drawings** (when available) are reviewed for each component to determine and verify that all of the components are properly classified.
- 2.2.3 **Production Equipment Arrangement Drawings** are compared to the actual placement of equipment on the facility (including the Station Bill) to verify the drawings are accurate.
- 2.2.4 **Isometric Drawings** (design basis for relief system) are reviewed and analyzed (when available) during the hazards analysis process for flow of hydrocarbons through each component, maximum pressure rating (MPR) for each well, characteristics and properties of the produced gas, well shut-in pressures, platform operating culture, shutdown hierarchy and hazard mitigation culture.
- 2.2.5 **Design drawings** as required by the respective industry codes, guides and standards for the facility, with considerations given to the human factor identified from existing facilities.
- 2.2.6 Information on the following systems is reviewed to assure the information matches the equipment. The Systems (and related equipment) are also inspected to ensure they are functional, their function tests are properly documented and personnel are being trained:
- Alarm, Shutdown and Interlock System.
  - Well Control System.
  - Corrosion Detection and Prevention System.
  - Sand Production and Prevention System.
  - Piping System.
  - Relief and Vent System.
  - Emergency Shutdown System.
  - Emergency Evacuation Safety Equipment.
- 2.2.7 The following **Plans and Programs** are checked to assure they are current, that all personnel assigned to the facility are properly trained and the training is properly documented.
- Emergency Evacuation Plan.
  - Oil Spill Contingency Plan.
  - Hurricane Evacuation Plan.
  - Subpart "O" Training Plan
  - Simultaneous Operations

### 2.3 SEMS Program Implementation Information

The SEMS Program Implementation Information provides the basis for implementing all of the SEMS elements. The Lead Operator is responsible for ensuring the following information is available for inspection:

- Hazards Analysis (PHA) for each facility.
- Job Safety and Environmental Analysis (JSEA) Policy and Procedure.
- Management Of Change (MOC) Policy and Procedure.
- Operating Procedures for required production activities.
- Safe Work Practices for contract personnel.
- Contractor Selection process.
- Mechanical Integrity (MI) Program (used to prevent or mitigate uncontrolled releases of hydrocarbons, toxic substances and other materials).
- Pre-Startup Review relative to the commissioning process.
- Emergency Response and Control Plans.
- Incident Reporting and Investigation of Incidents Policy and Procedure.
- Audit protocol regarding the SEMS Program.
- Recordkeeping and Documentation process for SEMS.

<b>NOTE</b>	<b>Common documentation of simple or nearly identical facilities within the safe area is allowed by SEMS as long as the site-specific differences are addressed in similar information.</b>
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2.4 **Industry Codes, Guides and Standards** provide the guidelines for all activity related to Safety and Environmental Information, including the fabrication and construction performed prior to installation and on-going activities after installation. These documents continue to be referenced by engineers during the design and construction stages, by maintenance personnel during the maintenance stage and by operations personnel during the operations stage (and during process hazards analysis). See list of Industry Codes, Guidelines and Standards in API RP 75.

<b>NOTE</b>	<b>Safety and Environmental Information is checked and documented when new facilities are constructed or existing facilities are acquired, according to the information presented in this element.</b>
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### 2.5 Procedure

An inventory of the documents required by this element is taken every year by the Facility PIC in conjunction with the Facility Review, to ensure the safety and environmental information is available for inspection. The Facility PIC (or designee):

2.5.1 Takes an inventory of the documents required by Safety and Environmental Information annually and record on Inventory Checklist.

- 2.5.2 Places information into SEMS files within 30 days of inventory.
- 2.5.3 If any items are missing, documents the findings on the Checklist as corrective action items and reports the discrepancies to Production Superintendent.
- 2.5.4 Mechanical and facility design must be consistent with consensus codes and standards in effect at the time the design was prepared, or in the absence of such codes and standards, recognized and generally accepted engineering practices as well as the applicable government regulations.
- 2.5.5 Where original process and mechanical design information no longer exists, information developed in conjunction with a hazards analysis and suitable equipment design information for intended use is verified and documented by the Facility PIC.

<b>NOTE</b>	<b>All non-compliance items must be updated using the MOC process.</b>
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### **3.0 Training**

- 3.1 Train all affected employees and contract personnel every five (5) years on the contents of this element; refer to Training element.
- 3.2 Train all affected, newly-hired employees and contract personnel within 30 days of hire date on the contents of this element; refer to Training element.
- 3.3 Train or inform affected employees of any changes to this element within 30 days after the element changes have been approved and completed.

### **4.0 Recordkeeping**

- 4.1 Copies of the Process Design Information for each facility are kept in the facility office. Updates are made as conditions require and/or documents are sent to BOEMRE as required.
- 4.2 Mechanical Design Information for each facility is kept in the main facility office and in the Lafayette office. Updates are made as conditions require and/or documents are sent to BOEMRE as required.
- 4.3 Safety and Environmental Information inventories are placed in the SEMS files by the Operations Technician / Regulatory within 30 days after completion.

### **5.0 Attachments**

- 5.1 Attachment A: Safety and Environmental Information Inventory

## Attachment A

# Safety and Environmental Information Inventory

This Inventory includes the Process Design Information and Mechanical Design Information required by the standard (30 CFR 250.1910). Conduct an inventory of the Information on the facility to determine whether or not it is in compliance. Once the information is collected, place it in a SEMS file (or suitable location) so that it be available for inspection and/or audit.

Information Item	Yes	No	NA
<b>Process Design Information:</b>			
• Simplified Process Flow Diagram.			
• S.A.F.E. Chart.			
• Layout Drawings: process, utility, life support, quarters, buildings, risers, escape routes, evacuation equipment replacement, and fire and blast walls. Circle all found; list others:			
• Acceptable Upper and Lower Limits (pressure, temperature, flow and composition).			
• Relief Valve (characteristics and specifications).			
• Process Design Material (documentation verifying material adequate and suitable).			
• Other documents, records or items found (list):			
<b>Mechanical Design Information:</b>			
• Pipe and Instrument Drawings.			
• Electrical Area Classification Drawings.			
• Production Equipment Arrangement Drawings.			
• Isometric Drawings (design basis for relief valves).			
• Systems (and related equipment): Alarm, Shutdown and Interlock System; Well Control System; Corrosion Detection and Prevention System; Sand Production and Prevention System; Piping System; Relief and Vent System; and Emergency Shutdown System. Circle all found; list others:			
• Plans and Programs: Emergency Evacuation Plan and Oil Spill Response Plan. Circle all found; list others:			
• Other documents, records or items found (list):			
<b>Comments:</b>			
Person taking inventory (Name)	Signature	Date	