Reducing Risk Offshore: Safe and Environmentally Responsible Operations

Lars Herbst, Gulf of Mexico OCS Region
Agenda

- About the Bureau of Safety and Environmental Enforcement
- Laws and Regulations
- BSEE’s Touch Points for Safety - Life Cycle of Exploration, Development and Production Project
- Lessons Learned and Integrated
- Technology and Looking toward the Future
About the Region

Gulf of Mexico OCS Region

Facts & Statistics:

LOCATIONS AND DISTRICTS:  5
New Orleans, Houma, Lafayette, Lake Charles, Lake Jackson, TX

EMPLOYEES:  417

DISCIPLINES: Petroleum Engineers, Structural Engineers, Geologists, Geophysicists, Inspectors, and Administrators
Drilling Rigs Working in U.S. Gulf of Mexico

Platform Rig = 15
Semi-submersible = 13
Jack-up rig = 19
Drillship = 23
Production Facilities

Shallow Water
Production Facilities
(less than 500 ft)

2528

Associated Miles of Regulated Pipelines – 26,123
Gulf of Mexico OCS Oil Production Total vs. Deepwater

Approximate Annual Production – 459 million barrels
Gulf of Mexico OCS Gas Production
Total vs. Deepwater

Approximate Annual Production – 1,328 trillion cubic feet
The Outer Continental Shelf Lands Act (OCSLA), created on August 7, 1953, defines the OCS as all submerged lands lying seaward of state coastal waters (3 miles offshore) which are under U.S. jurisdiction.

Under the OCSLA, the Secretary of the Interior is responsible for the administration of mineral exploration and development of the OCS.

The Act, as amended, provides guidelines for implementing an OCS oil and gas exploration and development program.
The Code of Federal Regulations (CFR) contains general and permanent rules. It is divided into 50 titles that represent broad areas subject to Federal regulation.

Regulations enforced by BSEE are contained in Title 30, Chapter II. Each title is divided into chapters and each chapter is further subdivided into parts and subparts that cover specific regulatory areas.
BSEE’s Touchpoints for Safety

**Permits**
- Drilling
  - Shallow hazards
  - Well and casing design
  - Well screening tool
  - Subsea containment plan
- Production
  - Completions and workovers
  - Structure design and Installation
  - Platform Verification Program
  - Production Safety System approvals

**Inspections**
- Drilling
  - Rig pre-spud inspections
  - BOP witnessing
  - Monthly inspections
  - Unannounced spill response drills
- Production
  - Pre-production Inspections
  - Annual inspections
  - Site-specific completions and workover inspections
  - Unannounced spill response drills
BSEE’s Touchpoints for Safety

Permits
- Pipelines
  - Pipeline design and installation
  - Repairs and modifications
- Decommissioning
  - Well abandonment
  - Structure removal plan approvals

Inspections
- Pipelines
  - Installation inspections
  - Repairs inspections
- Decommissioning
  - Well abandonment inspections
  - Site clearance surveys
  - On-site observer
Lessons Learned

From Deepwater Horizon

- **Drilling Safety Rule**
  - well bore integrity and well control equipment and procedures, including blowout preventers.
  - requirement for independent third-party inspection and certification of the proposed drilling process.
  - certification by Professional Engineer that blowout preventers meet new standards for testing and maintenance and are capable of severing the drill pipe under anticipated well pressures

- **Workplace Safety Rule**
  - Identification of hazards and the mitigation through hazards analysis and job safety analysis
  - Operator responsible for the management and implementation of SEMS on any facility whether operated by operator or contractor.
Lessons Learned, cont’d

From Deepwater Horizon

- Subsea Containment
  - Subsea containment capability demonstration
  - Well Containment Screening Tool

- Proposed Well Control rulemaking
  - Addresses systematic approach to all aspects of well control
  - Input was received from many stakeholders and interested parties
  - Opportunity for public comment through formal rulemaking process
As Technology Advances

- High Pressure High Temperature
- Dual Gradient Drilling/Managed Pressure Drilling
- Blowout Preventer advancements
- Subsea Well Intervention
- Subsea Decommissioning
As Technology Advances

Deepwater Operations Plan (DWOP)

- **30 CFR 250.287** - All projects in the Gulf of Mexico (GOM) using non-conventional production or completion technology require a Deepwater Operations Plan Subsea.

- **30 CFR 250.292** - New Technologies must be included in an operator’s DWOP application.
Looking to the Future

Program-wide Initiatives

- Inspections and Enforcement efforts
  - BOP test witnessing
  - Increased inspection force and helicopter fleet
- eInspections
- National Offshore Training Center
- Engineering Technology Assessment Center (ETAC)
Looking to the Future

- Increased drilling activity
  - Industry mastering enhanced information requirements for APDs
  - Increased coordination with USCG
Looking to the Future

Production Projects Start-ups

- Pre-production Inspections
- New and emerging technologies
  - Review of Deepwater Operation Plans (DWOPs)
- Decommissioning of subsea and deepwater structures, i.e. Spars & TLPs