California State Lands Commission

Safety and Pollution Prevention Program
10/7/14

Mineral Resources
Management Division
Responsibility

- 18 Drilling and Production Facilities
  - 4 offshore platforms
  - 5 man-made islands
  - 9 shoreline well sites
  - About 2000 active wells
    \( \text{(45,000 - 47,000 bopd est.)} \)
- 4 Onshore Processing Facilities
- 36 Offshore Pipelines
  - 18 Federal pipelines –
  - 10 State pipelines
Ventura / Santa Barbara Channel

- Platform Holly
- Ellwood Onshore Processing Facility
- Rincon Island
- Rincon onshore wells & onshore facility
- McGrath Montalvo onshore well areas
Long Beach / Huntington Beach

- Platform Esther
- Platform Eva
- Platform Emmy
- Huntington Beach Onshore
MRMD Operations & Compliance

◆ Inspection Program
  ◆ Pollution Surveillance
  ◆ Regulatory compliance
  ◆ Monthly testing verify reliability of safety systems

◆ Safety Audit Program
  ◆ Condition & maintenance
  ◆ Design compliance
  ◆ Safety Management Programs
  ◆ Spill Plans & Operating Manuals
  ◆ Safety Assessment of Management Systems (SAMS)
Safety & Spill Prevention Audit

Features

- Comprehensive on-site evaluation
- A progressive type inspection
- Provide comprehensive report
  - written recommendations
  - detailed list of action items
- Monitor correction of items
Safety & Spill Prevention Audit

Teams

- Facility condition assessment
  - Functional condition / fit for purpose
  - Adequacy of maintenance / records
- Facility safety system design review
  - Federal, State, and local codes
  - Industry standards and best practices
- Electrical
  - System condition
  - Power distribution design
  - Hazardous area classification
- Safety management programs
  - Operating personnel training & qual.
  - Management of change verified
Evolution of Safety Management

1970’s & 80’s
Prescriptive Regulations
Inspection Program

Improved engineering

1990’s thru 2000
Begin using Safety Audits
Encourage use of SEMP API RP 75
Safety Assessment of Management Systems (SAMS)

Improved HSEMS

2000 – current
Safety Audit Program
Safety Management Systems
Observe Safety Culture

Incorporation of Human Factors?

Rate of Incidents

Time

Source: Bradshaw ABS Consulting 2012
Complimentary Inspection & Safety Audit Programs

- **Facilities & Equipment**
  - Work space
  - Design
  - Maintenance
  - Physical characteristics
  - Reliability

- **People**
  - Human characteristics & behavior
  - (Physical and mental)
  - Fitness
  - Stress
  - Fatigue

- **Management Systems**
  - Management commitment
  - Incident investigation
  - Hazard identification
  - Risk assessment
  - Procedure
  - Training

Source: B. Poblete et al on human factors, 2002 & 2010
Characterizing Safety Culture

Increasing emphasis on safety by company

Source: DuPont Bradley Curve, DuPont website 2014
Results

- 8500 action items identified by Safety Audit Program have been resolved.
- Improved performance at monthly inspections
- Continued low incidence of spills
Observed Qualitative Results

- **Maintenance Improvements**
  - Better planned preventive maintenance
  - Infrastructure shows continuing improvement
  - Human Factors improvements like labelling
  - Recapitalization & improved design to lower risk
Observed Qualitative Results

- **Improved safety culture**
  - By inspectors and auditors
  - By (SAMS) Assessments
Conclusions:

- S&SP Audit has been a joint success between operators and CSLC.
- Since program start, significant expansion in number of wells and processing on platforms still ended in improved safety and spill rates.
- S&SP Audits verify that BAP is achieved on state offshore leases.
- California state offshore leases are operated by “world class” operators.