STATE OIL & GAS LEASE DRILLING, PRODUCTION, MEASUREMENT AND MARINE FACILITY REGULATIONS

Updating the
California State Lands Commission
Oil & Gas
Drilling & Production Regulations

Prevention First Symposium
October 23, 2012

Jeff Planck
Chief, MRMD Planning and Development

Introduction & History

* Most of the current regulations were adopted in 1980 as a response to the 1969 Blowout of a well on a federal platform in Santa Barbara.

* Those regulations were very comprehensive, and the bulk of those regulations will remain unchanged except to:
  * **Add clarification**
  * **Resolve ambiguities**
  * **Renumber and relocate to make more "user friendly"**
  * **Add definitions to clarify "policy" or context**

* Earlier attempts to update and consolidate the regulations with the DOGGR ended around 2002 due to lack of "joint powers" legislation authorizing the agencies to create "joint regulations"
* The forthcoming thorough update includes "lessons learned" from the world's oil spill disasters, including the most recent "Deep Horizon" incident in the Gulf of Mexico in 2010

STATE OIL & GAS LEASE DRILLING, PRODUCTION, MEASUREMENT AND MARINE FACILITY REGULATIONS

ARTICLE 3.1 GENERAL PROVISIONS: Article 3.1 contains the definitions, general administration and requirements for oil and gas operations on State leases and is applicable to, and incorporated by reference in, Articles 3.2, 3.3, 3.4, and 3.6.

§2125 Scope and Purpose.

* (c) To provide use of the **best achievable technology** and **best achievable protection** as required by the Lempert-Keene-Seastrand Oil Spill Prevention and Response Act of 1990. (aka "BAT/BAP")

STATE OIL & GAS LEASE DRILLING, PRODUCTION, MEASUREMENT AND MARINE FACILITY REGULATIONS

ARTICLE 3.1 GENERAL PROVISIONS

* **§2126 Definitions.**
  * (e) "Drilling Operation"
    * **includes well maintenance activities involving "sidetracking" and "re-drilling" of wells**
  * (j) **"Best Oilfield Practice"**
    * determined on a case by case basis
    * **good engineering practice standards**
  * (y) **"Well Stimulation"**
    * **such as acidizing and hydraulic fracturing**

STATE OIL & GAS LEASE DRILLING, PRODUCTION, MEASUREMENT AND MARINE FACILITY REGULATIONS

ARTICLE 3.1 GENERAL PROVISIONS

§2127.1 General

* (c) **Alternate methods, systems, or procedures**
  * **approved by staff**
  * **better** protection of life, health, safety, or the environment.

* (d) Operators affected by changes in these regulations will have **one year from the date of adoption of the regulations to comply** with any changes affecting their operation.

* (e) **Access**
  * staff access to all drilling and/or production facilities and operations
  * transportation to offshore facilities and keys or other means to enter secured facilities, shall be **provided by lessee or lessee's agent**

STATE OIL & GAS LEASE DRILLING, PRODUCTION, MEASUREMENT AND MARINE FACILITY REGULATIONS

ARTICLE 3.2 DRILLING, DEVELOPMENT, AND ABANDONMENT OPERATIONS

* **§2128.7 Casing Cementing Requirements**
  * (c) All casing shall be run with **sufficient centralizers** to provide adequate stand-off from the wellbore walls, especially in deviated wellbores. Prior to running casing, the mud shall be circulated at least one full annular volume in order to condition the hole.

STATE OIL & GAS LEASE DRILLING, PRODUCTION, MEASUREMENT AND MARINE FACILITY REGULATIONS

ARTICLE 3.2 DRILLING, DEVELOPMENT, AND ABANDONMENT OPERATIONS

- **§2128.11 Blowout Prevention Equipment Certification**
  - **(a) Blowout Preventer Certification Requirement**
    - **All** Blowout Preventers (BOPs) used for well control during drilling operations on all offshore wells and upland wells shall be certified . . . **by an independent third party**
    - This certification must be performed, and documentation provided, not more than 60 (sixty) days prior to commencing drilling operations on any offshore or upland wells under the jurisdiction of the Commission

STATE OIL & GAS LEASE DRILLING, PRODUCTION, MEASUREMENT AND MARINE FACILITY REGULATIONS

ARTICLE 3.2 DRILLING, DEVELOPMENT, AND ABANDONMENT OPERATIONS

- **§2128.11 Blowout Prevention Equipment Certification**
  - **(a) Blowout Preventer Certification Requirement**
    - For subsea BOP operations, the operator shall employ an **independent third party** conduct a **detailed physical inspection and design review** of the BOP.

ARTICLE 3.2 DRILLING, DEVELOPMENT, AND ABANDONMENT OPERATIONS

- **§2128.11 Blowout Prevention Equipment Certification**
  - **(b) Criteria and Qualification for Certification Agent**
    - The Operator is responsible to ensure that the BOP certification is conducted by an independent third party (Certifier).

ARTICLE 3.3. FACILITY OPERATIONS

- **§2131 Fixed Offshore Structures**
  - **Facility Design, Installation, and Engineering Standards:**
    - **All new fixed offshore structures and the equipment thereon**, . . .or. . . **major modifications**, that are structural or equipment changes that alter materially the existing design of the facility, . . . shall also be in conformance with the current engineering and industry standards for such structures (**API Recommended Practice 2 and 14 Series**).

ARTICLE 3.3. FACILITY OPERATIONS

* **§2131 Fixed Offshore Structures**
  * **(c)Periodic Inspection and Maintenance:**
    * (1) **Level I Survey** (as defined in API RP 2A) shall be **performed annually**
    * (3) A **written report shall be filed with staff within 30 days after the completion of an inspection** detailing inspection results.

ARTICLE 3.3. FACILITY OPERATIONS

* **§2131 Fixed Offshore Structures**
  * **(c)Periodic Inspection and Maintenance:**
    * (4) **A Level II survey shall be performed as per the API RP 2A guidelines**. In addition, a Level II survey may be required after direct exposure major environmental, upset, or impact events
    * (5) Level III or IV surveys may be required depending on the results of the Level II survey.

ARTICLE 3.3. FACILITY OPERATIONS

* **§2132 Production Facility Regulations**
  * Unless otherwise provided for in this section, the analysis, design, installation and testing of safety equipment, systems and procedures on offshore production facilities shall be **based upon the current API Recommended Practices (RP) 14 Series**.

ARTICLE 3.3. FACILITY OPERATIONS

- **§2132.1 Access and Inspection of Facilities**
  - **Staff shall be granted access to all facilities for any purpose**
  - If transportation to the facility is required (e.g. boat or helicopter), **the operator shall provide such transportation** at the time and place requested by staff.

ARTICLE 3.3. FACILITY OPERATIONS

* **§2132.3 Testing and Inspection of Systems Safety Devices**
  * (e) Drilling & Production **Facility Safety Audits. Every five years** staff may conduct a safety and pollution prevention audit of all facilities under the inspection jurisdiction of the Commission for compliance.
    * MAY include interviews with a cross section of operator and contract personnel, to evaluate maturity of organizational safety culture (Safety Analysis of Management Systems or "SAMS" report).

ARTICLE 3.3. FACILITY OPERATIONS

* **§2132.19 Hydrogen Sulfide Gas Detection and Precaution on Oil and Gas Facilities**
  * (a) Any production or processing facility that handles production known to contain hydrogen sulfide (H_2S) gas, which could potentially result in an atmospheric concentration of 10 ppm or greater, shall be equipped and maintained at a minimum in accordance with these regulations. . . . **Any time H_2S reaches or exceeds a level of 10 ppm in the operational area, the operator shall immediately notify staff.**

ARTICLE 3.4 POLLUTION PREVENTION

* **§2135 Surface Waste Disposal**
  * (b) **Disposal of production water or other fluids** (except as allowed in 2135(a) above), drilling or production equipment, cables, chains, containers, or other materials **into offshore waters is prohibited**.

This includes drilling fluids (mud).

ARTICLE 3.4 POLLUTION PREVENTION

- **§2141 Hydrogen Sulfide Release Prevention Measures**
  - (a) **Risk and Hazard Analysis**
    - (1) **Each facility shall conduct a Risk and Hazard Analysis** to identify the toxic gas hazards associated with the operation of the facility, including: operator error, procedural error, system design, equipment failure, and external events likely to cause a hydrogen sulfide release.

ARTICLE 3.4 POLLUTION PREVENTION

* **§2141 Hydrogen Sulfide Release Prevention Measures**
  * (a) **Risk and Hazard Analysis**
    * (3) The analysis shall look at the **history of the facility** for either the **ten (10) year period prior to the analysis**, or from the date the facility became operational, whichever is shorter. Within that period, all releases that resulted in a concentration of 20 ppm, or higher, in air at the source.

ARTICLE 3.4 POLLUTION PREVENTION

* **§2141 Hydrogen Sulfide Release Prevention Measures**
  * (b) **Off-Site Consequence Analysis.** For the significant hazards identified in the Risk and Hazard Analysis required under this section, the facility shall conduct an air dispersion analysis to determine the areal extent, concentration and magnitude of a hydrogen sulfide release to offsite public receptors. At a minimum, the analysis shall include the following:
    * (1) **A trajectory, or series of trajectories, to determine the potential direction, rate and time of travel of the reasonable worst case** hydrogen sulfide release from the facility to offsite receptors that may be impacted.

ARTICLE 3.4 POLLUTION PREVENTION

* **§2141 Hydrogen Sulfide Release Prevention Measures**
  * (c) **Resources at Risk** from hydrogen sulfide releases: . . . all areas that may be impacted need to be identified, and a map of the locations of these areas shall be provided, including the following:
    * (1) **A map of environmentally sensitive areas** including information on the presence of State or federally-listed rare, threatened or endangered species;
    * (2) **A map of those areas used by the public, denoting density, frequency, and age group of usage.**

ARTICLE 3.6. OPERATION MANUAL & EMERGENCY PLANNING*

* **§2175 Manual Content**
  * 4. Emergency operations **including emergency shutdown, isolation, bypassing and flagging, and startup following a turnaround, or after an emergency shutdown;**
  * 5. Safety and environmental consequences of **deviation from equipment operating limits and steps required to correct or avoid this deviation.**

*NOTE: Article 3.6 was added in 1993 as directed by the Oil Spill Prevention and Response Act of 1990

ARTICLE 3.6. OPERATION MANUAL & EMERGENCY PLANNING

* **§2175 Manual Content**
  * (5) Description of Operations:
    * (D) **Detailed information regarding preventive maintenance programs and procedures shall be provided.**

ARTICLE 3.6. OPERATION MANUAL & EMERGENCY PLANNING

* **§2175 Manual Content**
  * (5) Description of Operations:
    * **(G) Safe Work Practices to include:**
      * 1. Opening of equipment or piping
      * 2. Lockout and tagout of electrical and mechanical energy.
      * 3. Practices or a plan for hotwork, welding, or other work involving ignition sources
      * 4. Confined space entry
      * 5. Crane operations

Summary

* Bring regulations up to today's engineering and industry standards
* Provide BAT-BAP as required by statute

* Add some of the "lessons learned"
  * Macondo: BOPE Certification & Negative Pressure Test
  * Montara: Temporary Abandonments

* Add definitions and a better organization (more "user friendly")
* Eliminate ambiguity and incorporate "policy" to regulation