

**CALENDAR ITEM  
136**

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**CONSIDER THE SCOPE OF WORK FOR  
IMPLEMENTATION AND COMPLETION OF AN ENVIRONMENTAL  
PROTECTION AND FACILITY SAFETY AUDIT FOR THE  
LONG BEACH UNIT, WILMINGTON OIL FIELD,  
LOS ANGELES COUNTY**

**BACKGROUND:**

At its April 28, 2011 public meeting, pursuant to Chapter 941 of the Statutes of 1991 (Chapter 941) and the Agreement for Implementation of an Optimized Waterflood Program (OWPA), the California State Lands Commission (Commission) reviewed the Long Beach Unit Program Plan (July 1, 2011 through June 30, 2016) and determined that the Program Plan as a stand-alone document did not include sufficient detailed information on the safety and environmental programs for the Long Beach Unit to find that it does not involve any significant environmental or safety risk. Based upon this determination, the Commission by letter dated April 28, 2011 (Exhibit A, attached hereto) ordered the Long Beach Unit Program Plan to be revised to include an environmental and safety review and assessment of the Long Beach Unit operations to be completed within 15 months.

Further, the Commission directed staff to return to the Commission within 60 days with a detailed scope of the environmental and safety review and assessment, which, at a minimum, would include an identification and analysis of environmental and safety risks that could lead to potential human injury, an adverse environmental impact, or significant property damage, and recommendations to improve the operations and Program Plan to address any identified risks. The Commission also directed that the review and assessment be funded in a manner not to impact net revenues to the State's General Fund.

This calendar item presents the scope of the Environmental Protection and Facility Safety Audit (Exhibit B, attached hereto) recommended by Commission staff and reviewed with and agreed to by the City of Long Beach and Occidental Long Beach, Inc. (OLBI).

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The Mineral Resources Management Division (MRMD) conducts, as a component of its facility oversight and surveillance program, Safety and Oil Spill Prevention Audits of its Offshore Oil and Gas Lease platforms and related onshore facilities on a five year periodic basis, in accordance with industry guidelines and federal regulations for process safety management. The audits are a comprehensive evaluation of offshore platforms and supporting onshore facilities, which augments the ongoing Commission monthly facility inspection program. Audits consist of physical inspections and technical evaluations of systems, equipment, and programs that are impracticable to inspect on a monthly basis. The objective of the Safety and Oil Spill Prevention Audit (Safety Audit) program is to ensure that oil and gas production facilities are operated in a safe and environmentally sound manner and comply with federal, state and local codes, regulations, and permits governing facility operation and pollution prevention, as well as industry best practices and standards.

The value of these evaluations and the importance of the safety audit program itself are reinforced by the fact that nearly all State offshore drilling and production facilities were designed and installed over 45 years ago. The design standards used at that time, and the alarm and control equipment installed, have since been revised and upgraded. Many of the facilities have undergone major design changes to accommodate production expansions or new production and processing methods, and companies other than the original operator now operate all the facilities. In the last decade, facility audits have resulted in more than five thousand action items, all of which have been corrected or are in the process of being corrected. Correction of action items arising out of each Safety Audit represents a major achievement in improving safety and preventing pollution.

In 2002, Commission engineering staff completed a comprehensive facility safety audit of the Long Beach Unit as a condition of the Commission's approval of the contractor assignment from ARCO to Oxy Long Beach, Inc. Because that audit occurred nearly 10 years ago, Commission staff believes that another safety audit is timely and could provide further safety and environmental enhancements.

The Environmental Protection and Facility Safety Audit for the Long Beach Unit will be conducted by the six SLC Mineral Resources Management Division (MRMD) engineers, including the supervisor of the MRMD Safety Audit unit. It is anticipated that two personnel from the City of Long Beach and four personnel from OLBI will also participate, on a limited basis, to support or monitor the audit activities. The audit will cover five functional areas: Equipment Functionality and Integrity (EFI), Technical (TEC), Electrical (ELC), Administrative (ADM), and Human Factors (HF). An outside electrical consultant will need to be retained for

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the electrical portion of the audit. The MRMD staff will work as one team on some phases of the audit and will break into two or three teams for other parts of the audit in order to maximize efficiency. During the audit, the teams will work sequentially, simultaneously, or collaboratively as needed. A list of acronyms is provided at the end of the calendar item for convenience in understanding the terms and references used in the calendar item.

Throughout the Safety Audit, the MRMD teams will confer, as required, with points of contact in OLBI Operations, Engineering, Health and Safety, and Maintenance. City of Long Beach and OLBI representatives may participate as team members on each of the first four teams. An independent licensed Electrical Engineer with experience with oil and gas production facilities will be required to conduct the electrical portion of the Safety Audit. An OLBI company electrician will be required to provide access to panels and equipment for the Electrical Engineer's site work. Identification of appropriate points of contact and participants will be determined in advance during preparatory meetings.

Team activity at the islands and onshore facilities will be frequent during the initial stages of the audit. Review of the safety system design and other technical and plan evaluations and preparation of the final report will be conducted at MRMD offices in the later stages.

The work flow of the audit will generally take the following course. First the EFI team will check the Process and Instrumentation Diagrams (P&ID's) for the island and onshore facilities onsite for accuracy and currency. The P&ID's provide diagrams in schematic form of the arrangement and specifications of all vessels, tanks, piping, valves, and alarm and control sensors at each facility, and must be checked for accuracy before a technical evaluation of the adequacy of the pollution prevention alarm and control system can be conducted. Following onsite verification of the P&ID's, the TEC team will conduct a technical analysis of the pollution prevention alarm and control safeguards, including the Emergency Shutdown System (ESD), to verify its adequacy to prevent pollution and its compliance with applicable regulations and codes. Safety devices, controls, and detection sensors will be reviewed along with the logic, failsafe features, system installation, and design standard adherence. Issues identified by the EFI team will be researched and evaluated, including the design standards applied and material and equipment specifications. The EFI team will inspect the physical condition of vessels, tanks, piping, and other equipment during this phase, and any problems or maintenance needs will be recorded. The EFI team will also research equipment specifications, and maintenance and internal inspection records of tanks, vessels, piping, and other equipment to verify fitness for service and note maintenance or inspection needs. All safety systems and equipment, such as the firefighting system, gas detection, and other

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systems, will be thoroughly inspected in the field using checklists for maintenance, fitness, and compliance with appropriate standards. Spill response equipment will also be inspected and inventoried. Any problems found regarding conformance of operations with the various operations manuals, emergency response plans, operating procedures, and other required regulatory plans will be addressed and may be referred to the ADM team for further review. The ADM team will review and evaluate the Facility Operating Manual, the Spill Contingency Plan, maintenance programs, operator training and qualification programs, safe work practices, management of change, investigation of incidents, internal auditing, the use and updating of operating procedures, and other OLB I job safety and pollution prevention programs and note any discrepancies.

An outside electrical contractor will be employed for the ELC phase of the audit. The ELC team will evaluate the physical condition of the facility's electrical power distribution system, electrical equipment, electric or electronic controls, and the operation, state of maintenance, and fitness for service of these systems. The ELC team will review the electrical drawings, such as the one-line diagram of the electrical power distribution system and the hazardous area classification diagrams for compliance with the National Electrical Code.

The HF team typically conducts its work after completion of the field work and technical reviews and assessments of the EFI, TEC, and ADM teams. The HF team will conduct a Safety Assessment of Management Systems (SAMS) procedure, which assesses organizational safety culture, and the level of maturity of safety programs through a series of confidential interviews with a cross-section of operators, engineers, management, and contractors. A series of questions in seven areas of safety and pollution prevention management are discussed during the interviews. The HF team will prepare a confidential report considering all interview responses that ranks the relative strength and maturity of the organization in the seven safety culture areas. The ranking reveals the strengths and weaknesses in the corporate safety and pollution prevention programs. It is a tool that addresses human error factors and can be used to improve programs to reduce human error and improve safety culture.

Regularly scheduled monthly status meetings will be held to review the progress and results of the teams. These meetings will include updates on the action items identified during the safety audit. OLB I will be provided with a matrix of these items and may question or resolve any identified action items immediately.

The MRMD team will prepare a final report that will include the matrix of action items and their completion status. The final list of action items will be prioritized in three levels according to risk. Deadlines for completion of remedial actions vary

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from thirty days to six months according to risk category. The MRMD team will monitor progress towards resolution of these items during the ensuing clearance phase. Adequate completion of each action item is subject to on-site verification by MRMD staff before shifting an action to cleared status.

Total cost of the Environmental Protection and Facility Safety Audit is estimated to be 1.250 \$M. This includes 7.5 person-years over 15 months (\$1 million) from MRMD for on-site inspection and engineering, \$50 thousand for the SAMS audit and report, and \$200 thousand for the electrical contractor. The City of Long Beach and OLBI will provide documentation and support, but will not otherwise contribute to the performance of the audit. The costs identified do not include expenditures to correct audit findings.

<b>Element</b>	<b>Staff</b>	<b>Cost</b>	<b>Full/Part Time</b>	<b>Duration</b>	<b>Pers. Yrs.</b>
MRMD	6	\$1 million	FT	15 mos.	7.5 PY
Elect Contractor	2	\$200K	PT	15 mos.	0.67 PY
MRMD SAMS	6	\$50K	PT	1 mos.	0.3 PY
		(\$1.25 mil)			

MRMD staff and the cost of the electrical audit will be funded by the Oil Spill Prevention Administration Fund (OSPAF) which currently funds the Safety Audit Program. This charge is estimated at 1.250 \$M, and has no impact on the State General Fund. There are currently no anticipated costs to be deducted from Unit net profits that would reduce General Fund revenue. Expenditures that may occur to correct audit findings will be charged to the Unit as ordinary expense.

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The Environmental Protection and Facility Safety Audit process is an activity performed on all offshore oil production facilities on State leases, including onshore processing equipment that support these facilities, every five (5) years. The level of detail and overall structure of these audits is identical to that which will be conducted at the Long Beach Unit. Because of the large size and extent of facilities that make up the Long Beach Unit, approximately 15 months will be required to complete the audit.

The consequences of a pollution incident from an offshore platform, because of their physical exposure to open water, are potentially greater than those of the Long Beach Unit because of the Unit's great area of containment and similarity to a land based oil production operations. For this reason, offshore platform audits are given higher priority, and every attempt is made to conduct repeat audits on a five (5) year period.

In addition to daily monitoring presence by State Lands' inspectors and City of Long Beach inspectors, LBU activities are overseen by and require permits from a number of agencies, including the DOGGR, OSPR, AQMD, SWQCB, USCG, and the local fire department. Inspection of safety and spill response devices and equipment are conducted monthly by State Lands inspectors, who are joined on a quarterly basis by DOGGR inspectors. Flaring of natural gas and natural gas emissions control data are reported to the AQMD, and must comply with permitted volumes. OSPR requires the maintenance of specified spill response equipment and company and contracted response resources, which are tested with annual spill response drills. The Long Beach Fire Department conducts periodic inspections of fire control equipment. Although none of these activities approaches the scope of the Commission's MRMD safety audit, they do serve to ensure the reliability and effectiveness of the procedures and equipment that are currently required to be in place.

The Long Beach Unit audit will cause a delay in the audit return period for offshore platforms, most notably, Platform Holly in the Santa Barbara Channel, which has been scheduled for audit this summer. That audit, as well as all others on the current schedule, will be delayed approximately 15 months, as seen on the following audit schedule list.

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**Effect of Long Beach Unit Audit on Current Schedule**

<b>Facility</b>	<b>Company</b>	<b>Scheduled Start</b>	<b>Delayed State Due to LBU Audit</b>
Platform Holly	Venoco	08/01/2011	11/01/2012
Rincon Island	Greka	04/01/2012	07/01/2013
Rincon Onshore Facility	Greka	04/01/2012	07/01/2013
Platform Emmy	Aera	04/01/2013	09/01/2014
Huntington Beach Strip	Aera	04/01/2013	09/01/2014
Huntington Beach Onshore Facility	Aera	04/01/2013	09/01/2014
Platform Eva	DCOR	02/01/2014	05/01/2015
Platform Esther	DCOR	02/01/2014	05/01/2015
Fort Apache Onshore Facility	DCOR	02/01/2014	05/01/2015
McGrath/Montalvo	Venoco	02/01/2016	05/01/2017
Ellwood Onshore Facility	Venoco	02/01/2016	05/01/2017

MRMD staff believes that delaying the start of the Long Beach Unit safety audit for approximately five (5) months until after platform Holly is audited would be a prudent scheduling option. OLBI is scheduled to conduct a safety review of the Long Beach Unit operations in October 2011. The information obtained from their efforts would be made available for MRMD staff and could assist in expediting the safety and environmental review audit. With current ongoing

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safety audits at Venoco's Montalvo field facility and Venoco's Ellwood onshore processing facility nearing completion, the project start date for the Holly safety audit could begin in mid-July, 2011. The field audit activities on the platform would take place during mild summer weather, which should decrease the number of days lost to inclement weather. The Long Beach Unit safety audit would then begin by December 2011. Since the Long Beach Unit islands are located behind the Long Beach Harbor Breakwater, it is expected that less days would be lost to inclement weather. Because of the extensive oversight of the Long Beach Unit by numerous governmental entities, Staff does not believe that such a delay will cause undue safety risks at the Long Beach Unit operation. However, such a delay will mean that the audit of the Long Beach Unit would be delayed by several months.

**Table of Acronyms**

ADM	Administrative Team
AQMD	Air Quality Management District
CSLC	California State Lands Commission
DOGGR	Department of Oil, Gas & Geothermal Resources
EFI	Equipment Functionality and Integrity Team
ELC	Electrical Team
ESD	Emergency Shut Down
HF	Human Factors Team
LBU	Long Beach Unit
MRMD	Mineral Resources Management Division
OLBI	Occidental Long Beach, Inc
OSPR	Office of Spill Prevention and Response
OWPA	Optimized Waterflood Program Agreement
P&ID	Piping and Instrumentation Diagram
PY	Person Years
RWQCB	Regional Water Quality Control Board
SAMS	Safety Assessment of Management Systems
TEC	Technical Team
USCG	United States Coast Guard

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**OTHER PERTINENT INFORMATION:**

1. Pursuant to the Commission's delegation of authority and the State CEQA Guidelines [Title 14, California Code of Regulations, section 15060(c)(3)], the staff has determined that this activity is not subject to the provisions of CEQA because it is not a "project" as defined by CEQA and the State CEQA Guidelines.

Authority: Public Resources Code section 21065 and Title 14, California Code of Regulations, sections 15060(c)(3) and 15378.

**EXHIBITS:**

- A. Letter dated April 28, 2011 to City of Long Beach
- B. LBU Safety and Pollution Prevention Audit Scope
- C. LBU Safety and Pollution Prevention Audit Best Achievable Protection Criteria

**PERMIT STREAMLING ACT:**

N/A

**RECOMMENDED ACTION:**

It is recommended that the Commission:

**CEQA Findings:**

1. Find that this activity is not subject to the requirements of CEQA pursuant to Title 14, California Code of Regulations, section 15060(c)(3) because the activity is not a project as defined by Public Resources Code section 21065 and Title 14, California Code of Regulations, section 15378.

**AUTHORIZATION:**

1. Authorize and direct the staff of the California State Lands Commission to implement the Long Beach Unit Safety and Pollution Prevention Audit as proposed herein to begin as soon as possible after the conclusion of the Platform Holly Safety and Pollution Prevention Audit.