

# SANTA BARBARA COUNTY BOARD AGENDA LETTER



Clerk of the Board of Supervisors  
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## Agenda Number:

**Prepared on:** April 15, 1999  
**Department:** County Administrator  
**Budget Unit:**  
**Agenda Date:** April 27, 1999  
**Placement:** Departmental  
**Estimate Time:** Staff Presentation: 15 minutes  
Total Time: 1 hour  
**Continued Item:** YES  
**If Yes, date from:** August 25, 1998, September 15,  
1998, February 23, 1999, and  
April 20, 1999  
**Document File Name:** G:\Group\Energy\WP\Gavteam\  
Chevron\BS420.LTR

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**TO:** Board of Supervisors

**FROM:** Michael Brown  
County Administrator

### STAFF

**CONTACT:** County Administrator: Scott Ullery (x2243)  
P & D: Dianne Meester (x2520)  
OES: Mary Barron (x5532)  
Fire: Glenn Odell (x5554)

**SUBJECT:** **Follow-up Hearing on hydrogen sulfide (H<sub>2</sub>S) levels at the Chevron Gaviota Facility**

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### Recommendation(s):

That the Board of Supervisors:

Receive this report on follow-up items from the February 23, 1999 hearing, including the status of: 1) Completion of the Safety Audit Action Items; 2) Revision of Chevron's Emergency Response Plan; (3) Reduction in Staffing/ Emergency Response Drills, and (4) Reconfiguration project amendment to account for higher H<sub>2</sub>S levels; and receive a report on recent incidents at the Gaviota Facility.

### Alignment with Board Strategic Plan:

The recommendation is primarily aligned with Goal No. 2. Ensure the Public Health and Safety and Provide Essential Infrastructure.

## **Executive Summary and Discussion:**

### Background

Since the December 1, 1997 H<sub>2</sub>S release at the Point Arguello Facility, Chevron and the County addressed numerous safety concerns related to the plant and the pipeline. The results of this process were reported to your Board at three hearings, August 25, 1998, September 15, 1998 and February 23, 1999. At these hearings, the Board expressed concern over several safety issues including: 1) Chevron's timely completion of items identified in a safety audit of the facility performed in April 1998 by the System Safety Reliability Review Committee (SSRRC); 2) Completion of modifications to Chevron's Emergency Response Plan to eliminate ambiguity in rules for emergency response notification; 3) Reduction in staffing at the Gaviota Facility and the subsequent failure of Chevron staff to perform adequately on an after-hours emergency response drill; and 4) Violation of the reconfiguration project permit due to higher than anticipated levels of H<sub>2</sub>S at the Gaviota Facility and in the PANGL Gas Pipeline.

At the hearing in February of this year, the Board expressed concern about these outstanding items. In response, Chevron agreed to the following: 1) To increase staffing on all shifts to a minimum of four operators; 2) To revise the Notification Guide in accordance with the Guidance Matrix for Emergency Incident Transition; 3) To revise the Emergency Response Plan to reflect changes in the reconfigured operations of the Point Arguello Gaviota Plant and Pipeline; 4) To submit an application by March 1, 1999 for a revision to the reconfiguration project permit to address the higher concentrations of H<sub>2</sub>S in the Gaviota Plant and Pipeline; and 5) To complete the outstanding Gaviota Facility Safety Audit action items by specified due dates. Each issue is discussed in further detail below. In addition, two incidents occurred at the plant over the last two months. A short discussion of these incidents is provided at the end of this report.

### Safety Audit

The safety audit of the Chevron Point Arguello Facility, conducted in April 1998 by members of the System Safety and Reliability Review Committee (SSRRC), identified a number of items that required action or attention from Chevron. With the implementation of the reconfiguration project, some of these required items no longer need to be performed, either because a procedure is no longer necessary or because equipment identified for inspection, repair or maintenance is now in a preserved state. At the February hearing, staff reported that all action items were completed except that one oil storage tank remained to be re-inspected, the results of an earlier tank inspection were outstanding, and a few items related to reconfigured operations were still in process. The last outstanding items, including submittal of procedures and process diagrams and the inspection of "dead leg" process lines, were completed as of April 14, 1999, to the satisfaction of the County audit team.

### Emergency Response Plan Revisions

As was discussed at the February 23, 1999 hearing, County Staff, including the District Attorney's office, County Counsel, the Fire Department, the Office of Emergency Services and the Energy Division are currently working with Chevron to update their Emergency Response Plan. Specifically, legally defensible language has been incorporated into the Guidance Matrix for Emergency Incident Transition. This new language will be applied globally to the Emergency Response Plans for each of the facilities that are regulated by the County. Chevron submitted draft revisions to the Notification Guide of the Emergency Response Plan on March 15, 1999. County staff reviewed the Notification Guide and provided comments to Chevron on April 6, 1999. After these modifications to the Notification Guide are complete, the final version will be submitted to the District Attorney for review and confirmation as to its consistency with the Guidance Matrix for Emergency Incident Transition.

Chevron submitted draft revisions to the Gaviota Gas Plant Emergency Response Plan (ERP) on March 25, 1999. These draft revisions address plant operations in the current reconfigured mode and proposed staffing levels. Current minimum staffing levels are four Chevron operators. County staff will review and provide comments to Chevron on the draft ERP by April 30, 1999. Approval of the revised ERP is dependent upon incorporation of any County comments and a successful demonstration of an ERP drill, which may be conducted after hours. The ERP, along with other project compliance and emergency plans, are expected to be finalized concurrently with the approval of the revision to the reconfiguration project permit, by the end of June, 1999.

### Emergency Response Drills & Staffing

As reported at the February 23, 1999 hearing, on January 29, 1999, the Office of Emergency Services (OES) conducted an after hours, unannounced emergency drill at the Chevron Gaviota facility. Although the personnel on duty responded in a competent and professional way, the facility was not adequately staffed to deal with a Level 3 (significant offsite) emergency. The after-hours staffing at the time was set at three operators. At the February 23, 1999 Board hearing, Chevron committed to maintain a minimum staff of four at the facility at all times until staffing issues could be further reviewed under their proposed ERP intended to address reconfigured operations. Staffing levels were increased as of March 1, 1999.

On April 1, 1999, Chevron staff met with the Santa Barbara County Fire Department, the Office of Emergency Services, the Energy Division and the CHP to conduct a "table top" exercise with scenarios developed by Chevron and the County. The purpose of the exercise was to provide the participants with a training experience and discuss various scenarios associated with the present "reconfigured" operations of the Chevron Gaviota Plant and Pipeline. The objectives of the table top exercise were: 1) to evaluate Chevron's preparedness for an emergency and identify areas for improvement in Chevron's response capabilities, and 2) to evaluate the rescue capabilities of the Chevron staff.

A number of scenarios were developed, however, time permitted only three scenarios to be discussed. The scenarios chosen included a release of hydrogen sulfide gas from a tank with an impact zone confined to the facility boundaries and two scenarios involving a rescue of facility personnel in a flammable or toxic hazard zone. The Fire Department and the CHP re-emphasized to the Chevron staff that early notification and assessment of the incident's potential provides the best opportunity for response by the public agencies. One of the rescue scenarios involved an injured operator in an area within a hazardous atmosphere. For this scenario, Chevron used a staff of three operators. One operator remained in the Control Room and made the necessary notifications indicated in the ERP. The other operator responded to the scene of the release (and the injured operator), monitoring toxic gas concentrations along the way in accordance with Chevron procedures. If an area shows an H<sub>2</sub>S concentration above 10 ppm, the Chevron operator must delay further entry until the Fire Department arrives. This exercise was meant to test Chevron's ability to perform a personnel rescue with reduced staffing levels.

Cal OSHA regulations (Title 8 CCR, Sec. 5144) mandate that government and industry are required to have back-up personnel for any hazardous entry (e.g., for the Fire Department, two entry personnel are supported by two stand-by personnel). In a scenario involving an injured operator, the Fire Department would have to dispatch two engine companies. One engine company would be involved with incident management, the other would be assigned to rescue operations. In Chevron's case, a fourth operator would enable Chevron to effect a timely rescue of its own personnel rather than having to rely solely on the Fire Department. As such, it was stressed at the exercise that Chevron is required to provide sufficient personnel to effect a rescue of its own personnel, mitigate the incident, and perform internal, agency and public notifications. Until such time that Chevron can demonstrate conclusively that the reconfiguration project poses no threat to onsite facility personnel or the public from the plant or pipelines, OES recommends continuing present after hours staffing levels of at least four operators.

#### H<sub>2</sub>S Risk – Permit Modification Application

The County approved Chevron's reconfiguration project on August 27, 1998, and granted operation clearance on November 17, 1998. The reconfiguration project allows Chevron to process all oil and reinject all surplus gas at the offshore platforms. As discussed at the Board hearing on February 23, 1999, an important component of this project was that, according to the application submitted by Chevron and environmental analysis the County performed based on that application, reconfigured operations would eliminate the risk of an onshore H<sub>2</sub>S release. However, when reconfigured operations actually began, elevated H<sub>2</sub>S concentrations remained in the tanks at the facility and in the PANGL gas pipeline. Specifically, due to gas accumulation in tank vapor spaces, H<sub>2</sub>S concentrations at the facility actually range from 900 and 1800 ppm after reconfigured operations rather than the assumed concentration of 10 ppm. Further, because of residual gas liquids and other materials in the gas pipeline, H<sub>2</sub>S concentrations in the PANGL line remain around 100 ppm. The H<sub>2</sub>S concentrations in the PANGL Pipeline were expected to be no higher than sales gas quality. Because of these higher H<sub>2</sub>S concentrations, the County found Chevron to be operating inconsistent with their permit for reconfigured operations and required

Chevron to address that violation. Chevron proposed to submit an application to modify their Final Development Plan to permit these higher concentrations of H<sub>2</sub>S at the Gaviota Plant and in the PANGL Pipeline.

The Energy Division received an application on March 2, 1999, but found the application incomplete for processing on March 31, 1999. The Energy Division did not receive the bulk of the project application until April 15, 1999, including the risk assessments and consequence analysis of the elevated H<sub>2</sub>S concentrations in the plant and gas pipeline and the detailed project description. Staff is currently reviewing the additional project application material for completeness, while the risk assessments and consequence analysis are under review by the SSRRC technical subcommittee.

The application to modify the reconfiguration project permit is being processed concurrently with another Chevron application to modify the Tri-Party Enforcement Agreement between the County, Chevron and the Minerals Management Service. This Agreement, adopted in 1989, incorporates mitigation and monitoring requirements for the Point Arguello Project based on the higher levels of H<sub>2</sub>S discovered in the reservoirs after initial project approvals and prior to project operations. Provided that the overall applications are found complete for processing this month, the reconfiguration permit modification and modification to the Tri-Party Enforcement Agreement should be approved through a Director's Amendment by the end of June.

#### Recent Incidents

Two recent level 1 incidents occurred at the Chevron Facility and Chevron's responses were satisfactory. The first event occurred on March 9, 1999 when a power surge from Southern California Edison caused the plant's main electrical breaker to shut down facility equipment. Upon restarting the facility, there was a surge of oil into Tank T-1 (storage) which caused the tank's pressure relief valve to open for 23 seconds. Chevron reported a tank vapor H<sub>2</sub>S concentration of approximately 1336 ppm, as measured in the tank vapor space the previous day. There were no H<sub>2</sub>S alarms and no reports of H<sub>2</sub>S detection throughout the Plant by Chevron operators or reports of H<sub>2</sub>S odors on Highway 101 by passersby. The second event occurred on March 18, 1999, when 15 gallons of Natural Gas Liquids spilled into an impound area at the plant during routine maintenance of an old line. The spill was isolated and no vapors were detected. This spill was the result of a maintenance mishap and no follow-up is required.

#### **Mandates and Service Levels:**

Preparation of this report will have no effect on County mandates and service levels. The investigations into the elevated H<sub>2</sub>S levels and the safety audit are provided for by the conditions of Chevron's Final Development Plan. Additional tasks are absorbed as a part of the overall permit compliance program.

Case Name: Hydrogen Sulfide (H<sub>2</sub>S) Levels at the Chevron Gaviota Facility

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**Fiscal and Facilities Impacts:**

The County costs associated with the writing of this report and the investigation into the elevated hydrogen sulfide levels are offset by permit compliance fees paid by Chevron Company, U.S.A, Inc. on behalf of the Point Arguello Partners

**Special Instructions:** None

**Concurrence:**

Planning and Development  
County Fire/OES

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