



BOARD OF SUPERVISORS
AGENDA LETTER

Agenda Number:

Clerk of the Board of Supervisors
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Santa Barbara, CA 93101
(805) 568-2240

Department Name: Planning &
Development
Department No.: 053
For Agenda Of: July 21, 2015
Placement: Departmental
Estimated Time: 90 minutes
Continued Item: No
If Yes, date from:
Vote Required: N/A

TO: Board of Supervisors
FROM: Department: Planning & Development
Director: Glenn Russell, Ph.D., Director , 568-2085
Contact Info: Kevin Drude, Deputy Director, Energy & Minerals Div., 568-2519
SUBJECT: Briefing on Oil and Gas Development in Santa Barbara County

County Counsel Concurrence

As to form: Yes

Other Concurrence:

As to form: N/A

Auditor-Controller Concurrence

As to form: N/A

Recommended Actions:

That the Board of Supervisors:

1. Receive and file this report on the status of the Oil & Gas Development in Santa Barbara County.
2. Determine that this report does not constitute a project under the California Environmental Quality Act (CEQA), pursuant to CEQA Guidelines Section 15378(b)(5) (Attachment 7).

Issue Summary

This report is intended to brief your Board on the status of existing and proposed onshore and offshore oil & gas development in Santa Barbara County. The report also summarizes the results of oil and gas facility inspections and provides an update of onshore spill incidents over the last five-year period, and provides information regarding pipeline safety regulations. This report does not discuss the ongoing response and investigation into the May 19, 2015 Refugio oil spill incident. A Refugio Oil Spill Emergency Permit report is included as a separate agenda item for the July 21st Board hearing.

Background

The first successful onshore oil drilling in Santa Barbara County occurred in Summerland in 1886. As oil development expanded during the 1890s, well drilling quickly moved offshore into coastal waters via piers. These wells are the first known to have been drilled offshore from piers for purposes of oil

extraction. Further north, onshore oil exploration started in the Santa Maria Valley in 1888, leading to large-scale discoveries in the Santa Maria field from 1900 to 1902. Several other significant discoveries followed soon after, including the Orcutt and Cat Canyon fields in 1904 and 1908 respectively.

Significant offshore oil drilling in Santa Barbara County began in the late 1950s as oil companies began to explore for oil in State tidelands. Platform Hazel, the first drilling platform in the County, was installed in 1958 offshore Carpinteria. Eight other platforms and facilities were installed in State tidelands off Santa Barbara County between 1956 and 1966. Subsequently, four significant tideland areas were discovered and brought into production in the mid-to-late 1960s. These included the Conception field (1962), Summerland field (1964), Carpinteria offshore field (1966), and South Elwood field (1965). As onshore production declined, offshore production increased substantially. By the mid-1980s, twelve platforms (in addition to Platform Holly in State waters) produced oil and gas on Outer Continental Shelf (OCS) leases offshore Santa Barbara County. Offshore production eventually peaked at approximately 8.9 million barrels in 1964 then declined through 2001. Total offshore and onshore oil production in Santa Barbara County reached an all-time high of 68,798,091 barrels in 1995, while natural gas production had reached an all-time high of 99,425,269 thousand cubic feet in 1967.

Offshore Oil & Gas Development

Today, there are eight (8) offshore platforms which send production to Santa Barbara County processing sites, seven of which are located in Federal waters (Platforms Irene, Hidalgo, Harvest, Hermosa, Heritage, Harmony and Hondo) defined as greater than three miles from shore in the Outer Continental Shelf or "OCS" and one located in State waters (Platform Holly is less than three miles from shore). All oil and gas produced on the OCS is transported by pipelines located on the seafloor to one of two onshore processing facilities in the County's jurisdiction: The Freeport McMoran Lompoc Oil & Gas Plant (LOGP) located outside the City of Lompoc and the Exxon Mobil Oil & Gas Processing Facility at Las Flores Canyon on the Gaviota Coast. A separate facility, the Freeport McMoran Gaviota Oil Heating Facility (GOHF), receives processed oil from offshore and stores and heats the oil for transportation in the Plains All American Pipeline Line 903. The Venoco Ellwood Onshore Facility (EOF) is located just east of the Bacara Resort and is under the regulatory authority of the City of Goleta. The EOF processes production from Platform Holly, the only platform in the Santa Barbara channel in State waters. All of these offshore and onshore facilities are shown on the Energy & Minerals Division Map included herein as Attachment 1.

In addition to the offshore platforms located in Santa Barbara County, there are seven platforms located just south of the Santa Barbara/Ventura County line (Platforms Habitat, Henry, Houchin, Hogan, Habitat and Hillhouse A, B & C) and an additional four platforms off the coast of Oxnard (Grace, Gilda, Gail and Gina). These platforms are all located off the Ventura Coast and send their production to onshore processing facilities located in Ventura County where the resultant dry crude oil is then sent to refinery destinations in Southern California. These platforms are also shown on the Energy & Minerals Division Map included as Attachment 1.

Total daily oil production volume for the Santa Barbara County offshore platforms ranges over the last five years from approximately 38,500 to 47,900 barrels per day (not including those platforms off Ventura County). Each project's individual contribution to these daily production volumes is included in Attachment 3. Processed crude oil from the above-described facilities is transported by pipeline to refinery destinations including the Santa Maria Refinery in the City of Nipomo or to locations in Kern County and Los Angeles. The pipeline transportation network serving these facilities is described in more detail below.

With respect to regulatory oversight, the seven offshore platforms located in Federal waters are required to undergo facility safety inspections which are conducted by the Federal Bureau of Safety and Environmental Enforcement (BSEE). The OCS Lands Act authorizes and requires the Bureau to provide for both annual scheduled inspections and a periodic unscheduled (unannounced) inspection of all oil and gas operations on the OCS. The annual inspections are intended to address operational safety, testing of all safety equipment, including that designed to prevent oil well blowouts, fires, spills, and other major accidents. Inspections also include testing operators on their implementation of emergency response and oil spill contingency plans.

Within State jurisdictional waters, the State Lands Commission, through their Mineral Resources Management Division (MRMD), is responsible for safety-related inspections of platform Holly. Similar to Federal oversight, the State promulgates production regulations, reviews and grants permits for offshore development projects, conducts pipeline inspections, performs safety and spill prevention audits, and requires producers to develop oil spill contingency plans.

The County Energy & Minerals Division plays an important role in overseeing the operational safety aspects and inspections for the onshore facilities that serve the platforms. The County does not have jurisdiction over the platforms themselves, but does participate cooperatively with the operators in the inspection of the pipelines that transport oil and gas production to shore. Each of the offshore operators have conditions of approval included in their development permits that require review of these pipelines' safety and operational aspects by the County's Systems Safety Review & Reliability Committee (SSRRC). The SSRRC was created by the Board of Supervisors in 1985 to review the many technical and safety-related plans that were required to be developed for the growing Santa Barbara County offshore oil industry. The SSRRC meets monthly and is responsible for reviewing all safety-related aspects of the onshore facilities and related pipelines that process and transport offshore crude oil and gas production including facility safety audits, pipeline integrity reports and all emergency response planning procedures. Through the course of their review, the SSRRC makes appropriate recommendations to ensure onshore facilities and their respective pipelines, with the exception of the Plains 901 and 903 lines, meet all applicable safety standards. Annual facility safety audits have been conducted for each of the facilities and the results verified by the SSRRC. Over the five-year period from 2010 to present, no Notices of Violation have been issued for the onshore facilities that serve offshore platforms.

Proposed Offshore Oil and Gas Development

There are currently two offshore oil & gas development projects pending off the Santa Barbara County coast, both of which are proposed by Venoco. The first project is known as the Lease 421 Recommissioning project whereby Venoco proposes to bring a currently idle well located on a pier in the Ellwood area back to production. The second project is known as the Venoco South Ellwood Field project and includes a proposal to adjust the existing lease boundaries surrounding Platform Holly along with the drilling of up to six (6) new wells from the platform to allow Venoco to produce oil & gas from a previously unproduced area located east of the platform. Both projects are currently in the environmental review stages of the planning process, with State Lands Commission acting as the California Environmental Quality Act (CEQA) lead agency and decision-maker. Because these projects both affect onshore facilities in the City of Goleta's jurisdiction, the City will play an active role in the permitting process for each. While the County may provide public comments on these two projects, it will not play an active role in the permitting process.

Federal 5-Year Offshore Leasing Program Update 2017-2022

In January 2015, the United States Secretary of the Interior announced the Draft Proposed Program¹ (DPP) for the Federal 5-year (2017-2022) offshore oil and gas leasing program. The DPP includes eight planning areas – three in the Gulf of Mexico, two in the Atlantic, and three in Alaska but does not include any newly proposed offshore leasing in California, Oregon, and Washington for this time period. With respect to Federal oil & gas leases off the Santa Barbara County coast, this means that existing leases may continue to be produced but that no new leases will be offered by the United States government from 2017-2022. The Bureau of Ocean Energy Management (BOEM) received over half a million comments from governments, agencies, public interest groups, and the public during the public comment period for the leasing program update. The County submitted its own comment letter asking that California be excluded from the 2017-2022 leasing program. Currently, there are three active lease blocks off of Santa Barbara County; Point Pedernales and Point Arguello (Freeport McMoRan), and Santa Ynez (Exxon Mobil).

Onshore Oil & Gas Development

Within the County today, there are over 125 onshore oil & gas support facilities and over 2,450 active wells operated by 23 individual producers. These oil & gas wells and related facilities are generally located throughout the North County but are particularly concentrated in the Santa Maria Valley, Orcutt Hill, Cat Canyon, Los Alamos and Cuyama areas. A map showing the locations of onshore oil wells and oilfield boundaries is included as Attachment 2. Each onshore producer operates independently by extracting, processing and shipping crude oil from their respective fields. While a small portion of the County's onshore production is shipped to the Santa Maria Refinery via pipeline, the majority of onshore production is transported by truck from each oilfield to the Santa Maria Pump Station located east of the City of Santa Maria. Once crude oil is offloaded from tanker trucks at this facility, it then enters a pipeline system which transports it directly to the Santa Maria Refinery.

The County, through the Petroleum Unit in the Energy & Minerals Division, and in coordination with the California Division of Oil, Gas and Geothermal Resources (DOGGR), regulates onshore oil & gas development. The County has inspection and permitting authority for all above-ground oil & gas development including wells and related facilities, and shares this authority with DOGGR which also has exclusive authority for below-ground activities such as well drilling, well casing and wastewater disposal. Each individual well and related facility undergoes an initial review/inspection during construction and then is inspected at least once a year thereafter by County Petroleum staff. If deficiencies that cannot be immediately addressed are noted during annual inspections, producers are given a Notice of Violation (NOV). A summary of inspections and NOV data for onshore producers is included as Attachment 5 and discussed in more detail below.

Proposed Onshore Oil and Gas Development

In addition to several smaller oil & gas development projects which are currently in the planning stages, Energy & Minerals Division staff is currently processing three large production plans which include a total of approximately 470 new production wells. The Pacific Coast Energy Company (PCEC) Orcutt Hill Resource Enhancement Plan project proposes 96 new steam injection wells, the AERA East Cat Canyon Oil Field Redevelopment Project proposes 141 new steam flooded wells and the ERG Operating Company West Cat Canyon Revitalization Plan proposes 233 new steam injection wells. The PCEC and ERG projects are currently in the environmental review phase of the planning process and the AERA

¹ <http://www.boem.gov/2017-2022-DPP>

project is currently incomplete. The ERG project is currently on hold as a result of the company undergoing Chapter 11 bankruptcy reorganization.

Onshore Violations and Spill Incidents in Santa Barbara County 2010-2015

In 2008, the Board of Supervisors directed staff to amend the Chapter 25 Petroleum Ordinance to include provisions to address operators who were repeatedly responsible for spill incidents. In 2011, the Board adopted the amendments to Chapter 25 to include definitions of, and remediation requirements and punitive actions for “High Risk Operators” and “High Risk Operations”. A High-Risk Operation is defined as one that persistently violates the provisions of Chapter 25 or has a series of at least two separate unauthorized spill events of more than 15 barrels each, outside of containment at two separate facilities and over a 12-month period. Attachment 6 includes excerpts from the Petroleum Code which define High Risk Operations and High Risk Operators and the code provisions for the remediation of High Risk Operations.

Attachment 5 includes a summary of oil facility and well inspections by producer, as well as the respective number of Notices of Violation and fines issued. Over the five-year time period from 2010-2014, an average of 44 Notices of Violation per year were issued. The number of violations was highest in 2010 at 88 and has decreased in each subsequent year to a low of 11 violations in 2014. Over this time period, only three fines were levied against producers including two against Greka Oil & Gas, Inc. in 2010 and one fine against Kore Energy, LLC in 2013. There were no facilities that fell into the definition of “High-Risk Operation” category between the 2010 and 2015 inspection years.

Attachment 4 provides a table listing each oil producer and their respective number of spill incidents with volumes of crude oil and produced water spilled by year from 2010-2015. In summary, the Petroleum Unit was notified of, and responded to an average of 19 releases each year, resulting in approximately 164 barrels of crude oil and 160 barrels of produced water on average per year. 2011 had the largest spill volumes with approximately 462 barrels of crude oil and 434 barrels of produced water spilled. The source of these releases varied, originating from pipelines, tanks and/or wells. The most recent spill incident occurred on June 3, 2015 where a pinhole leak in the Phillips 66 Line 300 caused the release of approximately 40 barrels of oil in the City of Santa Maria’s jurisdiction.

Onshore Oil Seeps

Of interest and of concern to your Board are the onshore oil seeps that have occurred over the years in the Orcutt Hill oil & gas field, totally unrelated to the seeps that occur offshore. The Pacific Coast Energy Company (PCEC) is authorized to operate 96 oil wells using cyclic steam injection to extract oil from the Diatomite Formation on Orcutt Hill. The shallow geologic unit known as the Careaga Sandstone, which overlies the Diatomite Formation at the project site can contain a considerable amount of heavy oil which can migrate to the ground surface and create seeps. Per Santa Barbara County and DOGGR requirements, PCEC is required to immediately respond to any such seeps by installing a seep can collection system which prevents oil seepage from flowing to the ground surface. A total of 97 seep cans have been permitted under Emergency Permits and installed onsite between 2008 and present, of which approximately 51 are currently collecting oil. The latest seep occurred on May 29, 2015 and was reported to your Board on July 7th. Installation and operation of the seep cans and their associated environmental impacts are currently being analyzed in an Environmental Impact Report being prepared for PCEC’s Orcutt Hill expansion project.

Onshore Pipeline Regulation and Safety

Onshore oil & gas pipeline types generally fall into two categories; gathering lines and transmission lines.

Gathering pipelines are typically comprised of small-diameter pipelines that run relatively short distances within an oil field. Gathering lines commonly form a network within a field and may transport crude oil from a well head to a processing facility or from processing facilities to storage tanks. They may transport produced gas to infield facilities for dehydration or use in generators and may also transport produced water to injection wells for reinjection. Gathering lines typically operate at low pressure and do not have automated control systems associated with them. Rather, they are controlled directly through manual control valves. Within the County of Santa Barbara, gathering lines are required to be pressure tested prior to being put into service, the results of which are monitored by the Petroleum Unit. These lines are then subject to recurring inspection intervals dependent upon their nature and location, as dictated by State pipeline codes.

Transmission pipelines typically collect dry crude oil after processing by the producer and deliver product for sale to one or more end users. Transmission pipeline systems generally include much larger diameter pipelines than gathering systems, are designed to transport product for long distances and require pressure-boosting and/or heating equipment along the route. Transmission lines are commonly equipped with control systems which allow the operator to monitor and control the flow of product through the line.

All pipelines are operated with some type of monitoring and/or control system. Pipeline control systems may include simple devices such as automatic pressure-control valves or a more sophisticated, automated Supervisory-Control-And-Data Acquisition (SCADA) system. The SCADA system can remotely monitor and control, on a real-time basis, an entire pipeline system. The SCADA system can open and close valves, start and stop pumps/compressors, monitor and control flow, sample the product, monitor and regulate flows, pressures and temperatures, and perform many other functions. Compressor stations, pump stations, and related facilities may require emergency isolation equipment to protect the pipeline. If SCADA sensors detect abnormal operating conditions, such as a drop in pressure or loss of flow, the system either alerts the operator, or shuts the pipeline/pumps down automatically if so equipped. Emergency-shutdown (ESD) systems consist of automatic shutoff isolation valves and coordinated pressure-relief systems between the isolation valves. The ESD system protects both the pipeline and facility by stopping the flow of product into and out of the facility and limits the feed source in the event of fire, explosion, or other emergency. SCADA and automatic shut-down systems are typically neither needed nor practical for the small, gathering pipeline systems discussed above.

In addition to the pipelines discussed above which transport offshore production to the onshore processing facilities, there are three high-volume transmission pipeline systems currently operating within the County: 1) The Plains All-American Pipeline (PAAPL) which includes a coastal segment that runs from Las Flores Canyon to the Gaviota Pump Station (Line 901) and an inland segment that runs from the Gaviota Pump Station up to Sisquoc and eventually out to Cuyama (Line 903); 2) The Phillips 66 Line 300 system which runs from the Lompoc Oil & Gas Plant to the Santa Maria Refinery in Nipomo; and 3) The Ellwood Pipeline Company Line 96 which carries platform Holly crude oil, processed at the Ellwood Onshore Facility, westward along the Gaviota coast where it eventually connects into the PAAPL Line 901 system at Las Flores Canyon. From there, Exxon Mobil and Venoco oil are transported further west to the Gaviota Oil Heating Facility where the oil enters the Line 903

system and heads north toward Sisquoc. The Phillips 66 Line 300 system also includes a Sisquoc segment that connects to the PAAPL, as well as pump stations located in Santa Maria and Orcutt. A fourth system, the ERG Foxen Canyon pipeline, was permitted by not yet constructed. If built, it would provide transportation of oil produced in the Cat Canyon area to the Phillips 66 Line 300 system. The location of these pipeline systems is shown on Attachment 1. These transmission pipelines were constructed to transport large volumes of oil from the County's offshore platforms to the Santa Maria Refinery in Nipomo. The construction and operational aspects of these pipelines are regulated by the Federal Department of Transportation through the Pipeline and Hazardous Materials Safety Administration (PHMSA). PHMSA is responsible for reviewing periodic safety inspection reports and overseeing any construction and physical repair work done on these pipelines. In the case of the Phillips 66 Line 300 system, the Energy & Minerals Division, in conjunction with the SSRRC, provides an additional layer of review for safety and maintenance-related oversight. The development permit and the associated CEQA review and mitigation process for Line 300 affords the Division the ability to carry out condition compliance functions and requires review of the project's safety and operational aspects by the SSRRC.

Applicable Federal pipeline regulations (49 CFR Part 195.0 *et seq.*) do not require automatic shutdown capability for onshore petroleum pipeline systems including larger transmission pipelines. However, pipelines carrying crude oil to shore from the Federal platforms are mandated to include automatic shutdown in the event of high and low pressure operational deficiencies. The Phillips 66 Line 300 system is equipped with both a monitoring system and an automatic shutdown (SCADA) feature, which was incorporated into the project design through the County's CEQA process. While the PAAPL does have a monitoring system, it is not equipped with an automatic shutdown feature. In addition to various risk mitigation plans such as oil spill prevention and response, fire prevention and response, and emergency response, all transmission pipelines are required to prepare and follow an operational procedures manual which outlines steps to be taken in a variety of scenarios, including procedures for unintended closure of valves, increase or decrease in pressure or flow rate outside normal operating limits, and other abnormal conditions (49 CFR Part 195.402).

With respect to Santa Barbara County pipelines, and recognizing the County's goals to promote maximum feasible safety mitigation and policy protection of natural resources and public health, two recently approved projects included automatic shutdown features. At the time of application submittal, Venoco voluntarily proposed an automatic shutdown feature as part of their project description for the Ellwood Pipeline Company Line 96 pipeline. The recently approved ERG Foxen Canyon pipeline, located in the East Cat Canyon area and designed to carry up to 25,000 barrels of crude per day, also included an automatic shutdown feature in its project description.

Fiscal and Facilities Impacts and Fiscal Analysis:

Budgeted: Yes. The cost of developing this report is budgeted on page D-212 of the FY 2014-2016 Department's Adopted Budget, in the Permitting category for staffing and budgeted under Intergovernmental Review.

Special Instructions:

None.

Attachments:

Attachment 1: Map of Existing Offshore Oil & Gas Development

Attachment 2: Map of Existing Onshore Oil & Gas Well Development & Field Boundaries

Attachment 3: Santa Barbara County Oil Production

Attachment 4: Summary of Onshore Crude Oil & Produced Water Spilled by Producer from 2010-2015

Attachment 5: Summary of Onshore Inspection and Notice of Violation Data

Attachment 6: Petroleum Code Excerpts

Attachment 7: CEQA Exemption

Authored by: Errin Briggs, Energy Specialist, Energy and Minerals Division