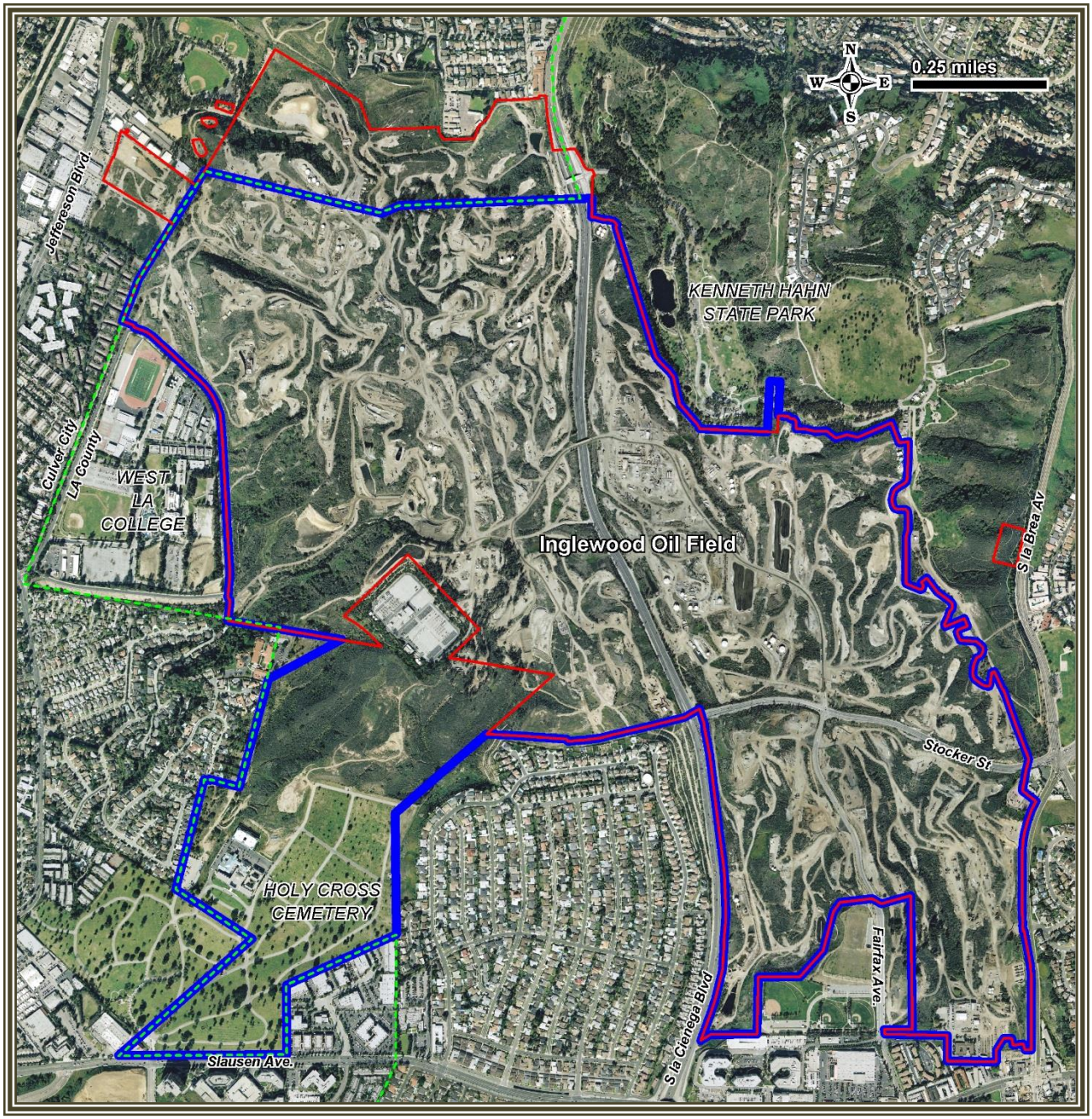
Baldwin Hills Community Standards District
Periodic Review



ADMIN FINAL DRAFT
June 2015

Prepared By:
mrs
Marine Research Specialists

Prepared For:
Los Angeles County
Department of Regional Planning
320 West Temple Street
Los Angeles, CA 90012

Table of Contents

Executive Summary ES-1
1.0 Introduction 1
1.1 Baldwin Hills Community Standard District 1
1.2 California Department of Conservation 5
1.3 CSD Periodic Review (G.7) Provision 5
1.4 Origin of the Periodic Review 6
1.5 Periodic Review Methodology 6
1.6 Periodic Review Report Format 10
1.7 Summary of Recommendations 11
2.0 Inglewood Oil Field Background 12
3.0 Summary of Previous Environmental Reviews 13
3.1 Baldwin HIlls CSD FEIR 13
3.2 Settlement Agreement 13
3.3 Annual well increase evaluation 14
3.4 Baldwin Hills Air Quality study 14
4.0 Analysis of the CSD Provisions 16
Appendix A 143
Appendix B 145
Appendix C 147
Appendix D 149

ACRONYMS

AOR	Area of Review
API	American Petroleum Institute
AQMP	Air Quality Management Plan
ASTM	American Society for Testing and Materials
Bbl	barrels
BMP	Best Management Practices
Bpd	barrels per day
BTEX	Benzene, Toluene, Ethyl Benzene, and Xylenes
CAAQS	California Ambient Air Quality Standards
Caltrans	California Department of Transportation
CAN	Community Alert Notification
CAP	Community Advisory Panel
CAP	Clean Air Plan
CARB	California Air Resources Board
CCC	California Coastal Commission
CCFD	Culver City Fire Department
CCR	California Code of Regulations
CDFG	California Department of Fish and Game
CEQA	California Environmental Quality Act
CERCLA	Comprehensive Environmental Response, Compensation and Liability Act
CFR	Code of Federal Regulations
CGS	California Geological Survey
CHC	Community Health Councils
CNEL	Community Noise Equivalent Level
CPUC	California Public Utilities Commission
CSD	Community Standards District
CUP	Conditional Use Permit
CWPPP	Construction Storm Water Pollution Prevention Plan
dB	decibel
dBA	decibels, A-weighted
DOGGR	Division of Oil, Gas and Geothermal Resources
DOT	U.S. Department of Transportation
DPH	Department of Public Health
DPW	Department of Public Works
DRP	Department of Regional Planning
ECC	Environmental Compliance Coordinator
EIR	Environmental Impact Report
EPA	Environmental Protection Agency
EQAP	Environmental Quality Assurance Program

ERP	Emergency Response Plan
ESA	Endangered Species Act
ESHA	Environmentally Sensitive Habitat Areas
FEIR	Final Environmental Impact Report
FM O&G	Freeport McMoran Oil and Gas
GHG	greenhouse gases
GIS	Geographic Information System
H_2S	Hydrogen sulfide
HAZOP	Hazards and Operability
InSAR	Satellite aperture radar
LACoFD	Los Angeles County Fire Department
LADPW	Los Angeles County Department of Public Works
Leq	equivalent noise level
MACC	Multiple Agency Coordination Committee
MATES	Multiple Air Toxics Exposure Study
Mscfd	thousand standard cubic feet per day
MTBE	methyl tert butyl ether
NFPA	National Fire Protection Agency
NGL	natural gas liquid
NOP	Notice of Preparation
NOV	Notice of Violation
NO_X	Oxides of Nitrogen
NPDES	National Pollution Discharge Elimination System
OPR	Office of Planning and Research
OSC	on-scene coordinator
OSCP	Oil Spill Contingency Plan
OSPR	Office of Spill Prevention and Response
PPM	part per million
QMDP	Quiet Mode Drilling Plan
RECLAIM	Regional Clean Air Incentives Market
RWQCB	Regional Water Quality Control Board
SCAQMD	South Coast Air Quality Management District
SIMQAP	Safety, Inspection, Maintenance, and Quality Assurance Program
SPCC	Spill Prevention, Control, and Countermeasures Plan
SWPPP	Stormwater Pollution Prevention Plan
THC	total hydro carbons
UIC	Underground Injection Control
VOC	volatile organic compounds

Executive Summary

The Baldwin Hills Inglewood Oil Field (Inglewood Oil Field), with the exception of the northern-most areas of the field which are within Culver City, is located in the unincorporated area of Los Angeles County. As such, the permitting and operations of the Inglewood Oil Field are under the jurisdiction, along with other local, State, and Federal agencies, of the Los Angeles County Department of Regional Planning (DRP). The DRP performs all land use planning functions for the unincorporated areas of Los Angeles County including the County General Plan, Community Plans, Ordinances, and Community Standard Districts (CSD). A CSD is a supplemental district used to address special issues that are unique to certain geographic areas within the unincorporated areas of Los Angeles County.

On October 28, 2008, the Los Angeles County Board of Supervisors adopted the Baldwin Hills Community Standards District (CSD). The CSD is an amendment to the Los Angeles County zoning code and establishes additional development standards and operating procedures for the oil and gas production operations at the Inglewood Oil Field. The CSD provides a means for implementing enhanced regulations to address the unique compatibility concerns associated with operating an oil field in the midst of urban development. In addition to the County zoning code and the Baldwin Hills CSD, operation of the Inglewood Oil Field is also subject to other local, State, and Federal regulatory agencies including; County Public Works, County Fire Department, Culver City Fire Department, the South Coast Air Quality Management District, the California Department of Conservation, Division of Oil, Gas and Geothermal Resources, the California Regional Water Quality Control Board, and the Department of Transportation.

Each provision, or permit condition, of the CSD addresses a specific potential environmental impact or administrative requirement associated with the continuing operation of the Inglewood Oil Field. Provision G.7, *Periodic Review*, requires the County to conduct a comprehensive review of the requirements of the CSD (every 5 years) to determine if the provisions are adequately protecting the health, safety, and general welfare of the public. This report, jointly prepared by the DRP and the consulting firm Marine Research Specialists, is the first analysis conducted pursuant to the Periodic Review requirement.

Periodic Review Results

As detailed in the following pages of this report, the results of this Periodic Review document that the provisions of the CSD have been effective and adequate to protect the health, safety, and general welfare of the public. The report also determined that no recommendations to change the language of the CSD are necessary at this time. The report analysis did determine ten areas where the implementation of a CSD provision could be improved. These recommendations are summarized in the following list, have been implemented, and are continuously monitored by the DRP via the Environmental Quality Assurance Program and onsite inspections completed by the Environmental Compliance Coordinator.

- Complete CSD required landscaping.
- Continue the use of bins and tanks as opposed to earthen sumps.
- Coordinate with the Regional Water Quality Control Board (RWCQB) on the potential installation of additional groundwater monitoring wells.
- Monitor and improve maintenance of perimeter fencing.
- Streamline Annual Drilling Plan graphics.
- Improve rig location scheduling to avoid concentrating rigs in one area.
- Complete a quality assurance safety inspection and maintenance audit.
- Encourage completion of annual unannounced Fire Department Safety Drills.
- Update and promote new participation in the Community Advisory Panel.
- Design the annual Community Meeting agenda and presentation to target issues associated with the Inglewood Oil Field.

Through the provisions of the CSD, and along with the oversight of local and State agencies, DRP staff will continue to monitor the operations at the Inglewood Oil Field to protect the health, safety, and general welfare of the public and the environment. More information on the Inglewood Oil Field is located on the DRP CSD and the Freeport McMoran (operator of the oil field) websites:

- http://planning.lacounty.gov/baldwinhills
- www.inglewoodoilfield.com

1.0 Introduction

On October 28, 2008, the Los Angeles County Board of Supervisors adopted the Baldwin Hills Community Standards District (CSD). The CSD is an amendment to the Los Angeles County zoning code and establishes additional development standards and operating procedures for the oil and gas production operations at the Inglewood Oil Field. Provision G.7, *Periodic Review*, requires the County to conduct a comprehensive review of the requirements of the CSD no later than 5 years after the effective date of the ordinance to determine if the provisions are adequately protecting the health, safety, and general welfare of the public. The Periodic Review process was initiated in mid-2013 and this March 2015 report is the first analysis conducted pursuant to the Periodic Review requirement of the CSD. This review covers the compliance period from the inception of the CSD through December 2013.

1.1 BALDWIN HILLS COMMUNITY STANDARD DISTRICT

The CSD established new development standards and operating procedures for the oil and gas production operations at the Inglewood Oil Field. The ordinance, number 2008-0057, amended Title 22 the Planning and Zoning Code of the County of Los Angeles with the intent to implement regulations, safeguards, and controls for the oil and gas production activities of the Inglewood Oil Field. Further, the supplemental zoning regulations are intended to ensure that oil field operations are compatible with surrounding land uses, to minimize potential adverse impacts, and to enhance appearance of the site with landscaping and other property maintenance requirements. The boundaries of the CSD are shown on Figure 1.1.

The CSD ordinance is organized as follows:

A. *Intent and Purpose*
B. *District Boundaries*
C. *Definitions*
D. *Area Specific Development Standards*
    1. *Operational Limits*
E. *Area Specific Development Standards and Operational Limits*
    1. *Fire Protection and Emergency Response*
    2. *Air Quality and Public Health*
    3. *Safety and Risk of Upset*
    4. *Geotechnical*
    5. *Noise Attenuation*
    6. *Vibration Reduction*
    7. *Biological Resources*
    8. *Cultural / Historical Resources*

9. *Lighting*
10. *Landscaping, Visual Screening, Irrigation and Maintenance*
11. *Oil Field Waste Removal*
12. *Construction of Private Roads*
13. *Signs*
14. *Painting*
15. *Sumps*
16. *Well Cellars*
17. *Stormwater Drainage Management*
18. *Water Management Plan*
19. *Groundwater Monitoring*
20. *Fencing*
21. *Oil Field Cleanup and Maintenance*
22. *Security*
23. *Vehicle Parking*
24. *Sanitation*
25. *Storage of Hazardous Materials*
26. *Drilling, Redrilling, and Reworking Operations*
27. *Processing Operations*
28. *Well Reworking Operations*
29. *Tanks*
30. *Well Production and Reporting*
31. *Idle Well Testing and Maintenance*
32. *Abandoned Well Testing*
33. *Well and Well Pad Abandonment*
34. *County Request for Review of Well Status*
35. *Reduced Throughput Triggering Review*
36. *Abandonment Procedures*

F. *Monitoring and Compliance*

1. *Environmental Quality Assurance Program (EQAP)*
2. *Environmental Compliance Coordinator (ECC)*
3. *Safety, Inspection, Maintenance and Quality Assurance Program (SIMQAP)*
4. *Annual Emergency Response Drills of LA County and Culver City Fire Departments*
5. *Noise Monitoring*
6. *Vibration Monitoring*
7. *Complaints*

G. *Administrative Items*

1. *Costs of Implementing Monitoring and Enforcing Conditions*
2. *Draw Down Account*
3. *Indemnification*
4. *Insurance Requirements*
5. *Performance Security*
6. *Other Obligations*
7. *Periodic Review*
8. *Multiple Agency Coordination Committee (MACC)*
9. *Related County Code Provisions*

H. *Permitting*

1. *Director's Review Required*
2. *Conditional Use Permit (CUP) Required*
3. *Conditional Use Permit (CUP) Requirements*
4. *Insurance Requirements*

I. *Indemnification*

1. *Civil Penalties and Performance Security*
2. *Access to Records and Facilities*
3. *Right of Entry*

J. *Public Outreach*

1. *Community Advisory Panel (CAP)*
2. *Community Relations*
3. *Ombudsperson*

K. *Modification of Development Standards*

L. *Implementation Provisions*

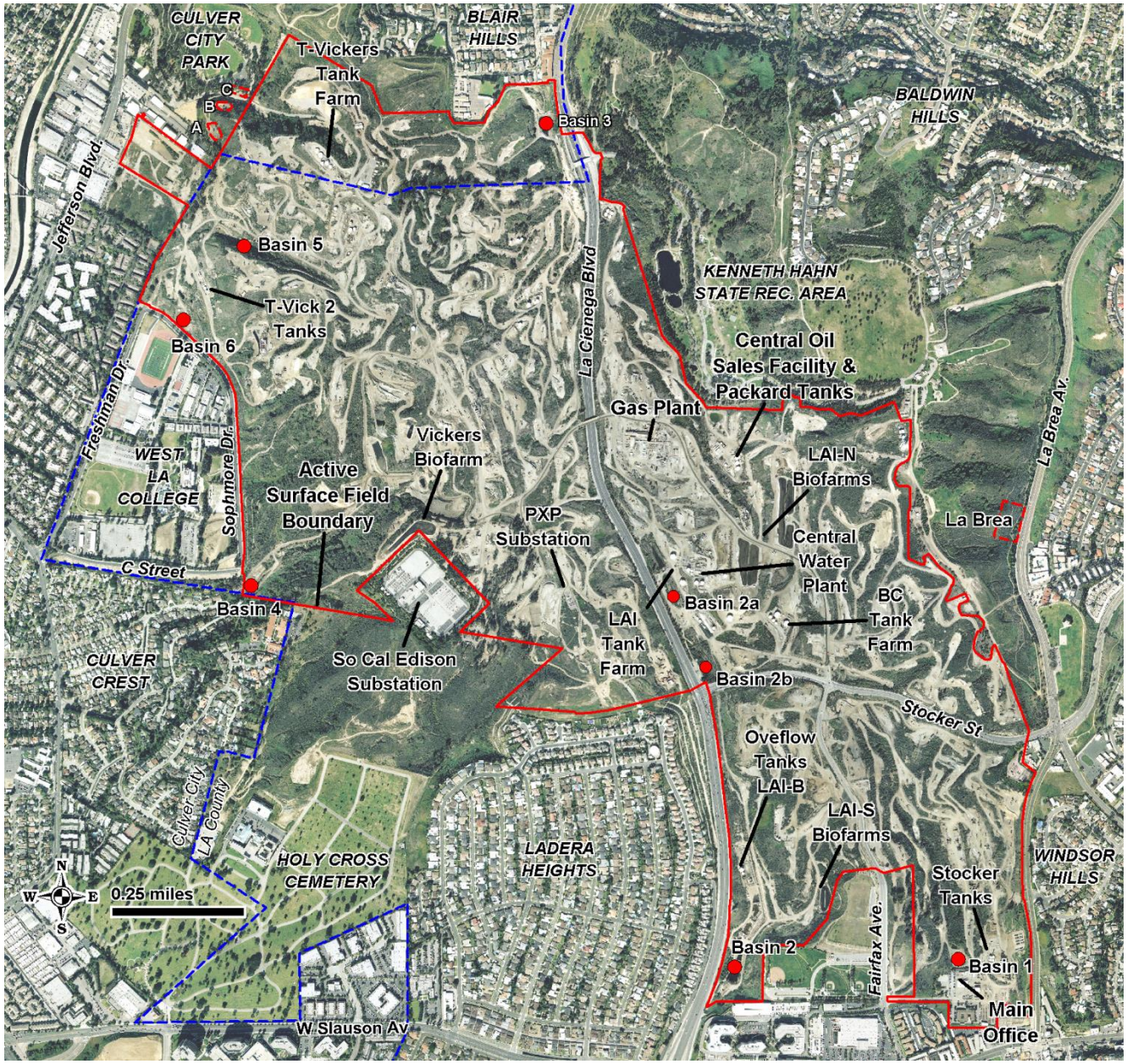


Figure 1.1
Baldwin Hills
Community Standards
District (CSD)
Boundary Map

1.2 CALIFORNIA DEPARTMENT OF CONSERVATION

The California Department of Conservation, Division of Oil, Gas and Geothermal Resources (DOGGR) oversees the drilling, operation, maintenance, and plugging and abandonment of oil, natural gas, and geothermal wells. DOGGR has jurisdictional authority to regulate all well downhole activities including well stimulation techniques. As such, the County, the CSD, and DOGGR work together to regulate and oversee the operations of the Inglewood Oil Field. The CSD provisions reference DOGGR regulations and authority where applicable.

1.3 CSD PERIODIC REVIEW (G.7) PROVISION

Provision G.7 of the CSD reads as follows:

G.7 Periodic Review*. The county shall conduct a comprehensive review of the provisions of this section at least every five years to determine if the provisions of this section are adequately protecting the health, safety, and general welfare. Such reviews shall, among other things, consider whether additional provisions should be added, appended, or removed. One of the main goals of the Periodic Review shall be to evaluate if proven technological advances that would further reduce impacts of oil operations on neighboring land uses should be incorporated into the provisions of this section.*

> *a. Review Requirements. Each review shall include a report by a hearing officer designated by the director, which shall be prepared after public notice; and an opportunity for public comment. The report shall include a comprehensive analysis of the effectiveness of this section, and shall review and consider enforcement activity, operational records, and any other issues relating to oil operations. The report, at the option of the county, may include a survey of residents near the oil field regarding noise, odors, vibrations, and other issues requested by the director of public health. A draft of the report shall be provided to the CAP and the operator for review and comment. All comments on the draft report from the CAP and the operator shall be submitted to the hearing officer in writing, and will be considered, if timely received, before the report is finalized. The final report by the hearing officer shall include a recommendation as to whether the director should prepare proposed amendment to this section for submission to the board of supervisors.*
>
> *b. Early Reviews. At the discretion of the director, reviews of this section may be conducted more frequently than every five years. Without limiting such discretion, the director shall consider whether an early review should be undertaken if more than three material violations occur within any 12-month period.*
>
> *c. Initial Review. The initial review shall occur no sooner than three years and no later than five years after the effective date of the ordinance establishing this*

section unless the director determines that such initial annual review shall occur at an earlier time pursuant to subsection b, above.

1.4 ORIGIN OF THE PERIODIC REVIEW

This review is the first comprehensive review of the CSD provisions as required by Provision G.7. As outlined in the provision above, the requirement identifies the timeline for the Periodic Review process as at least five years after the adoption of the CSD and at earlier intervals, if deemed necessary by the County. The CSD was adopted on October 28, 2008; taking effect on November 27, 2008; therefore, this review is on schedule to meet the initial five year Periodic Review requirement. There have been no significant non-compliance issues or accidents at the Inglewood Oil Field since the provisions of the CSD have been implemented through December 2013. In addition, the County continuously monitors compliance with the CSD through the Environmental Quality Assurance Program. The County has not required the initiation of a Periodic Review of the CSD prior to the five-year schedule requirement.

1.5 PERIODIC REVIEW METHODOLOGY

The Periodic Review process was initiated with a presentation by the County at the Community Advisory Panel (CAP) meeting on May 23, 2013. The CAP was established to foster communication between the community, the County, and the oil field operator (Freeport McMoran Oil & Gas or FM O&G) regarding oil field operations (see discussion for Provision J.1 for more detail on the CAP). The presentation provided an overview of the Periodic Review provision of the CSD and solicited public input on the effectiveness of the CSD for input to the Periodic Review. The County also solicited comments on the Periodic Review via an electronic survey posted on the County Department of Regional Planning (DRP) website. The County received comments on the Periodic Review at the May 23, 2013 and subsequent CAP meetings, in the responses to the electronic survey, and in separate comment letters and emails. All input was considered in the preparation of the Periodic Review public draft document.

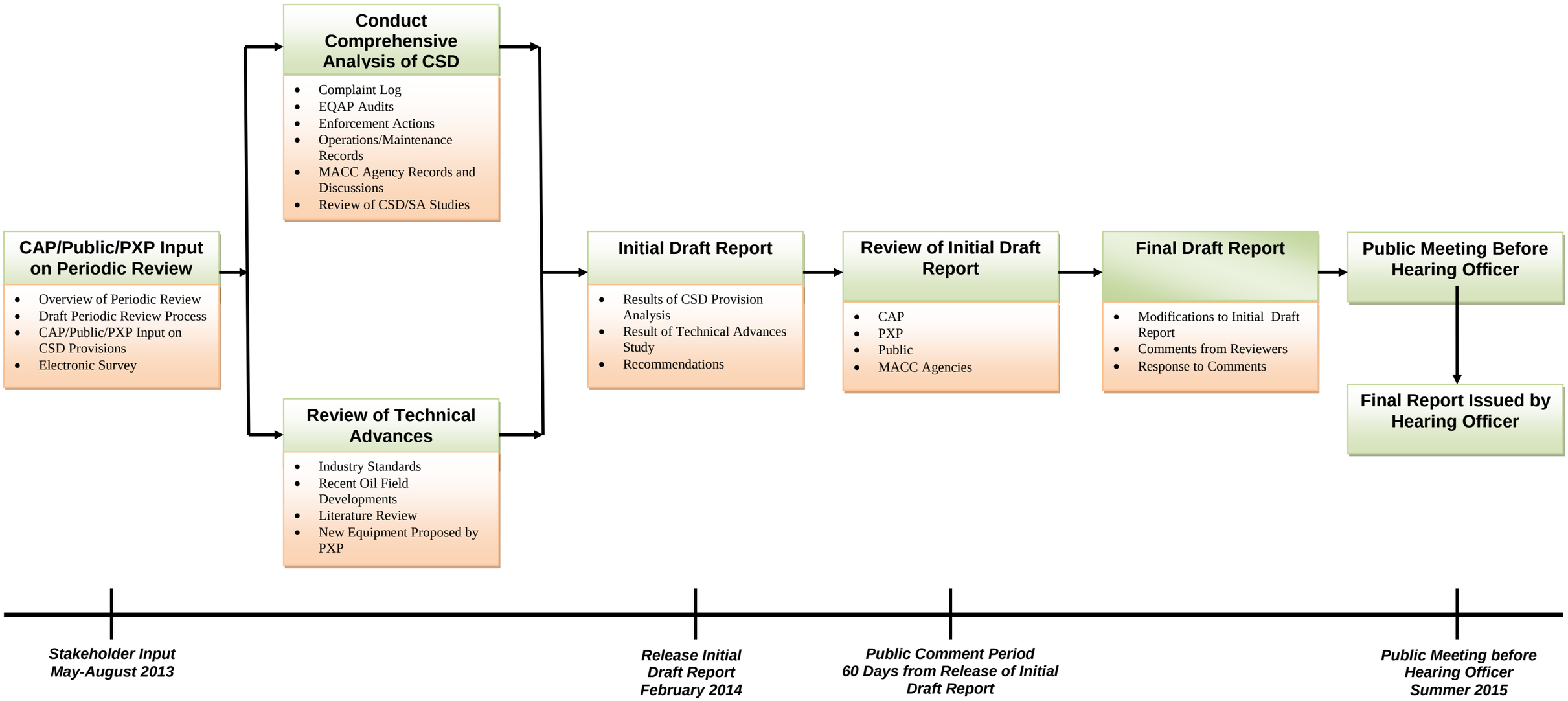
The Periodic Review was then formally initiated in the fall of 2013 with a comprehensive analysis and review of the implementation and effectiveness of the CSD. The analysis reviewed a variety of compliance records and plans to determine the effectiveness of the CSD to protecting the health, safety, and general welfare of the public including:

- Compliance plans
- Compliance records
- Operations and maintenance records
- Results of the Environmental Quality Assurance Program (EQAP)
- Multi Agency Coordination Committee (MACC) records
- Violations or enforcement actions
- CSD administrative requirements

- Regulatory permits activity
- Technological advancements in the operation of oil fields

The draft Periodic Review document was released and distributed to the CAP, MACC, the public and the oil field operator for review and comment in February 2014. The report was then finalized in March 2015 based on input received and is scheduled to be introduced formally at a public hearing before a County hearing officer in the late Spring/early Summer of 2015. Appendix A summarizes the comments and provides responses on the Public Draft document. Figure 1.2, Periodic Review Flowchart, presents a timeline of the steps taken in preparation of the Periodic Review document.

Figure 1.2
Baldwin Hills CSD
Periodic Review Flowchart



This page intentionally left blank.

1.6 PERIODIC REVIEW REPORT FORMAT

This report provides a review of the effectiveness and adequacy of the provisions of the CSD to protect the health, safety, and general welfare of the public. The analysis also determines compliance of the oil field with the operational limits, development standards, monitoring, administrative, and permitting requirements of the CSD. The review for the development standards contained in CSD subsections D, E, F, G, H, and J are organized as follows:

- Provision Language
- Summary of Complaints
- Summary of Issues Raised by the Public
- Analysis of Compliance and Effectiveness
- New Technology
- Recommendations to Changes in Implementation
- Recommendations to Changes in CSD Language

The Summary of Complaints section discusses whether complaints have been made by the public on the subject CSD provision through the complaint procedure pursuant to Provision F.7, *Complaints*. Input from the public outside of the complaint process is discussed in the Summary of Issues Raised by the Public section. This section provides an overview of input received by the County during Community Advisory Panel (CAP) meetings, from the results of the electronic review, email, and letter input solicited for comment on the Periodic Review, and from the public concerns that led to the additional requirements stipulated in the lawsuit settlement agreement dated July 15, 2011; a brief overview of the settlement agreement is included in Section 3.0.

The Analysis of Compliance and Effectiveness section provides detail on the implementation of the condition and a determination as to the whether the requirements have worked as intended. The applicability of potential new technologies that may improve and or lessen the environmental impact of oil field operations is noted in the New Technology section. Finally, recommendations to changes in the implementation or language of the provision are discussed in the last two sections of the review.

CSD subsections I, *Enforcement* and K, *Modification of Development Standards*, have not been implemented through the end of 2013. As such, the analysis for these two subsections is a brief summary of the intent of the provision. Subsection L, *Implementation Provisions*, provides a schedule for completion of many of the compliance plans and action item requirements of the CSD upon the original approval; those milestones have been completed by the oil field operator. The discussion of Subsection L is therefore provided in a tabular format providing the completion date of each requirement.

A table summarizing the findings and recommendations of this Periodic Review is attached as Appendix B.

1.7 SUMMARY OF RECOMMENDATIONS

This Periodic Review has resulted in a number of recommendations to enhance the implementation of the provisions of the CSD. These recommendations do not require a modification or change to the language of the CSD ordinance; rather, the recommendations are improvements in the method of implementation or compliance effort of the subject provision as summarized in the table below.

CSD Provision	Summary of Recommendation
E.10	Recommendation that FM O&G schedule installation of the remaining landscaping phases to achieve the landscaping required by this provision in a timely manner.
E.15.a	Recommendation that the Operator continue the use of metal and or plastic bins and tanks consistent with current practice as the elimination of the use of below ground sumps is considered to be a significant environmental benefit.
E.19	Based on comments by the RWQCB regarding potential additional monitoring locations, it is recommended that the Operator coordinate with the RWQCB and install additional groundwater monitoring wells if deemed necessary.
E.20	Due to un-authorized access through damaged fencing, it is recommended the ECC and the Operator increase monitoring of the condition of the perimeter fencing and conduct any necessary repairs as soon as possible.
E.26.c.x	In consideration of the usefulness and substantial costs associated with the preparation of the topographic vertical profiles, it is recommended considering removing the subject figures/maps from the Annual Drilling Plan until the information is deemed useful for inclusion in future plans.
E.28.b	It is recommended that the Operator facilitate better coordination when scheduling reworking and the other types of rigs at the oil field to avoid concentrating too many rigs in one area.
F.3	A comprehensive SIMQAP audit has not been conducted to date. It is recommended that a SIMQAP audit be conducted over the next year in coordination with the EQAP audit and that appropriate interested regulatory agencies be noticed of the audit for participation as applicable.
F.4	Due to the fact that unannounced drills have not taken place in the past, it is recommended that efforts be made to ensure that unannounced drills take place at the oil field as allowed for by the provision of the CSD. The Department of Regional Planning will coordinate with the Fire Department to ensure that unannounced drills occur in the future.
J.1.a	In response to requests by the public to update CAP membership, allow new members to fill vacant panel seats and replace absentee members, the DRP Director will review CAP membership and determine how to proceed under the existing provision of the CSD.
J.2.a	In response to public input on the 2013 Community Meeting, it is recommended that agendas for future Community Meetings be specific to oil field operations and issues and that measures be implemented to ensure questions from the public are addressed appropriately.

2.0 Inglewood Oil Field Background

The Inglewood Oil Field has been in operation for over 82 years with over 1,600 wells being drilled during that time throughout the historical boundaries of the oil field. Current activities at the Inglewood Oil Field involve extracting oil and gas from subsurface reservoirs located between 500 and 10,000 feet deep, processing the crude oil to remove water and processing the gas to remove hydrogen sulfide and gas liquids. Crude oil is then shipped by pipeline to area refineries to be processed into gasoline and other products. The gas is shipped by pipeline to The Gas Company for end use by consumers and industry or is shipped to area refineries for use in the refining processes. Processing activities at the Inglewood Oil Field include, but are not limited to, the following:

- Gross Fluid Production Gathering and Testing;
- Crude Oil Handling;
- Water Processing;
- Water Injection;
- Gas Gathering/Gas Processing;
- Well Drilling, Maintenance and Workovers; and
- Ancillary Systems.

The average production volumes from the Inglewood field for 2014 were 7,300 barrels per day (bpd) oil, 350,000 bpd water, and 3,500 thousand standard cubic feet per day (mscfd) gas (as of December 2014).

The current operator of the oil field is Freeport-McMoRan Oil & Gas, a division of Freeport-McMoRan Copper & Gold Inc. (NYSE: FCX). Freeport-McMoRan's oil and gas operations are located onshore and offshore in California, the Gulf Coast Region, the Gulf of Mexico and the Rocky Mountains. The oil and gas division is headquartered in Houston.

3.0 Summary of Previous Environmental Reviews

Prior environmental reviews on the Inglewood Oil Field with a nexus to the provisions of the CSD include the *Final Environmental Impact Report, Baldwin Hills Community Standards District, October 2008,* the *Settlement Agreement and Mutual Release, July 15, 2011,* and the *Annual Well Increase Evaluation*, December 2011. In addition, Stipulation 8 of the Settlement Agreement required a supplemental air quality monitoring study which was initiated (Baldwin Hills Air Quality Study) in June 2012 with the final report dated February 2015.

3.1 BALDWIN HILLS CSD FEIR

The *Final Environmental Impact Report, Baldwin Hills Community Standards District, October 2008 (*FEIR) is the environmental document that was prepared under the California Environmental Quality Act (CEQA). The FEIR was used by the general public and Los Angeles County as one element in the decision-making process for adoption of the CSD for the Inglewood Oil Field. The provisions and requirements of the CSD were developed in part from the mitigation measures identified in the FEIR. The FEIR is available on the Los Angeles County Department of Regional Planning web site.

3.2 SETTLEMENT AGREEMENT

In November 2008 the adequacy of the CSD measures in protecting human health and the environment and the FEIR were legally challenged. The litigation was brought by the following petitioners representing the public and public groups; Community Health Councils, Inc., Natural Resources Defense Council, Mark Salkin, the City of Culver City, Citizens Coalition for a Safe Community and the Concerned Citizens of South Central Los Angeles. The result of this legal action was the *Settlement Agreement and Mutual Release, July 15, 2011* as negotiated by the various public parties, Los Angeles County and Plains Exploration and Production Company (PXP), the operator of the oil field at the time. The Settlement Agreement contains additional or revised requirements on: slant drilling, noise, the number of drill rigs, the number of wells, a health assessment and environmental justice study, a clean technology assessment, an electrical distribution study, supplemental air quality monitoring, flaring stipulations, well plug dimensions, landscaping, oil field cleanup Plan, a hydraulic fracturing study, and revised review based on reduced production.

The additional or revised requirements are discussed where applicable in the following analysis of the CSD provisions sections of this document and the *Settlement Agreement and Mutual Release* document is attached as Appendix C. Stipulation 5 of the Settlement Agreement, the *Health Assessment and Environmental Justice Study*, required a study in addition to the updated health risk assessment condition of CSD Provision E.2.k. The study followed a report completed by the County Department of Public Health dated February 2011. The February 2011 Study analyzed the mortality rates, low birth rate births, birth defects, and cancer rates of the communities

surrounding the Inglewood Oil Field as compared to Los Angeles County as a whole. The report was followed with an updated report as required by the Settlement Agreement, based on community input, a community survey, and additional data obtained from drilling activities at the oil field.

The County received significant input from the public on the health risk assessment, through discussion at Community Advisory Panel (CAP) meetings and in comments solicited for the Periodic Review. The public has requested continued health monitoring by County Public Health, a health risk assessment using the methodology outlined by the World Health Organization, door to door surveys for cancer cases in the surrounding communities, more detail on the chemicals used at the oil field, and commented that the health risk assessment was inadequate. In a letter dated September 25, 2013, Community Health Councils, Inc. (CHC) commented that the health risk assessment used inappropriate survey methodology, an insufficient level of reporting and that the document failed to include critical data collected from CSD required monitoring of the oil field. Further, the CHC letter comments that the report did not meet the environmental justice requirement of the Settlement Agreement stipulation and requested a supplemental study.

3.3 ANNUAL WELL INCREASE EVALUATION

Provision 4.b, allows for a modification to the number of wells drilled in a calendar year. In order for the modification to be approved, the County must evaluate whether the CSD has been effective in protecting the health, safety, and general welfare of the public. This analysis, the *Annual Well Increase Evaluation*, was completed in December 2011 and included a review of the following CSD compliance subject areas; noise, vibration, air emissions, odors, ground movement, visual and aesthetics, hazards, fire protection and emergency response, and ground water quality. The results of the review concluded that for these areas of review, the CSD has been effective in protecting the health, safety, and general welfare of the public. Additional detail on the report is provided in the following applicable analysis of the CSD provision sections of this document; the *Annual Well Increase Evaluation* is included as Appendix D.

3.4 BALDWIN HILLS AIR QUALITY STUDY

Stipulation 8, *Air Quality Monitoring*, of the Settlement Agreement required a supplemental air quality monitoring study to address stakeholder concerns on potential acute and chronic exposure to air contaminants from the Inglewood Oil Field. Sonoma Technology Inc. was selected by the County to perform the Air Quality Study (Study) which commenced June 2012 consistent with the Settlement Agreement deadline of July 15, 2012. The monitoring was conducted between November 2012 and November 2013, the report was finalized in February 2015.

The primary focus of the Study was to quantify the air toxic emissions from the Inglewood Oil Field operations and assess the health risk of both acute and chronic exposure to the emissions of oil field operations. The Study also estimated other area

sources of toxic emissions and, to the extent feasible, assessed the contribution of the oil field to the overall health risk in the areas surrounding the oil field.

The Study reviewed 37 air toxics emitted by Inglewood Oil Field operations and conducted a hazard prioritization analysis to identify the pollutants of greatest concern to be analyzed in the Study. The following pollutants were identified; diesel particulate matter (DPM), cadmium, benzene, nickel, formaldehyde, mercury, manganese, acrolein, arsenic, and lead. Four monitoring stations were set up along the perimeter of the oil field in approximate north, south, east, and west locations. The Study was conducted for one year for DPM and 2.5 months for the other pollutants.

Results of the air monitoring data were used to calculate the health risk of acute and chronic exposure to the air toxics emitted from oil field operations. The health risk estimates were completed pursuant to the risk assessment guidelines outlined by the California EPA Office of Environmental Health Hazard Assessment (OEHHA) following the same methodology as used in the SCAQMD Multiple Air Toxic Exposure Study (MATES) studies. The MATES study is a monitoring and evaluation study conducted in the South Coast Air Basin; the study included a monitoring program, an updated emissions inventory of toxic air contaminants, and a modeling effort to characterize risk across the Basin. The study focuses on the carcinogenic risk from exposure to air toxics. The fourth such study, MATES IV, was recently completed with the draft report dated October 2014.

The Baldwin Hills Air Quality Study determined the primary toxic pollutant associated with excess cancer risk to be DPM; the determination is consistent with the Draft MATES IV study results. The results for excess cancer risk attributed to Inglewood Oil Field operations ranged from less than 1 per million to the west and south of the oil field to 6.7 per million on the east side of the oil field. Total excess cancer risk from all area sources plus the oil field was estimated at 340 per million, with vehicle exhaust the primary cause, Therefore, results of the Study indicate the Inglewood Oil Field contribution to the total area excess cancer risk is less than 2% of the total. Results of the MATES IV determined an average excess cancer risk value for the Los Angeles Basin at 418 per million. Both the MATES IV study and the Baldwin Hills Air Study determined that the primary cancer risk in the area is attributable to vehicle diesel exhaust (DPM), a determination further evidenced by the fact that the highest cancer risk areas identified in the MATES IV study were near the Port of Long Beach, the Port of LA, and along transportation corridors. Results for non-cancer chronic hazard potential and acute exposure values from oil field operations were both below 1.0, the health reference level where no adverse human health effects would occur.

4.0 Analysis of the CSD Provisions

This section provides detail on the implementation of each CSD provision and a determination as to whether the requirements have worked as intended. The applicability of potential new technologies that may improve and or lessen the environmental impact of oil field operations is noted in the New Technology section. Recommendations to changes in the implementation or language of the provision are discussed in the last two sections of the review of each provision.

D.1 Operational Limits. *No surface drilling or other surface oil operations shall be allowed within the portions of the district consisting of the Southern California Edison facility, the Holy Cross Cemetery, and the small non-contiguous parcel located east of La Brea Avenue.*

Summary of Complaints:
The County has not received any complaints regarding the operational limits provision of the CSD.

Summary of Issues Raised by the Public:
The public has expressed concern at the Community Advisory Panel (CAP) meetings about the potential, due to slant drilling technology, for the oil field operator to drill outside the boundaries of the CSD. The concern was not specific to the operational limits provided by this provision but rather the potential for well bottom hole locations to be under a residence and thus outside the CSD boundary. The County and the oil field operator have confirmed that no surface or bottom hole well locations have been drilled outside the DOGGR established boundaries of the CSD/Inglewood Oil Field. Down-hole operations are regulated by DOGGR.

Analysis of Compliance and Effectiveness:
As noted above, no surface or bottom hole well locations have been drilled outside the boundaries of the Inglewood Oil Field. In addition, no surface drilling operations have been conducted within the areas consisting of the Southern California Edison facility, the Holy Cross Cemetery, or the small non-contiguous parcel located east of La Brea Avenue. All new drill sites are subject to review and approval by the County pursuant to Provision E. 26, the *Annual Drilling, Redrilling, Well Abandonment, and Well Pad Restoration Plan* and this provision prevents approval of surface hole locations in those subject areas.

The provision is considered to be fully effective at this time and no further analysis is recommended.

New Technology:
This provision prevents drilling from occurring in certain geographic areas, thus a discussion on new technology is not applicable.

Recommendations to Changes in Implementation:
The provision has been implemented and is considered to be fully effective at this time, no changes to implementation are recommended.

Recommendations to Changes in CSD Language:
The provision is considered to be fully effective at this time, no recommendations to the CSD language are recommended.

E.1 Fire Protection and Response. *The operator shall comply with the following provisions:*

a. Community Alert Notification System ("CAN"). The operator shall maintain and test on an annual basis a CAN for automatic notification of area residences and businesses in the event of an emergency arising at the oil field that could require residents or inhabitants to take shelter, evacuate, or take other protective actions.

b. Spill Containment Response Training. The operator shall conduct annual spill containment response training and shall at all times have available, on-site, sufficient and properly maintained equipment and/or facilities so that a spill of the entire contents from the largest oil tank on the oil field can be responded to and contained in a timely manner to reduce the likelihood that the spill reaches a catch basin.

c. Emergency Response Plan ("ERP"). The operator shall at all times maintain and fully implement and comply with all provisions of an emergency response Plan and shall further ensure that the then current ERP satisfies all rules and regulations of the United States Environmental Protection Agency and California Code of Regulations relating to emergency action plans and spill prevention control and countermeasure plans, as well as the rules, regulations, and requirements of the California Office of Spill Prevention and Response. The ERP shall also satisfy the rules and regulations of the United States Department of Transportation relating to onshore pipeline spills.

Summary of Complaints:
No complaints regarding the annual operation testing of the CAN system have been received by the County and the CAN system has not been utilized for an emergency situation at the Inglewood Oil Field to date. Spill containment response training is conducted annually onsite and no complaints have been received by the County regarding the training. County has not received any complaints regarding the ERP.

Summary of Issues Raised by the Public:
No issues were raised by the public on the CAN system; however, the potential for confusion with a horn/siren based system was noted in the *PXP 2009 Community Alert Notification (CAN) System CAN System* Plan as discussed below in the analysis section. No issues on the spill containment response training or the ERP have been raised by the public to date. The public provided some discussion at the Community Advisory Panel (CAP) meeting September 26, 2013 regarding an incident involving a

wash tank overflow, however, the discussion was not specific to training and the fluid was captured in a secondary containment basin (see review of CSD Provision 3.d.i. for additional detail) consistent with the requirement of the CSD.

Analysis of Compliance and Effectiveness:
A CAN system is a system that allows for an emergency alert, message, or notification to people located within a specific area. The oil field CAN system is designed to provide such notification to area residents and businesses of an emergency situation that would require one to take shelter, evacuate or take other protective actions. There are two main types of CAN systems, a horn/siren system and a reverse dialing system. The *PXP 2009 Community Alert Notification (CAN) System* approved by the Los Angeles County Fire Department (County Fire Department) on February 18, 2010 discussed both types of systems. The horn/siren type system has the potential to confuse the public due to the difficulties in noticing the public of system testing (false alarm). Therefore, a reverse dialing system provided by the vendor *CodeRED* was installed on September 16, 2010. The system has been successfully tested each year since installation with test dates occurring on December 29, 2010, November 22, 2011, December 19, 2012, and December 18, 2013. The CAN test connects to a subset of the notification list made up of local agency and Fire Department contacts; the general public is not contacted during the test to avoid the potential for unnecessary alarm. The *PXP 2009 Community Alert Notification (CAN) System* Plan is available at http://www.inglewoodoilfield.com.

Annual spill containment response training has been completed on February 4, 2009, February 17, 2010, February 17, 2011, February 1, 2012, and February 12, 2013. As documented in the *PXP 2009 Tank Leak Detection and Containment at Inglewood Oil Field* report, approved in May 2009, all tanks have secondary containment consisting of a wall, berm, or combination of the two types. The report also concluded that all tank secondary containment structures comply with California Division of Oil, Gas and Geothermal Resources (DOGGR) requirements and that the volume of the available secondary containment is capable of containing volumes in excess of the full volume of each tank.

The *Spill Prevention, Control and Countermeasure Plan* (SPCCP), required under CSD Provision E.17.b., provides detail on the maintenance of tank and related equipment at the oil field which include inspection programs, corrosion prevention/corrosion monitoring techniques, and clean up equipment. The Plan also includes potential spill scenarios for each tank with containment calculations documenting the adequacy of the containment structures. Review and use of this Plan is a component of the annual spill containment response exercise.

The ERP, current version dated June 2013, is submitted to the following agencies: DOGGR, California Department of Fish and Wildlife Office of Spill Prevention and Response (OSPR), U.S. Environmental Protection Agency Region 9, California State Lands Commission Marine Facilities Division Planning Branch, and the U.S. Department of Transportation Office of Pipeline Safety. Specific response

considerations for biological resources were added to the ERP in March 2010 per CSD Provision E.7.a.

The ERP is utilized in annual emergency response drills as required by CSD provision F.4. The annual drills may be attended by County and Culver City Fire Departments. CSD Provision F.4 requires that the drills demonstrate the adequacy of the ERP. Annual emergency response drills have taken place on November 24, 2009, November 3, 2010, October 26, 2011, November 7, 2012, and November 6, 2013.

The report prepared by the County in response to the request by PXP in October 2011 to increase the annual number of wells allowable for drilling or redrilling, the *Annual Well Increase Evaluation, December 2011*, includes analysis on the implementation of the hazards/fire protection/emergency response provisions of the CSD. The report documented the full implementation of the fire protection and response provisions and that the likelihood of spills has been substantially reduced and the protection of safety, health and general welfare of the public has been increased.

This provision of the CSD is considered to be fully effective at this time, no further modifications in implementation or language are recommended.

New Technology:
The CAN system was recently upgraded to include notifications via cellular phones in addition to the original land line based system; this represents a significant improvement in the ability of the system to contact the public that could potentially be affected by an emergency at the oil field.

The SPCCP is reviewed, evaluated, and updated as necessary every five years as required by Section 1.5 of the Plan. A component of the evaluation includes review of the applicability of new prevention and control technology which may significantly reduce the likelihood of a spill event. The annual spill response training also allows for new technology to be reviewed and implemented as applicable.

The annual emergency response drills and updates to the ERP document allow for new technology and techniques to be introduced and included as they become available.

Recommendations to Changes in Implementation:
The CAN system, spill containment response training and ERP have been fully implemented and are tested each year, no changes to implementation are recommended.

Recommendations to Changes in CSD Language:
The existing CSD language requires annual updating and testing of the fire protection and response provisions, thus no changes in CSD language are recommended.

***E.2 Air Quality and Public Health**. The operator shall at all times conduct oil operations to prevent the unauthorized release, escape, or emission of dangerous, hazardous, harmful and/or noxious gases, vapors, odors, or substances, and shall comply with the following provisions:*

a. Emission Offsets. The operator shall obtain emission offsets or RECLAIM credits as defined and required by SCAQMD Regulations for all new or modified emission sources that require a new or modified SCAQMD permit.

b. New Gas Plant. No new gas plant or flare shall be installed at any steam drive plant that may be constructed on the oil field. The operator shall connect any such steam drive plant to the existing gas plant to eliminate the need for a new gas plant or flare at the steam drive plant.

c. Odor Minimization. At all times the operator shall comply with the provisions of an odor minimization Plan that has been approved by the director. The odor minimization Plan shall include any measures requested by the director. The Plan shall provide detailed information about the facility and shall address all issues relating to odors from oil operations. Matters addressed within the Plan shall include setbacks, signs with contact information, logs of odor complaints, method of controlling odors such as flaring and odor suppressants, and the protocol for handling odor complaints. The odor minimization Plan shall be reviewed by the operator on an annual basis to determine if modifications to the Plan are required. Any modifications to the odor minimization Plan shall be submitted to the director for review and approval.

d. Air Monitoring Plan. At all times the operator shall comply with the provisions of an air monitoring Plan that has been approved by the director. The air monitoring Plan shall include any measure requested by the director. During drilling, redrilling, and reworking operations, the operator shall monitor for hydrogen sulfide and total hydrocarbon vapors as specified in the approved Plan. Total hydrocarbon vapors shall be monitored at the gas plant as specified in the approved Plan. Such monitors shall provide automatic alarms that are triggered by the detection of hydrogen sulfide or total hydrocarbon vapors. For drilling, redrilling, or reworking monitors, the alarms shall be audible and/or visible to the person operating the drilling, redrilling, or reworking equipment. For the gas plant monitors, the alarms shall be audible or visible to the gas plant operator. Actions to be taken shall be as follows when specified alarm levels are reached:

> *i. At a hydrogen sulfide concentration of equal to or greater than five parts per million but less than 10 parts per million, the operator shall immediately investigate the source of the hydrogen sulfide emissions and take prompt corrective action to eliminate the source. The corrective action taken shall be documented in the drilling, redrilling, or reworking log. If the concentration is not reduced to less than five parts per million within four hours of the first occurrence of such concentration, the operator shall shut down the drilling, redrilling, or reworking operations in a safe and controlled manner, until the source of the*

hydrogen sulfide emissions has been eliminated, unless shutdown creates a health and safety hazard.

ii. At a hydrogen sulfide concentration equal to or greater than 10 parts per million, the operator shall promptly shut down the drilling, redrilling, or reworking operations in a safe and controlled manner until the source of the hydrogen sulfide emissions has been eliminated, unless shutdown creates a health and safety hazard. The corrective action taken shall be documented in the drilling, redrilling, or reworking log. When an alarm is received, the operator shall promptly notify the county fire department - Health Hazardous Materials Division, the Culver City Fire Department, the Office of Emergency Services, and the SCAQMD.

iii. At a total hydrocarbon concentration equal to or greater than 500 parts per million but less than 1,000 parts per million, the operator shall immediately investigate the source of the hydrocarbon emissions and take prompt corrective action to eliminate the source. The corrective action taken shall be documented in the drilling log for drilling, redrilling, or reworking and in the gas plant log for the gas plant. If the concentration is not reduced to less than 500 parts per million within four hours of the first occurrence of such concentration, the operator shall shut down the drilling, redrilling, reworking, or gas plant operations in a safe and controlled manner, until the source of the hydrocarbon emissions has been eliminated, unless shutdown creates a health and safety hazard.

iv. At a total hydrocarbon concentration equal to or greater than 1,000 parts per million, the operator shall promptly shut down the drilling, redrilling, or reworking or gas plant operations in a safe and controlled manner, until the source of the hydrocarbon emissions has been eliminated, unless shutdown creates a health and safety hazard. The corrective action taken shall be documented in the drilling log for drilling, redrilling, or reworking and in the gas plant log for the gas plant. When an alarm is received, the operator shall promptly notify the county fire department - Health Hazardous Materials Division, the Culver City Fire Department, and the SCAQMD.

v. All the monitoring equipment shall keep a record of the levels of total hydrocarbons and hydrogen sulfide detected at each of the monitors, which shall be retained for at least five years. The operator shall, on a quarterly basis, provide a summary of all monitoring events where the hydrogen sulfide concentration was at five parts per million or higher and the total hydrocarbon concentration was at 500 parts per million or higher to the fire chief. At the request of the fire chief, the operator shall make available the retained records from the monitoring equipment.

e. Portable Flare for Drilling. The operator shall have a gas buster and a portable flare, approved by the SCAQMD, at the oil field and available for immediate use to remove any gas encountered during drilling operations from drilling muds prior to the muds

being sent to the shaker table, and to direct such gas to the portable flare for combustion. The portable flare shall record the volume of gas that is burned in the flare. The volume of gas burned in the flare shall be documented in the drilling log. The operator shall notify the fire chief and the SCAQMD within 48 hours in the event a measurable amount of gas is burned by the flare, and shall specify the volume of gas that was burned in the flare. No drilling or redrilling shall be conducted in areas that are known to penetrate the Nodular Shale zone unless a fully operational and properly maintained gas buster and portable flare are installed on the rig. All other drilling and redrilling operations shall be conducted so that any measurable gas that is encountered can, and will, be retained in the wellbore until the gas buster and portable flare are installed on the rig, after which the gas will be run through the system. The operator shall immediately notify the fire chief and the SCAQMD in the event any gas from drilling or redrilling operations is released into the atmosphere without being directed to and burned in the flare.

f. Oil Tank Pressure Monitoring and Venting. All oil tanks that contain or could contain oil shall have a fully operational pressure monitoring system that continuously measures and digitally records the pressure in the vapor space of each tank. The detection system shall notify the operator via an alarm when the pressure in the tank gets within 10 percent of the tank relief pressure. In the event of an alarm, the operator shall immediately take corrective action to reduce the tank pressure. The corrective action shall be documented in the operator's log. The operator shall notify the fire chief and the SCAQMD within 24 hours if the pressure in any tank covered by this subsection ever exceeds such tank's relief pressure. Within seven calendar days after any tank vapor release, the operator shall report the incident to the SCAQMD as a breakdown event pursuant to Rule 430, and shall provide the fire chief with a written report of the event and the corrective measures undertaken and to be undertaken to avoid future oil tank vapor releases. The operator shall make any changes to such report that may be required to obtain approval from the fire chief and the SCAQMD, and shall promptly institute all corrective measures called for by the report.

g. Odor Suppressant for Bioremediation Farms. When loading material or tilling material at the bioremediation farms, the operator shall use an odor suppressant such that no odor from the bioremediation farms can be detected at the outer boundary line.

h. Odor Suppressant for Drilling and Redrilling Operations. The operator shall use an odor suppressant spray system on the mud shaker tables for all drilling and redrilling operations to ensure that no odors from said operations can be detected at the outer boundary line.

i. Closed Systems. The operator shall ensure all produced water and oil associated with production, processing, and storage, except those used for sampling only, are contained within closed systems at all times.

j. Meteorological Station. The operator shall maintain and operate a meteorological station at the oil field in good operating condition and in compliance with all applicable

Environmental Protection Agency ("EPA") and SCAQMD rules, regulations, and guidelines, and to the satisfaction of the director. The operator shall conduct an audit of the meteorological station on an annual basis and submit the results of the audit to the SCAQMD and the director. The operator shall maintain the data files for the meteorological station for a period of not less than 10 years. All such data shall be available upon request to the SCAQMD and the director.

k. Updated Health Risk Assessment. After every five years of operation of the meteorological station, the operator shall provide the previous five years of metrological data to the SCAQMD and the director. If the SCAQMD or the director determines that the previous five years of metrological data from the oil field could result in significant changes to the health risk assessment that was conducted as part of the Baldwin Hills Community Standards District Environmental Impact Report, then the county may elect to re-run the health risk assessment using the previous five years of metrological data from the metrological station.

l. Off-Road Diesel Construction Equipment Engines. All offroad diesel construction equipment shall comply with the following provisions:

> *i. Utilize California Air Resources Board ("CARB") EPA Certification Tier III or better certified engines or other methods approved by the CARB as meeting or exceeding the Tier III standard or Tier II certified engines as long as no drilling or redrilling occurs during construction.*
>
> *ii. Utilize a CARB Verified Level 3 diesel catalyst. The catalyst shall be capable of achieving an 85 percent reduction for diesel particulate matter. Copies of the CARB verification shall be provided to the director. Said catalysts shall be properly maintained and operational at all times when the off-road diesel construction equipment is in use.*

m. Drill Rig Engines. All drilling, redrilling, and reworking rig diesel engines shall comply with the following provisions:

> *i. Utilize CARB/EPA Certification Tier II or better certified engines, or other methods approved by CARB as meeting or exceeding the Tier II standard.*
>
> *ii. Utilize second generation heavy duty diesel catalysts capable of achieving 90 percent reductions for hydrocarbons and for particulate matter smaller than 10 microns. Said catalysts shall be properly maintained and operational at all times when the diesel engines are running.*

n. Drilling and Redrilling Setbacks. The following setbacks shall apply within the oil field for drilling or redrilling:

i. At least 400 feet from developed areas.

ii. At least 20 feet from any public roadway.

o. Construction Schedule. To reduce construction air emissions, no overlap shall be permitted in major facility construction and installation activities such as the steam drive plant, the water processing facility, or the oil cleaning plant.

p. Fugitive Dust Control Plan. The operator shall comply with the provisions of a fugitive dust control Plan that has been approved by the director. The Plan shall be based upon the requirements of SCAQMD Rule 403 and the SCAQMD CEQA Guideline Fugitive Dust Control Measures. The fugitive dust control Plan shall be reviewed by the operator every five years to determine if modifications to the Plan are required. Any modifications to the fugitive dust control Plan shall be submitted to the director for review and approval. The fugitive dust control Plan shall include any measured requested by the director.

Summary of Complaints:
The County has logged 94 odor complaints and 3 dust complaints from the public on oil field operations from December 2008 through December 2013. Determining the source of an odor is an extremely difficult task due to the transient nature of an odor itself and the myriad of potential odor sources both from the oil field and the urbanized areas surrounding the oil field. As such, the source for the majority of the complaints associated with odors was not able to be unequivocally identified in follow up investigations. Air quality monitoring data, the wind speed and direction from the onsite meteorological monitoring station, field visits, and assistance from SCAQMD staff have been used to investigate odor complaints. As discussed below, the oil field air monitoring equipment has not detected an exceedance of the pollutant criteria stipulated in subsection E.2.d.i through E.2.d.iv nor has any elevated data been correlated with the time and day of any of the odor complaints.

Staff from the SCAQMD have assisted with the follow up investigation on several of the odor complaints and have detected odors on several occasions. Two of these investigations determined the source of the oil field as the cause of the odor. In one instance, the cause was determined to be a broken air-line on a compressor that caused several tanks to vent to the atmosphere. This incident was documented in an equipment breakdown report filed with the SCAQMD dated January 20, 2011. Dead animals such as road kill and skunks, unrelated to oil field operations, were other sources of odor that were positively identified during follow up investigations. Two of the three complaints for dust were associated with very high wind events where the onsite meteorological station measured wind speeds above 30 mph.

Summary of Issues Raised by the Public:
Input on noise and odor issues at the oil field has been received at the Community Advisory Panel (CAP) meetings, in comments solicited for the Periodic Review, and as part of the Settlement Agreement dated July 15, 2011 negotiated between concerned

public parties, the County and PXP (now FM O&G). Issues raised have been associated with odors, dust, requests for additional monitoring, that the results of the follow up investigations on odor complaints are not conclusive or well documented, and that the risk assessment completed by the County Health Department is incomplete.

The Settlement Agreement required supplemental air quality monitoring to assess the risk of both acute and chronic exposure to air contaminants from oil field operations. The monitoring study included sampling and analysis for air toxics including diesel particulate matter, gaseous volatile organic compounds (VOCs), and trace metals. Four monitoring sites were identified and used at the perimeter of the oil field corresponding to locations to the north, south, east, and west of the facility. The monitoring equipment was housed in a trailer with meteorological instrumentation located on a 10 meter tower to collect study site specific wind speed, wind direction and temperature data. The air monitoring study was completed in the fall of 2013; the final report was released in February 2015.

The Settlement Agreement also contains a requirement regarding operation of the gas plant back up flare. The stipulation allows for the operation of only one gas plant flare at any given time and requires the installation of the new flare be completed within 180 days of receipt of the SCAQMD permit for the flare. The Operator does not operate the gas plant flares simultaneously; the installation of the new flare was completed in 2012.

In October, 2012, in response to an inquiry from a member of the public regarding potential odors from soil being used at the oil field for a slope stabilization project, staff from the SCAQMD inspected the soil with Volatile Organic Compound (VOC) monitoring equipment. The soil in question was determined to be remediated soil from the oil field facility bio-remediation farm; however, the results of the SCAQMD inspection did not detect a significant odor. SCAQMD staff performed follow up sampling at the bio-remediation farm and discovered VOC contaminant levels above the 50 parts per million (ppm) criteria outlined in SCQAMD Rule 1166 and a Notice of Violation (NOV) was issued to the Operator (NOV #P56565 dated 10/16/12). The impacted soil was removed and transported to an approved offsite facility for disposal. As a result of the NOV, the operation of the bio-remediation farms at the oil field has been temporarily halted while the Operator installs the modifications and upgrades as required by a new RWQCB permit issued February 7, 2013. FM O&G and the SCAQMD reached a settlement relating to the NOV on 1/28/13 and the issue has been closed.

Analysis of Compliance and Effectiveness:
Subsection E.2.a requires the operator of the oil field to obtain emission offsets or RECLAIM credits for all new or modified emission sources requiring a SCAQMD permit. To date, the oil field has obtained five SCAQMD permits; one for the new flare and four for the installation of new tanks. None of these permits required emission offsets or the purchase of RECLAIM credits. The requirements listed under E.2.b have also not been implemented to date because a new gas plant or new steam drive plant has not been proposed or installed.

The Odor Minimization Plan was submitted on February 25, 2009 and revised and approved on April 15, 2010. The Plan describes the four main sources of potential odors at the oil field as fugitive emissions from equipment, operation of the bioremediation farms, drilling muds, and accidental release from drilling activities. The Plan identified the use of suppressants for odor minimization at the bioremediation farms and for drilling muds and the use of a portable flare/gas buster for drilling operations. The use of closed systems for all equipment associated with produced water and oil, consistent with provision E.2.i, is described for odor minimization from fugitive emissions.

Odor Suppressant

Odor suppressant is sprayed onto the bio farms during loading, prior to tilling and during tilling operations as needed. Drilling muds and cuttings are sprayed with suppressants as they pass through the “mud shakers” via overhead misters connected to a drum of liquid suppressant. A portable flare/gas buster, as required by provision E.2.e, is available for use at drilling and redrilling sites for potential odors from drilling operations. These odor minimization measures are inspected for operation to document compliance during the periodic inspections completed by the County Environmental Compliance Coordinator (ECC).

The Air Monitoring Plan was submitted on February 29, 2009, revised in November and December of 2009 and approved by the County on January 4, 2010. The Plan presents information on meteorological conditions at the oil field, air contaminants associated with oil and gas operations, air monitoring instrumentation and procedure requirements, and air monitoring Plan training for oil field personnel. Portable air monitoring trailers with Total Hydrocarbon (THC) and Hydrogen Sulfide (H_2S) monitors that meet the specifications outlined in the Plan are employed at drilling and redrilling sites. The drilling site monitor data is recorded on a data logger which is downloaded and transferred to the oil field air monitoring data base at the end of each drilling project. The portable monitoring system includes an alarm system with both visual and auditory capabilities; the sound alarm is turned off at night pursuant to the requirements of the Quiet Mode Drilling Plan (QMDP).

Air Quality Monitoring Trailer

Air monitoring at the gas plant consists of THC sensors located at each of the four corners of the gas plant facility footprint. The sensors are connected to the gas plant computer Supervisory Control and Data Acquisition (SCADA) system which provides for real time data access by gas plant personnel and alarm capability. The SCADA system logs the monitoring data for later download to the oil field air quality monitoring database.

The CSD does not require an annual compliance report for the air quality monitoring data, however, the data must be available to the County for review upon request. Air monitoring results along with the monitoring sensor calibration data are reviewed by the County ECC periodically during site visits and at the annual Environmental Quality Assurance Program (EQAP) audit. To date, no exceedance of the air monitoring criteria specified in subsections E.2.d.i through E.2.d.iv has been measured at the oil field and thus the drilling or gas plant corrective actions required by these subsections have not been necessary to implement.

The portable flare for drilling required by subsection E.2.e was custom built by PXP, the former operator of the oil field. The flare system was reviewed, approved, and permitted by the SCQAMD and meets the requirement for recording the volume of gas burned. The oil field has SCAQMD permits for two of these portable flare systems. Current operating procedure at the oil field calls for the flare to be installed at every drilling and re-drilling operation whereas subsection E.2.e requires that only drilling activity in the Nodular Shale zone require the installation of the flare system or if gas in the well bore is encountered. As noted above, no gas has been flared through the portable gas flare system to date.

All tanks that contain oil and/or produced water are connected to the oil field operational pressure monitoring system as required by subsections E.2.f and E.2.i. The system is connected to the SCADA system and is monitored by gas plant personnel. The tanks and associated valves, pipeline flanges, and pressure relief systems are subject to SCAQMD permit requirements and the associated fugitive emissions program. The fugitive emissions program requires quarterly inspections of oil field equipment for fugitive emissions with the use of a portable hand held organic vapor analyzer. The results of these inspections are submitted to the SCAQMD. The oil field uses a third party consultant specializing in air quality monitoring for the fugitive emissions inspection program. The SCAQMD audits the results of the fugitive inspection monitoring program by performing an annual inspection of the subject oil field equipment. The tanks and associated equipment are also subject to the breakdown provisions of AQMD Rule 430. Failure of the pressure monitoring system requires notification and calculation of any air emissions associated with the breakdown. The oil field has filed 6 breakdown reports in compliance with AQMD Rule 430 since the inception of the CSD.

As discussed above regarding the Odor Minimization Plan, odor suppressants are used at the bioremediation farms and for drilling and redrilling operations as required by subsections E.2.g and E.2.h. Odor suppressant at the bioremediation farms is applied manually with a sprinkler system when odors are detected during loading, pre-tilling and tilling operations. The odor suppressant system for the drill rig is a custom made mister system where the suppressant is

Odorant Hose and Spray Nozzle

pumped from a drum source up to tubing installed across the top of the mud shaker. Sprinkler type misters are installed in the tubing every few feet and spray the odorant downward over the mud and drill cuttings material. Periodic inspections by the County ECC document the installation and operation of these odor suppressant systems.

The meteorological monitoring system required by subsection E.2.j was approved by the SCAQMD in July 2009, installed and tested in December 2009, and was operational on January 21, 2010. Monitoring data is collected on a data logger which is downloaded monthly to the oil field air monitoring data base. The meteorological instrumentation is calibrated annually by instrumentation vendor technicians. The annual Data Validation Reports are posted on the oil field website at http://www.inglewoodoilfield.com. Operation of the meteorological station is checked by the ECC during periodic site inspections and the annual Data Validation Report is reviewed during the EQAP audit.

Meteorological Station

The updated Health Risk Assessment required by subsection E.2.k has not been completed to date, the required 5 years of onsite meteorological data was collected in January 2015, the data is currently under review. Subsections E.2.l and E.2.m require that engines associated with off road diesel construction equipment and drill rig engines, respectively, meet California Air Resources Board (CARB) emission reduction requirements. Subsection E.2.n provides setbacks for drilling or redrilling sites. Review and approval of the *Annual Drilling, Redrilling, Well Abandonment, and Well Pad Restoration Plan* confirms compliance with these provisions where engine certification documents are checked and drilling locations are reviewed for compliance with setback requirements. Subsection E.2.o, construction schedule limitations for major facility construction, has not been implemented to date because no major construction projects have been proposed or constructed to date.

Pursuant to Provision E.2.m, CARB/EPA Certification Tier II or better certified engines and heavy duty diesel catalysts are required for all drilling, redrilling, and reworking rig diesel engines. All rigs operated at the Inglewood Oil Field meet this criteria with most meeting CARB/EPA Tier III engine standards.

Water Truck – Dust Control

The Fugitive Dust Control Plan was submitted on March 26, 2009 and revised and approved in April 2010. The Plan describes potential dust generating activities associated with oil field operations and outlines dust control measures to minimize offsite dust. Some of the primary dust control measures included in the Plan are limiting oil field vehicle speeds to 15 mph, the use of water trucks on unpaved roads, limiting vehicle travel on unpaved roads and parking surfaces, and the use of tarps or

soil stabilizers to prevent dust from soil stockpiles. Other dust control measures include procedures for loading and unloading material from trucks, pipe track out grid devices to knock mud from vehicles leaving the oil field, and minimizing dust generating activities during high wind speed times. As noted above, 2 of the 3 dust complaints were associated with days with wind speeds in excess of 30 mph.

The A*nnual Well Increase Evaluation, December 2011,* included a discussion of the effectiveness of the CSD air quality provisions. The report concluded that air emissions criteria had not been exceeded and that the operation of the oil field was in compliance with the requirements for air quality and public health of the CSD. The report further concluded that the CSD has been effective at keeping odors to levels that would be considered protective of the health and general welfare of the public.

The air quality and public health requirements of this provision have been implemented and are ongoing. This condition is considered to be fully effective at this time, no further evaluation is recommended.

New Technology:
New emission sources at the oil field require permitting by the SCAQMD and may require offsets or RECLAIM credits. The compliance plans for odor minimization, air monitoring, meteorological monitoring, and fugitive dust are required to be updated periodically or as required by the County. Closed monitoring systems and oil field engines are subject to SCAQMD or CARB rules, respectively. The oil field drill rigs are subject to CARB diesel exhaust reducing programs, those programs include the exhaust emission standards program that requires engine replacement and/or installation of emission control devices on diesel engines. For example, CARB Rule 2449 requires that the diesel engines in the oil field rigs meet specific emissions limitations for pollutants such as NO_X and diesel particulate matter (DPM). The allowable emissions requirements decrease each year through the year 2023, providing a significant annual decrease in air pollutants from oil well drilling, re-working and maintenance activities associated with the operation of the rigs.

Therefore, technical improvements that provide cleaner burning drill rig engines are currently required at the oil field through the year 2023. In addition, as new technology is developed in air quality monitoring, emission controls, or oil field equipment that can lower the air quality impact of oil field operations, that technology can be implemented by this provision by reference.

Recommendations to Changes in Implementation:
This requirement has been implemented, no changes to implementation are recommended.

Recommendations to Changes in CSD Language:
No changes to the CSD language are recommended.

E.3. Safety and Risk of Upset. *The operator shall at all times conduct oil operations in a manner that minimizes risk of accidents and the release of hazardous materials, and shall comply with the following provisions:*

a. Natural Gas Liquid Blending. Natural gas liquids at the gas plant shall be blended with the oil to the maximum allowable pipeline system vapor pressure. Natural gas liquids storage shall be limited to the volume allowed in the risk management Plan approved by the fire department.

b. Propane and Natural Gas Liquids Bullet Fire-Proofing. The operator shall install and maintain fire-proofing insulation on all propane and natural gas liquids bullets within the oil field. The fire-proofing insulation shall have a minimum two hour fire rating and otherwise be acceptable to the fire chief. All propane and natural gas liquid bullets shall be equipped with an automatic deluge system.

c. Steam Drive Plant Setback. The steam drive plant, if constructed, shall be located at least 1,000 feet from a developed area and shall use urea or equivalent, low toxicity material for any nitrogen oxide emission reduction that is required by the SCAQMD.

d. Secondary Containment for Oil. The operator shall comply with the following provisions:

> *i. The operator shall ensure that all existing oil tank areas in the oil field, unless determined by the director to be infeasible, and all the new oil tank areas shall have secondary containment (berms and/or walls) that can contain at least 110 percent of the largest oil tank volume to reduce the likelihood of oil spills entering the retention basins. In the event the director determines that it would be infeasible to provide 110 percent containment for a particular existing oil tank, the operator shall provide such containment as the director determines is feasible.*
>
> *ii. All retention basins in the oil field shall be adequately sized, and maintained to handle a 100-year storm event plus a potential spill of the volume of the largest tank that would drain into each basin.*
>
> *iii. All above ground piping in the oil field that contains or could contain oil shall be protected by basins or secondary containment measures (berms and/or walls).*

Summary of Complaints:

The County has not received any public input on the natural gas liquid blending or the fire proofing of the propane and natural gas liquid bullets requirements to date. A steam drive plant has not been constructed to date and no public input has been received by the County. No off site oil or unauthorized storm water discharges have occurred since the implementation of the CSD and no complaints regarding secondary containment for oil have been received by the County.

Summary of Issues Raised by the Public:

Tank Secondary Containment

Provisions 3.a through 3.c are operational requirements developed from the EIR to minimize potential impacts to public safety from the operation of the gas plant, the propane storage and loading facilities, and a potential new steam drive plant. The County has not received any public input on natural gas blending or the propane and natural gas liquid fire-proofing; a new steam drive plant has not been constructed or proposed to date.The overflow of a wash tank that occurred on September 20, 2013 was discussed during a CAP meeting on September 26, 2013. The tank overflowed into the tank overflow line due to a malfunctioned level controller with the amount estimated at 30 barrels of oil with 600 barrels of water. The fluid flowed via a tank overflow pipeline to a second tank, into the second tank overflow line and into a lined secondary containment pit. The oil and water were subsequently removed from the pit and returned to the facility system. Issues raised by the public included testing and maintenance of the level controller, the capacity of the second tank, a recommendation to install backup level controllers, and why the failed level controller did not shut off oil to the tank before the tank reached an overflow volume. FM O&G and the County reported back at the following CAP meeting on October 24, 2013 that the alarm system for the failed tank controller unit properly notified oil field operations staff and that the secondary containment system was sufficient to prevent the fluid from traveling offsite.

Analysis of Compliance and Effectiveness:

FM O&G blends the natural gas liquids (NGLs) to the maximum allowable pipeline system vapor pressure as required by the subject CSD provision requirement and for economic reasons. Blending of NGLs can provide several main benefits when added to crude oil; the NGLs can decrease the viscosity and improve the API gravity value of the oil and reduces offsite transportation costs. Current production and operation of the oil field allow for all NGL produced to be blended with the oil and transported off site with the crude oil via pipeline. The storage of the NGL tank is in compliance with the criteria in the Risk Management Plan.

The propane and natural gas liquids bullet fire proofing was completed on February 23, 2009 with the associated documentation submitted to the LA County Fire Department on February 25, 2009. The approved fire proofing system has a two hour fire rating and is equipped with an automatic deluge system. With this fireproofing and deluge system the potential for a propane or natural gas fire at the bullets has been substantially reduced. The *PXP 2009 Third Party Audit of Fire Protection Capabilities at Inglewood Oil Field* report analyzed the oilfield's fire protection capabilities for compliance with National Fire Protection Agency (NFPA) Requirements, the County Fire Code, County Fire Department Regulations, California Code of Regulations, and American Petroleum Institute (API) Standards and Recommended Practices. The report, completed in March 2009, determined that all the tanks, vessels, and other equipment associated

with fire potential were in compliance with all referenced codes and requirements and the report further documented the oil field is in compliance with industry best practices for similar facilities.

The A*nnual Well Increase Evaluation, December 2011,* included a review of the fire proofing and automatic deluge systems. The report concluded the potential for a propane or natural gas fire at the bullet storage area has been substantially reduced. The report also concluded that the secondary containment and retention basin systems, discussed in more detail below, are adequately sized for both a worst case spill and a 100 year storm event.

A steam drive plant has not been constructed to date. An analysis of the location and emission reduction equipment will be completed by the DRP and SCAQMD during the processing of the project application if such a new plant is proposed. FM O&G does not currently Plan to construct a new steam drive plant.

As documented in the *PXP 2009 Tank Leak Detection and Containment at Inglewood Oil Field* report, approved in May 2009, all tanks have secondary containment consisting of a wall, berm, or combination of the two types. The report also concluded that all tank secondary containment structures comply with DOGGR requirements and that the volume of the available secondary containment is capable of containing volumes in excess of the full volume of each tank.

The oil field contains six retention basins; Dabney Lloyd, Vickers 2 Upper, Vickers 2 Lower, Vickers 1, Stocker, and LAI Last Chance. If these basins discharge, they discharge directly or indirectly to the Los Angeles Department of Public Works (LADPW) storm drains. During the dry season, the basins are maintained to be free of debris and are periodically inspected by the County ECC. The basins have two stage outlet control features consisting of outlet orifices and dual water and oil weir systems to prevent oil from reaching the storm drain system. The *PXP Retention Basin Study*, completed in March 2009 and revised in September 2009 and January 2010, analyzed and modeled the capacities of the basins along with a 100 year storm event. The study concluded that the onsite basins have the capability to handle a 100 year storm event without flooding per the CSD requirement. The study further determined that in the event of an oil tank failure during a 100 year storm event, the basin weir system would prevent oil from going offsite. The County Public Works Department has reviewed and approved the retention basin capacities.

Vickers Basin

The 2012 EQAP audit report discusses a release of 90 barrels of produced water that occurred on February 25, 2012. The cause of the release was a corroded six inch trunk pipeline and the produced water flowed across the facility and into the storm water basin system. Several barrels of water flowed off site along the Stocker Street curb before returning back on site and back into the storm water drain system where it was contained in a storm water basin. The Stocker Street storm water curb also directs storm water from offsite into the facility storm water system. The corroded pipeline was connected to a well that was shut in and it was removed from service. Review of the incident during the audit process indicated the system worked as designed by directing the released water into the storm water system and capturing it in a basin.

Most of the above ground piping throughout the oil field is not protected by individual pipeline specific secondary containment or basin structures; however, the oil field retention basin system prevents any fluid from the above ground piping from traveling offsite.

The mitigations for safety and risk of upset required by this provision have been implemented and are considered to be fully effective at this time, no further analysis is recommended.

New Technology:
Blending of NGLs with oil is standard industry best practice and the transportation of NGL by pipeline significantly reduces the risk to public safety when compared to other modes of transportation such as truck or rail.

As noted above, the propane and natural gas liquids bullets are subject to regulatory agency codes and requirements, therefore, new or modified equipment will be updated as required by future changes to those codes and requirements. New technologies associated with the operation of a steam drive plant will be reviewed by the DRP, SCAQMD, and other interested agencies during review of a project application should a new plant be proposed.

The facility oil tank secondary containment and retention basin systems are sufficient to handle a worst case oil spill along with a 100 year storm event. As applicable plans such as the ERP and SPCCP are periodically updated and through the annual EQAP audit process, new technologies for the prevention and control of potential leaks or spills are reviewed and can be implemented as applicable, without the need to modify the CSD.

Recommendations to Changes in Implementation:
The requirements for safety and risk of upset to minimize risk of accidents and the release of hazardous materials of this provision have been implemented, no changes to implementation are recommended.

Recommendations to Changes in CSD Language:
The provision is considered to be fully effective at this time, no changes to the CSD language are recommended.

***E.4 Geotechnical**. The operator shall comply with the following provisions:*

a. Grading. The operator shall comply with all of the following provisions:

i. All proposed grading shall be subject to prior review and approval by the director of public works.

ii. Grading involving up to 5,000 cubic yards and grading associated with the bioremediation farms may be undertaken pursuant to a county master grading Plan stamped by a registered professional engineer and a California certified engineering geologist and approved by the director of public works.

iii. No slope of cut or fill shall have a gradient steeper than two to one (2:1) unless specifically approved by a site specific geotechnical report.

iv. Cuts and fills shall be minimized to avoid erosion and visual impacts.

b. Geotechnical Investigations. The operator shall comply with the following provisions:

i. A site-specific geotechnical investigation shall be completed for grading in excess of 5,000 cubic yards, unless associated with the on-site Bioremediation Farms and approved pursuant to a master grading Plan approved by the director of public works, and for any grading that supports or impacts a critical facility as determined by the director. The investigation shall be completed by a California certified engineering geologist and submitted to the director and the director of public works for review and approval, in conjunction with an application for a revised grading permit.

ii. A site-specific geotechnical investigation shall be completed for all proposed permanent structures. The investigation shall include analysis and recommendations associated with potential seismically induced ground failure, such as differential settlement and lateral spreading. The geotechnical investigation shall be completed by a California-certified engineering geologist and submitted to the director of public works for review and approval.

c. Erosion Control. The operator shall comply with the following provisions:

i. The operator shall comply with all provisions of an erosion control Plan that has been approved by the director. The erosion control Plan shall be reviewed by the operator every two years to determine if modifications to the Plan are required. Any modifications to the erosion control Plan shall be submitted to the director for

review and approval. The erosion control Plan shall include any measures requested by the director.

ii. Erosion shall be controlled on all slopes and banks so that no mud or other substances are washed onto public streets or surrounding property. Such control measures may consist of planting and irrigation, dams, cribbing, riprap, sand bagging, netting, berms, or other devices.

d. Restoration of Slopes. Slopes shall be restored to their original grade once the use that required the grading of the slope has been discontinued. However, if restoration of a slope would negatively affect existing drainage patterns or slope stability, then the slope shall be restored to a grade that avoids these negative effects.

e. Ground Movement Surveys. The operator shall conduct ground movement surveys once every 12 months, or more frequently if determined necessary by the director of public works, following all provisions of a ground movement monitoring Plan that is acceptable to DOGGR and the director of public works, that calls for both vertical and horizontal ground movement surveys, at specified survey locations within, and in the vicinity of, the oil field, utilizing high precision Global Positioning System technology, in combination with a network of ground stations (or any alternative technology specified in the ground movement monitoring Plan approved by the director of public works), and following other survey methods outlined in the Plan. The surveys shall be conducted by a California-licensed surveyor. The survey results shall be analyzed in relation to oil field activities, such as production, steam injection, and waterflooding, taking into consideration individual oil producing zones, injection schedules, rates, volume, and pressure. The analysis shall be completed in collaboration by a California-registered professional petroleum engineer, registered geotechnical engineer, and certified engineering geologist. The results of the annual monitoring survey and analysis shall be forwarded to DOGGR and the director of public works. If requested by DOGGR or the director of public works, the operator shall make modifications to the ground movement monitoring Plan. In the event that survey indicates that on-going ground movement, equal to or greater than 0.6 inches at any given location, or a lesser value determined by the director of public works is occurring in an upward or downward direction in the vicinity of or in the oil field, the operator shall review and analyze all claims or complaints of subsidence damage that have been submitted to the operator or the county by the public or a public entity in the 12 months since the last ground movement survey. Based thereon, the operator shall prepare a report that assesses whether any of the alleged subsidence damage was caused by oil operations and submit said report to DOGGR and the department of public works. The department of public works shall review the report to determine if it concurs with its conclusions. If the report concludes that damage has not been caused by oil operations, and the department of public works does not concur in that conclusion, it shall forward its conclusions to DOGGR for its review and possible action. If the report concludes that damage was caused by oil operations and the department of public works concurs with any such conclusion, the department of public works shall forward the department of public works' conclusions to DOGGR and ask DOGGR to evaluate the operator's fluid injection and withdrawal rates

to determine whether adjustments to these rates may alleviate the ground movement, and if so, where in the oil field such adjustments should be made. The operator shall implement whatever adjustments in the rates of fluid injection and/or withdrawal that DOGGR determines are necessary and appropriate to alleviate any ground movement damage. The county shall promptly notify the CAP of any such action that is taken pursuant to this subsection. Injection pressures associated with secondary recovery operations (i.e., water flooding) or disposal of produced fluids shall not exceed reservoir fracture pressures as specified in Title 14 of the California Code of Regulations, section 1724.10, and as approved by the DOGGR.

f. Construction of Permanent Structures. No permanent structures shall be constructed in an Alquist-Priolo Fault Zone without preparation of a fault study by a California-certified engineering geologist. Following the fault study, no permanent structures shall be placed within 50 feet of a known active fault. The fault investigation report shall be submitted to the director of public works for review and approval.

g. Oil Field Accelerometer. The operator shall operate and maintain an accelerometer at the oil field to determine site-specific ground accelerations as a result of any seismic event in the region (Los Angeles Orange County and offshore waters of the Santa Monica Bay and San Pedro Channel). Readings from the accelerometer shall be recorded at the oil field and transmitted in real-time to the Caltech Seismological Laboratory. The operator shall cease operations and inspect all oil field pipelines, storage tanks, and other infrastructure following any seismic event that exceeds a ground acceleration at the oil field of 13 percent of gravity (0.13 g) and promptly notify the director. The operator shall not reinstitute operations at the oil field and associated pipelines until it can reasonably be determined that all oil field infrastructure is structurally sound.

h. Pipeline Management Plan. The operator shall maintain and implement a pipeline management Plan that meets the requirements of DOGGR regulations.

i. Paleontological Monitor. The operator shall have a qualified paleontologist, approved by the director, monitor all rough grading and other significant ground disturbing activities in paleontological sensitive sediments. The sensitive sediments that have been identified within the oil field include the Lower to Middle Pleistocene San Pedro Formation and the Middle to Upper Pleistocene Lakewood Formation. A paleontologist will not be required on site if excavation is only occurring in artificial fill or Holocene alluvium.

Summary of Complaints:

One complaint on ground movement and 26 complaints on property damage have been received through December 2013. Two of the complaints were not associated with ground movement or oil field activities, with one described as a rock to a car window and one associated with oily soil in a residential garden plot. The remaining 22 complaints listed various types of property damage from cracks in walls, driveways, and

swimming pools. As listed in the analysis section below, results of the annual ground movement survey required 18 investigations for property damage claims.

Summary of Issues Raised by the Public:
Members of the public have expressed frustration with the requirements of the provision of the CSD on ground movement claims. During various CAP meetings members of the public have expressed a desire to have a more direct mechanism by which their claims can be evaluated and that, where appropriate, have the claims be resolved in a timely fashion.

The 2012 and 2013 ground movement survey reports recommended that one of the historical monuments utilized for the surveys (Monitor Station 50004, Historical Monument Inglewood E-1C) be discontinued due to problems with the station which may be affected by a tree root; the reports recommend that the station be moved or that another station be installed nearby. This situation has been discussed at Community Advisory Panel (CAP) meetings with comments concerned as to whether the movement of the survey point was due to the tree root or actual ground movement. Discussion at the October 2013 CAP meeting included a request by a CAP member that the existing station remains as data point and that an additional station be installed nearby. Although this Periodic Review document does not include 2014 compliance activities, the subject survey marker was replaced in 2014, see discussion below.

Analysis of Compliance and Effectiveness:
All grading at the oil field has been reviewed and approved by the County Public Works Department by the annual submittal of a master grading Plan, submitted in October or November of each year. Grading associated with the operation of the bio farms is also included in the master grading Plan. The Plan is prepared by a registered professional engineer and a California certified engineering geologist. Approval of the master grading Plan by the County ensures no slopes have a gradient greater than two to one without a geotechnical report and that cut and fill is minimized to avoid erosion and visual impacts. The grading projects at the oil field to date have been 5,000 cubic yard or less, therefore, a site specific geotechnical investigation pursuant to Provision E.4.b.i has not been required. Geotechnical investigations have been completed for the installation of permanent structures at the oil field with the geotechnical reports submitted along with the County DRP site Plan and Building and Safety permit applications. Examples of permanent structures requiring this analysis include a 5,000 barrel tank at the Packard Tank Setting, a foundation for injection pump at the water plant, installation of two new water tanks, and a new “UltraFab” unit installed at the gas plant.

The *PXP 2009 Erosion Control Plan Inglewood Oil Field* was initially submitted on May 26, 2009, revised in October 2009 and approved by County Public Works in May 2010. The Plan describes the oil field site and the surrounding public streets and includes a discussion on typical erosion control strategies and the erosion control strategies used onsite at the oil field. Restoration of slopes at the oil field from grading activities has been completed consistent with the erosion control Plan and the master grading Plan.

In addition to the Erosion Control Plan, the oil field Storm Water Pollution Prevention Plan (SWPPP) contains measures and management practices to control mud from washing onto public streets or surrounding properties. FM O&G utilizes an environmental consulting company with expertise in storm water management to assist them in the implementation of the provisions of the SWPPP.

Ground movement surveys have been completed annually as required pursuant to the *Accumulated Ground Movement Plan* approved by County Department of Public Works (DPW) on November 10, 2009 and DOGGR on November 30, 2009. The surveys are completed using Global Positioning (GPS), Geodetic Leveling, and DifSAR processes and procedures as documented in the Ground Movement Monitoring Plan as approved by DPW and DOGGR. Baseline survey reports were submitted in January 2011 with revisions in March and October 2012. Annual survey reports were submitted July 2012 with revisions in October 2012, September 2013, and October 2014 to DOGGR and the DPW as required, the reports are available on the Inglewood Oil Field web site at http://www.inglewoodoilfield.com.

Potential interference from tree roots or other issues with several survey marker (monument) locations was addressed in the 2014 Annual Ground Movement Survey documentation. As a result, twelve survey markers were added in 2014 including monument number 50004 which was recommended at a CAP meeting for replacement. The new survey monuments were surveyed during the 2014 survey for baseline measurements; the original twelve were left in place and will continue to be included in the future ground movement surveys. The replacement monuments are summarized in the following table.

Monument Number	Replacement Number	Reason for Replacement
102	301	Possible expansive soil.
111	309	Possible slope creep and disturbance from road maintenance work.
112	310	Possible slope creep and disturbance from road maintenance work.
116	304	Possible slope creep and disturbance from road maintenance work.
120	311	Possible slope creep and slope erosion.
121	312	Possible fill settlement, slope creep, and disturbance from oil field activities.
132	305	Movement due to tree roots and future repairs to sidewalks and curb.
50000	308	Possible expansive soil.
50002	307	Possible expansive soil.
50003	302	Possible expansive soil and disturbance from oil field activities.
50004	303	Possible slope creep, expansive solids, and tree root interference.
50010	306	Possible expansive soil and disturbance from power line maintenance activities.

Results of the ground movement surveys for 2011 and 2012 have indicated subsidence equal or greater than 0.6 inches which triggers the requirement to investigate complaints of subsidence damage from the public. In 2011, 17 damage claims were investigated and 3 claims were followed up on in 2012. Reports were prepared on the subsidence claims and submitted to County Public Works for review; none of the reports concluded that the reported damage was caused by the oil field. One claim, in the Windsor Hills School area and originally initiated in July 2012, continues to be investigated. The July 2012 complaint was followed up with the required geotechnical investigation and reviewed by Public Works. Public Works, in a letter dated September 25, 2012, requested additional data from the oil field operator (PXP at the time) to assist in review of potential causes of the subsidence in the Windsor School area. PXP provided additional information to Public Works on November 9, 2012 and the data was forwarded to DOGGR for review. DOGGR staff concluded that, due to the complex geology and subsidence history of the area, additional ground movement survey data is required to make a determination on the oil field operations potential impact to ground movement in the Windsor Hills School area.

As suggested in the various reports and as concurred by Public Works and DOGGR Geologists, the areas used for construction of residences surrounding the oil field consists mostly of construction in areas with substantial slopes on unconsolidated, unstable material that was not properly compacted at the time of construction. In addition, construction of residences preceded modern building codes and residences were not built to today's more stringent construction standards, potentially accounting for some of the cracking of structures. Finally, the areas surrounding the oil field are all within a seismically active location. The combination of all these factors is more likely to contribute to ground movement and potential property damage than the operations at the oil field. DOGGR continues to monitor closely the withdrawal and reinjection of fluids into the reservoirs to prevent ground movement from occurring as a result of the oil field operations.

The A*nnual Well Increase Evaluation, December 2011,* included a discussion of the ground movement issue and associated surveys. The report reviewed the survey results and concluded that although additional monitoring data is required for a final determination regarding ground movement impacts from the oil field, the provisions of the CSD are keeping ground movement to a level that is considered protective of the safety, health, and general welfare of the public.

No permanent structures have been constructed in an Alquist-Priolo Fault Zone since the adoption of the CSD, therefore, the preparation of a fault study required by subsection E.4.f has not been required to date. The office, warehouse, and associated buildings are built within the fault zone overlay; however, construction of these structures pre dates the CSD requirement.

The oil field accelerometer seismic station was installed and began collecting data on May 20, 2009. The data is transmitted in real time by cell link to the CalTech Seismological Laboratory where the data is recorded and stored. The accelerometer

has not measured ground acceleration in excess of the 13 percent of gravity (0.13 g) criteria of this provision to date, thus the oil field has not been required to shut in due to a ground acceleration event.

The pipeline management Plan required by subsection E.4.h was submitted to DOGGR as required in December 2009, it has not been necessary to update the Plan to date. Three projects have triggered the paleontological requirements of subsection E.4.i; work associated with wells TVIC-4311, TVIC-3263 and TVIC-181. These three wells are located within the identified paleontological geologic sensitive units (the San Pedro or Inglewood formations). The surveys were performed by an environmental consulting firm with a County approved Registered Geologist with expertise in paleontology. Results of the surveys for the three wells did not indicate any items of potential paleontological interest.

The provision is considered to be fully effective at this time, no further analysis is recommended.

New Technology:
The scientific equipment used for the technical studies required pursuant to this provision is considered to be state of the art. No recommendations for new technology are recommended at this time.

Recommendations to Changes in Implementation:
No recommendations for new technology are recommended at this time.

Recommendations to Changes in CSD Language:
No changes to the CSD language are recommended.

E.5 Noise Attenuation. *All oil operations on the oil field shall be conducted in a manner that minimizes noise and shall comply with the following provisions:*

a. Noise Limits. The operator shall comply with the following provisions:

> *i. All oil operations on the oil field shall comply with the noise provisions of Chapter 12.08 of Title 12 of the County Code, with the exception of drilling, redrilling, and reworking, which are exempt from the provisions of said chapter.*
>
> *ii. Hourly, A-weighted equivalent noise levels associated with drilling, redrilling, and reworking shall not elevate existing baseline levels by more than five dBA at any developed area. For daytime activities (7:00 a.m. to 7:00 p.m.) existing baseline noise levels shall be defined as the maximum daytime equivalent noise level (Leq) at the closest monitoring site as shown in Table 4.9.3 of the 2008 Baldwin Hills Community Standards District Environmental Impact Report. For nighttime activities (7:00 p.m. to 7:00 a.m.), existing baseline noise levels shall be defined as the minimum nighttime equivalent noise level (Leq) at the closest*

monitoring site as shown in Table 4.9.3 of the 2008 Baldwin Hills Community Standards District Environmental Impact Report. Updated baseline noise levels may be set and additional monitoring sites may be established, from time to time by the director. In no case shall baseline noise levels include any drilling, redrilling, or reworking operations.

iii. Noise produced by oil operations shall include no pure tones when measured at a developed area.

b. Backup Alarms. Backup alarms on all vehicles operating within the oil field shall be disabled between the hours of 8:00 p.m. and 8:00 a.m. During periods when the backup alarms are disabled, the operator shall employ alternate, low-noise methods for ensuring worker safety during vehicle backup, such as the use of spotters.

c. Quiet Mode Drilling Plan. All drilling and redrilling on the oil field between the hours of 6:00 p.m. and 8:00 a.m. shall be conducted in conformity with a quiet mode drilling Plan that has been approved by the director and the director of public health. The quiet mode drilling Plan shall be reviewed by the operator every year to determine if modifications to the Plan are required. The operator shall make changes to the Plan if requested by the director or the director of public health. Any modifications to the quiet mode drilling Plan shall be submitted to the director and the director of public health for review and approval. The quiet mode drilling Plan shall include any measures requested by the director or the director of public health.

d. Equipment Servicing. All noise producing oil field equipment shall be regularly serviced and repaired to minimize increases in pure tones and other noise output over time. The operator shall maintain an equipment service log for all noise-producing equipment.

e. Deliveries to the Oil Field. Deliveries to the oil field shall not be permitted after 8:00 p.m. and before 7:00 a.m. except in cases of emergency. Deliveries on Sundays or legal holidays shall not be permitted after 8:00 p.m. or before 9:00 a.m., except in cases of emergency.

f. Deliveries within the Oil Field. Deliveries to areas of the oil field located within 500 feet of any residential property shall not be permitted after 5:00 p.m. or before 7:00 a.m. except in cases of emergency. Deliveries to such areas on Sundays or legal holidays shall not be permitted after 5:00 p.m. and before 9:00 a.m., except in cases of emergency.

g. Time Limits for Construction. Construction of permanent structures shall not be permitted after 7:00 p.m. and before 7:00 a.m., or during Saturdays, Sundays, or legal holidays.

h. Construction Equipment. All construction equipment shall be selected for low-noise output. All construction equipment powered by internal combustion engines shall be properly muffled and maintained.

i. Construction Equipment Idling. Unnecessary idling of construction equipment internal combustion engines is prohibited.

j. Worker Notification. The operator shall instruct employees and subcontractors about the noise provisions of this subsection E.5 prior to commencement of each and every drilling, redrilling, reworking, and construction operation, and shall annually certify to the director that such employees and subcontractors have been properly trained to comply with such noise provisions. The operator shall prominently post quiet mode policies at every drilling and redrilling site.

Summary of Complaints: Fifty complaints from January 2009 through December 2013 have been logged regarding noise from the oil field with the majority of the complaints not identified with a specific noise source either from the oil field or from other potential area noise sources. For noise that was identified with a source from the oil field, maintenance rigs, work over rigs, and the sound of pipe banging was found to be the primary cause of noise.

Acoustical Noise Blanket

The report prepared by the County in response to the request by PXP in October 2011 to increase the annual number of wells allowable for drilling or redrilling, the *Annual Well Increase Evaluation, December 2011*, includes analysis on the implementation of the noise provisions of the CSD through August, 2011. The report detailed the noise complaints between January 2009 and the end of the third quarter of 2011 where 22 noise complaints had been logged and investigated. Eleven of the complaints were determined to come from other sources not related to oil field operations, four were identified to be potentially associated with the oil field and seven could not be confirmed as to the source. Noise monitoring data for the four complaints associated with the oil field indicated the noise did not exceed the noise limits of the CSD.

Summary of Issues Raised by the Public:
Noise from the oil field was discussed in detail at the Community Advisory Panel (CAP) meeting on October 25, 2012 where staff from the Public Health Department made a presentation on the noise monitoring activities conducted by the County. The Public Health Department performs sampling at various locations within the surrounding communities at random dates and times of day. The presentation concluded that the dominant source of noise in the area of the oil field is traffic for both daytime and nighttime periods. Input from the public at the meeting included requests for more monitoring, more monitoring locations, monitor locations closer to residences, and discussions of specific noise complaints such as banging of pipes.

Input on potential noise from the oil field was also received by the County in comments solicited for the Periodic Review. The comments were raised at the CAP meeting on May 23, 2013. Members of the public identified oil field noise as coming from banging, unloading of trucks, jackhammers, low decibel underground drilling noises, some type of alarm noise in early morning hours and constant rumblings after 10pm. The public also noted a lack of noise barriers at work over drill rig sites.

Oil field noise was a discussion issue of the Settlement Agreement dated July 15, 2011 negotiated between concerned public parties, the County and PXP (now FM O&G). The agreement revised the CSD with regards to allowable nighttime maximum noise levels at baseline monitoring locations. The agreement lowered the nighttime (10pm to 7am) maximum noise level above the baseline value from the 5 dBA referenced in this provision to 3 dBA for drilling, redrilling, and reworking activities. The agreement also stipulated that if those operations elevate nighttime baseline noise levels by more than 10dBA for more than 15 minutes in any one hour, the source of the noise must be identified and steps implemented to avoid such a noise elevation in the future. Development of the baseline noise levels and compliance criteria is discussed below.

Drill Rig Rubber Mats – Pipe Rack Area

Analysis of Compliance and Effectiveness:

Noise measurements were taken at seven sites around the perimeter of the oil field to assist in the preparation of the noise analysis section of the *Final Environmental Impact Report, Baldwin Hills Community Standards District, October 2008 (FEIR).* The FEIR was prepared as part of the environmental documentation used to develop the CSD. The seven monitoring sites were selected to represent the closest residential, recreational and educational uses to the oil field and included locations in Ladera Heights, Windsor Hills, Culver Crest, Kenneth Hahn State Recreation Area, and West Los Angeles College. The results of the noise monitoring were used to set baseline values for the noise limit criteria of section E.5.a.ii of this provision.

Noise Monitor

The revised baseline monitoring locations were developed by a team of noise experts from the County Health Department, County DRP, the County ECC, and noise consultants assisting the County. PXP, the operator at the time, also provided noise expert consultants to assist with the determination of the baseline monitoring site selection. Six new monitoring sites were selected (the Settlement Agreement incorrectly

references 11 monitoring locations) and monitoring occurred for 72 hours to generate the revised baseline data. The baseline monitoring data reports are available at the oil field web site at http://www.inglewoodoilfield.com.

Provision E.5.a.ii requires that noise levels from the operation of the oil field drilling, redrilling, and reworking shall not elevate existing baseline levels by more than five dBA at any developed area. As noted above, this requirement was revised to a maximum of three dBA from 10pm to 7am by the Settlement Agreement for nighttime operations. Prior to the commencement of drilling, redrilling or reworking operations, noise monitoring equipment is set up at one of the six baseline monitoring stations and monitoring occurs 24 hours a day until the well work activity is completed. The monitoring location is selected by a noise expert consulting for FM O&G during an onsite visit; this review also includes direction to the operator in sound wall installation locations.

There have been instances where noise levels above the maximum criteria have been recorded during monitoring events for drilling, redrilling or well reworking activities. These events are investigated and analyzed by the County noise expert to determine the cause of the elevated noise levels. Results of the noise analyses for these events have determined the cause as emergency vehicles, motorcycles, airplanes, and noise generated from various types of portable equipment used in landscaping. Noise levels above the maximum allowable criteria from drill site monitoring have not been associated with the oil field to date.

Noise monitoring for oil field compliance is also done by the County Public Health Department. As discussed above, this monitoring is done at sampling points, dates, and times of day selected at random in locations within the surrounding communities. Public Health has not documented any violation of the CSD or Chapter 12.08 of Title 12 of the County Code. For example, noise monitoring was completed by Public Health 40 times in 2011 between March 26, 2011 and November 29, 2011 during both day and night hours with 60 minute sampling durations. The 2011 monitoring effort resulted in nine results exceeding the maximum allowable criteria with the source of all nine measurements identified as vehicle or aircraft noise.

The A*nnual Well Increase Evaluation, December 2011,* included a discussion of the effectiveness of the CSD noise provisions. The report identified that some of the noise complaints may have been associated with operation of the pipe storage rack. In response to this finding, the storage rack was relocated to the center of the oil field east of the Vickers bioremediation farm. The new location is a greater distance from residential noise receptors. The report also concluded that none of the noise complaints were found to be related to drilling operations. This conclusion is also supported by review of the noise complaint log through December 2013. The report concluded that the CSD has been effective at keeping noise to a level that would be considered protective of the health and general welfare of the public.

The County Environmental Quality Assurance Program (EQAP) required by Provision F.1 includes requirements for noise monitoring. As part of the 2010 EQAP audit the County obtained a noise expert to conduct a review of the noise monitoring completed for the revised baseline data at monitoring stations 1 and 2. Monitoring stations 1 and 2 were selected for their proximity to residences in the surrounding community. The effort included review of the baseline monitoring reports, review of the monitoring reports during drilling activities, site visits to the oil field, and additional onsite noise monitoring. The report concluded that no noise exceedances have resulted from drilling, re-drilling, or reworking operations.

CSD Provision E.5.a.iii requires that noise produced by oil operations shall include no pure tones when measured at a developed area. Pure tone noise is noise in which a single frequency stands out, usually high pitched, and can be more noticeable than sources that do not contain pure tones. The County has not documented any issues with regard to pure tone noise to date.

Acoustical Blanket

The Quiet Mode Drilling Plan (QMDP) was first submitted in February 2009 and revised in April, July and September 2009. The Plan provides for quiet mode measures to reduce noise from drilling activities. Many of the measures are intended to reduce metal to metal contact activities known to increase noise around drilling operations. The QMDP also includes training of service personal and subcontractor staff and quiet mode signage posted at drilling sites listing the quiet mode drilling rules. The training occurs twice each day prior to the start of each drilling shift. As noted above, no noise complaints have been associated with the drilling rig at the oil field to date. The drill rig is currently operating in quiet mode status 24 hours a day.

The County ECC checks drill rig operations for compliance with the QMDP during the regular EQAP site inspections and annual audits. Noise minimization measures observed during these inspections include sound blankets around the “monkey board” on the derrick tower, the installation of sound walls, the use of rubber mats on the rig “V” door, and the confirmation that daily briefings on the noise minimization measures of the QMDP have been conducted with drilling staff.

The QMDP also includes the other noise minimization measures required by this provision. Back-up alarms are not used during night time hours and deliveries to the oil field and within the oil field are restricted as required in provisions E.5.e and E.5.f. The delivery restrictions are posted at the main gates consistent with the requirements of Provision 13, *Signs.* FM O&G complies with the time limits for construction of permanent structures, no construction occurs after 7:00 p.m. and before 7:00 a.m., or during Saturdays, Sundays, or legal holidays.

Provisions E.5.d and E.5.h list requirements for construction equipment maintenance and operation. Equipment is serviced and is properly muffled pursuant to the

manufacturer's specifications. The 2012 Environmental Quality Assurance Program (EQAP) Audit Report recommended an improvement in the recordkeeping of the maintenance records of noise making equipment. The intent of the recommendation is to assist in the verification of compliance of this provision, improved recordkeeping techniques will allow for the County to easier check the service record for all noise making equipment operated in the oil field.

Provision E.5.j lists the requirement for worker notification of the noise minimization measures listed by this condition. As noted above, for drilling operations, the QMDP measures are discussed at "tail gate" briefings prior to the start of each drilling shift. The unnecessary idling of construction equipment requirement of provision E.5.i is noted during the twice daily QMDP daily staff briefings. In addition, all employees and sub- contractors are trained to comply with these noise provisions each year during annual certification training.

As documented above, the noise provisions of the CSD have been implemented, are ongoing, and considered to be fully effective at this time, with no further analysis recommended.

New Technology:
The noise minimization measures required by this provision and as contained in the QMDP represent current best industry practice to limit noise from the operation of an oil field. In addition, this provision requires that *"oil operations on the oil field shall be conducted in a manner that minimizes noise…",* thus new technologies in noise minimization methods can be implemented as applicable to oil field operations in the course of ongoing compliance monitoring without the need for amendments to the CSD.

Recommendations to Changes in Implementation:
This provision is implemented as intended, no changes to implementation are recommended.

Recommendations to Changes in CSD Language:
No recommendations in the CSD language are recommended at this time.

E.6 Vibration Reduction*. All oil operations on the oil field shall be conducted in a manner that minimizes vibration. Additionally, vibration levels from oil operations at the oil field shall not exceed a velocity of 0.25 mm/s over the frequency range 1 to 100 Hz at any developed area.*

Summary of Complaints:
The County has received eleven complaints associated with vibration through December 2013. Three of the complaints were associated with the start-up of the "old" gas plant flare and four complaints were not able to be substantiated with a source at the oil field. The new gas plant flare was completed in 2012 and operation of the old flare is limited to a restricted gas throughput to minimize vibrations. No complaints

regarding vibration have been noted from operation of the gas plant flares since the implementation of the gas throughput restriction on the older flare.

Summary of Issues Raised by the Public:
Public input on vibration was also received by the County in comments solicited for the Periodic Review. One letter from the public described a vibration that shook the resident's house continuously for 15 to 30 minutes in January 2013. An additional comment was provided in the results of the electronic survey initiated for public input on the CSD. The survey respondent described two noticeable "quakes" that occurred sometime in April or May of 2013.

Analysis of Compliance and Effectiveness:
The *Final Environmental Impact Report, Baldwin Hills Community Standards District, October 2008 (FEIR)*, prepared as part of the documentation necessary to develop the CSD, analyzed potential vibration issues at the oil field. Section 4.9 of the FEIR, *Noise and Vibration*, includes vibration monitoring data for typical drilling activities at the oil field. Results of the drilling activity vibration monitoring indicated the measured vibration levels did not exceed the criteria specified by this provision. The vibration criteria were not exceeded even with some monitoring data points as close as 50 feet from the drilling rig. Based on these monitoring results, the FEIR concluded that vibration impacts from drilling would not be considered significant.

New Flare

Vibration from operation of the gas plant flare was also discussed in the FEIR. Large volumes of gas were flared in 2007 and 2008 due to unplanned interruptions in the availability of the gas transmission lines operated by another company downstream from the oil field. Monitoring for vibration during these events was not possible due to the fact that the interruptions in gas line transmission service were unplanned and unpredictable. Review of these flaring events along with vibration concerns from the public during the same time frame indicated that operation of the gas plant flare likely caused significant vibration events when operated at the high gas throughput levels caused by the transmission line interruptions. As such, the FEIR recommended the installation of a new flare system for the gas plant that could be operated at the necessary gas throughput levels without causing vibration events that would exceed the 0.25 mm/s over the frequency range 1 to 100 Hz velocity criteria for significant vibrations. This recommendation was implemented by CSD Provision L.5.b and the installation of the flare was completed in 2012.

The report prepared by the County in response to the request by PXP in October 2011 to increase the annual number of wells allowable for drilling or redrilling, the *Annual Well Increase Evaluation, December 2011*, includes analysis on the implementation of the

vibration provision of the CSD. The report concluded that the CSD requirements have been effective at keeping vibration to a level that is considered protective of the health and general welfare of the public. Section F.6 of the CSD, *Vibration Monitoring*, provides for the County Public Health Department to request vibration monitoring as deemed necessary in areas surrounding the oil field. Based on the compliance reports documented for the oil field and the minimal amount of public complaints on vibration since the flare issue was identified and resolved; additional vibration monitoring has not been deemed necessary to date.

Installation of the new gas plant flare has been completed and vibration issues associated with the operation of the oil field have not been significant. The condition is considered to be fully effective at this time, no further evaluation is recommended.

New Technology:
Installation of the new gas plant flare represents new technology that will minimize vibration at the oil field. No other new technologies for vibration minimization for oil field operations have been identified at this time.

Recommendations to Changes in Implementation:
This requirement has been implemented, no changes to implementation are recommended.

Recommendations to Changes in CSD Language:
No changes to the CSD language are recommended.

E.7 Biological Resources*. All oil operations on the oil field shall be conducted in a manner that minimizes impacts to biological resources and shall comply with the following provisions:*

a. Oil Spill Response. The operator shall comply with all provisions of an Emergency Response Plan ("ERP") that has been approved by the director, to protect biological species and to revegetate any areas disturbed during an oil spill or clean-up activities. The operator shall make changes to the ERP if requested by the director. Any modifications to the ERP shall be submitted to the director for review and approval. The ERP shall include any measures to protect biological species that may be requested by the director.

b. Special Status Species and Habitat Protection. The operator shall comply with all provisions of a special status species and habitat protection Plan that has been approved by the director. The operator shall make changes to the Plan if requested by the director. Any modifications to the Plan shall be submitted to the director for review and approval. The special status species and habitat protection Plan shall include any measures requested by the director.

c. Habitat Restoration and Revegetation Plan. Prior to any disturbance of sensitive natural habitat areas, as identified in the special status species and habitat protection Plan, the operator shall hire a biologist, approved by the county, to conduct a survey of the area to determine if significant impact to sensitive natural habitat, including coastal sagebrush, coyote bush scrub, riparian scrub, and oak woodland will occur. If the biologist determines that significant impact to sensitive natural habitat will occur, then the operator shall have a county-approved restoration specialist, with expertise in southern California ecosystems and revegetation techniques, prepare a habitat restoration and revegetation Plan. The Plan shall be submitted to the director for review and approval. The director shall make best efforts to complete the review of the Plan as expeditiously as possible and shall then either approve the Plan or provide the operator with a list of specific items that must be included in the Plan prior to approval. No removal of sensitive natural habitat shall occur until the Plan has been approved by the director. The habitat restoration and revegetation Plan shall include any measures requested by the director.

d. Pre-Construction Surveys. The following surveys shall be conducted prior to any significant vegetation removal in sensitive natural habitat as identified in the special status species and habitat protection Plan.

> *i. The operator shall hire a county-approved ecologist/botanist to conduct sensitive plant surveys.*
>
> *ii. The operator shall hire a county-approved biologist to conduct sensitive wildlife surveys in habitat areas that could support sensitive wildlife species.*
>
> *iii. The operator shall hire a county-approved biologist to conduct breeding and nesting bird surveys if the construction activities would occur during the breeding season (February 1 to August 31 for raptors, and March 15 to September 15 for sensitive/common birds).*
>
> *iv. The operator shall hire a county-approved wetland delineator to delineate any wetlands that would be affected by construction.*

e. Listed Plant or Wildlife Species. If federal- or State-listed plant or wildlife species are found, then the operator shall comply with all applicable United States Fish and Wildlife and California Department of Fish and Game rules and regulations.

f. Construction Monitoring. If the pre-construction surveys find sensitive plant, wildlife species, or nesting birds, a biological monitor hired by the operator, and approved by the County, shall be on site during construction to monitor the construction activities. The biological monitor shall be responsible for the following:

> *i. Establishing a 300-foot buffer around any active breeding bird nests.*
>
> *ii. Assuring that vegetation removal does not harm sensitive wildlife species.*

iii. Monitoring the construction area for sensitive wildlife species and relocating them to suitable habitat outside of the construction area.

iv. Ensuring that exclusionary fencing is installed around the construction area to prevent sensitive wildlife species from entering the construction area.

g. Tree and Riparian Scrub Removal. Removal of native or non-native trees and riparian scrub vegetation shall be scheduled, as possible, for removal outside the nesting season to avoid impacts to nesting birds. If avoidance of removal of trees or riparian scrub during the recommended periods is not possible, a county-approved biologist shall perform a survey to ensure that no nesting birds are present prior to removal. If for any reason a nest must be removed during the nesting season, the operator shall provide written documentation to the director demonstrating concurrence from the United States Fish and Wildlife Service and California Department of Fish and Game authorizing the nest relocation and a written report documenting the relocation efforts.

h. Habitat Restoration. Within 60 days of completion of construction activities that have significantly impacted sensitive natural habitat, the operator shall begin habitat restoration consistent with the approved native habitat restoration and revegetation Plan discussed in subsection E.7.c. Restoration priority shall be given to areas of degraded habitat connecting areas of higher quality habitat and where restoration would produce larger corridors to support the migration and movement of wildlife. The operator shall replace any significant loss of sensitive natural habitat at the following ratios:

i. 1:1 for each acre of coastal sagebrush or coyote bush scrub.

ii. 2:1 for each acre of riparian scrub or oak woodland.

Summary of Complaints:
No complaints regarding the biological resources or the provisions for protection of biological resources have been received by the County.

Summary of Issued Raised by the Public:
No issues have been raised by the public on biological resources or the provisions for protection of biological resources.

Analysis of Compliance and Effectiveness:
The Emergency Response Plan (ERP), current version dated June 2013 was updated for specific response considerations for biological resources in March 2010. The ERP is submitted to the following agencies; California Division of Oil, Gas, Geothermal Resources (DOGGR), California Department of Fish and Wildlife Office of Spill Prevention and Response (OSPR), U.S. Environmental Protection Agency Region 9, California State Lands Commission Marine Facilities Division Planning Branch, and the U.S. Department of Transportation Office of Pipeline Safety. To date, the ERP has not been needed to be activated to protect biological resources at the oil field.

The *Special Status Species and Habitat Protection Plan* was first prepared in 2009 and was approved on November 15, 2010. The Plan was prepared by a County approved ecologist/biologist. Compliance with subsections E.7.b through E.7.h is documented annually since 2010. In 2011, 2012, and 2013 compliance documentation consisted of a *Special Status Species Compliance Report.* The report documents the status and activities for the subject year involving biological resources at the oil field and includes an appendix compliance matrix which details the construction and well activities, any impacts to biological resources and the associated surveys or compliance requirements conducted pursuant to this provision. Prior to the initiation of drilling activities for each year, FM O&G provides a County approved biologist with the forthcoming drilling schedule and associated compliance matrix for review. The biologist prepares a schedule for pre-construction biological surveys required by subsection E.7.d and the surveys are completed within one week of the initiation of construction activities or vegetation removal. Monitoring occurs if necessary and a final survey is conducted upon completion of construction activities to document final impacts. Biological surveys are submitted with each of the site Plan permit requests submitted to the county for each well proposed to be drilled.

The *Special Status Species Compliance Report* for 2011 lists that pre-construction nesting bird surveys were conducted for 13 drill sites between April and August 2011. None of the nesting bird surveys indicated an active nest within the 500 feet of the drill site or that additional pre-construction biological surveys were required. Two of the drill sites resulted in the removal of a total of 0.11 acres of coastal sage brush, therefore, the impact was not deemed significant because the cumulative area of disturbed area of sensitive habitat was less than one acre. As such, the habitat restoration requirements of subsection E.7.h were not implemented in 2011 and additional construction monitoring was not required.

The 2012 report documents that 11 drill sites and 8 work areas were identified for pre-construction nesting bird surveys and that the surveys were completed between February and July 2012. None of the nesting bird surveys indicated an active nest within the 500 feet of the drill site or required additional pre-construction biological surveys. Two of the 10 work areas resulted in the removal of 0.024 acres of coyote bush scrub bringing the total cumulative disturbed sensitive habitat to 0.134 acres since the adoption of the CSD. Restoration of sensitive habitat did not occur in 2012 because the cumulative total has not reached the one acre trigger to date.

The *Special Status Species Compliance Report* for 2012 also discussed four additional biological surveys that were conducted outside the nesting bird season to determine potential impacts to biological resources. None were identified. On May 3, 2012 oil field staff contacted the County approved biologist to address the finding of a bird nest on a piece of new equipment. Exclusionary fencing was installed around the piece of equipment establishing a 100 foot buffer to protect the nest and the nest was monitored by the biologist. Monitoring continued on the nest for approximately 3 weeks where 4 house sparrow eggs hatched young; the nest was determined to be abandoned on June 12, 2012.

The 2013 report documents that 31 pre-construction nesting bird surveys were completed for 28 drill sites and 3 work locations. No active nests were found within 500 feet of construction activities. Two locations, well pad modification at BC 425 and LAI 6843, involved removal of sensitive vegetation. The table below provides a summary of impacts to sensitive habitat recorded through 2013.

Summary of Impacts to Sensitive Vegetation Communities					
Year	**Lease**	**Well ID or Description**	**Coastal Sagebrush Scrub (acre)**	**Coyote Bush Scrub (acre)**	**Willows (acre)**
2011	BC	6652	0.091		
2011	BC	6641	0.090		
2012	VIC1	Pole 6	0.079		
2012	LAI1	Packard Wash Tank		0.099	
2013	BC	425	0.023		
2013	LAI1	6843		0.052	
2013	Rubel	Pipes			0.011
2013	SR	Road Maintenance	0.035		
2013	SR	Pipelines	0.023		
2013	LAI1	Road Construction	0.124		
2013	BC	Pipelines	0.052		
2013	Cone	Pipelines			0.086
		Sub Totals	**0.517**	**0.151**	**0.097**
		Total	**0.765**		

As provided for in the table above, the cumulative amount of sensitive habitat disturbed has not reached the one acre criteria to date and no habitat restoration activities have occurred at the oil field. A habitat restoration Plan will be prepared and submitted to the County for review and approval when the impact to sensitive habitat reaches the one acre trigger.

The provision is considered to be fully effective at this time noting that the habitat restoration requirements have not been triggered to date, no further analysis is recommended.

New Technology:
The ERP, special status species and habitat protection, and habitat restoration plans required by this provision are submitted and approved by regulatory agencies. As these plans are periodically updated and/or the CSD language allows flexibility for additional measures as required by the County, improvements in habitat protection and restoration can be required by the County without the need for amendments to the CSD and can be adopted as they arise. No improvements are deemed necessary at this time and none are proposed.

Recommendations to Changes in Implementation:
This requirement has been implemented, no changes to implementation are recommended.

Recommendations to Changes in CSD Language:
No changes to the CSD language are recommended.

E.8 Cultural/Historic Resources*. The operator shall comply with all of the following provisions:*

a. Cone Trust House. Oil operations shall not result in impacts to the Cone Trust House.

b. Archeological Training. The operator shall provide archeological training for all construction personnel who will be involved with ground disturbance activities at the oil field. All such construction personnel shall be required to participate in the training and will receive training material prepared by a qualified archaeologist prior to working on ground disturbance activities.

c. Construction Treatment Plan. The operator shall comply with all provisions of a construction treatment Plan, approved by the director, to ensure that any new archeological discoveries are adequately recorded, evaluated, and, if significant, mitigated. In the event that unknown archaeological artifacts are encountered during grading, clearing, grubbing, and/or other construction activities, work shall be stopped immediately in the vicinity of the find and the resource shall be evaluated by a qualified archaeologist, approved by the director. The construction treatment Plan shall include any measures requested by the director.

Summary of Complaints:
No complaints on cultural or historic resources have been received from the public. The oil field is private property and is not open to the public. The Cone Trust House is occasionally used by the movie industry and the operator has been contacted at least once regarding drilling noise during filming activities. In response to the noise inquiry, the operator modified the drilling activity schedule to accommodate completion of the filming activities.

Summary of Issued Raised by the Public:
There have been no issues raised by the public regarding the cultural or historic resources at the oil field with the exception of the movie industry coordinating with the operator during filming activities at the Cone Trust House. A representative from the Cone Fee Family Trust sits on the Community Advisory Panel (CAP).

Analysis of Compliance and Effectiveness:
The Cone Trust House and surrounding area are off limits to oil field staff to prevent any impacts to the historic building. A discussion of the significance of the Cone Trust House is included in the cultural resources sensitivity training of the oil field archaeological training program. The archeological training program, as required by CSD Provision E.8.b, was initially conducted on May 26, 2009. This training program is repeated annually along with the other employee awareness training requirements of the CSD.

The *Construction Treatment Plan* was initially submitted in May 2009, revised in July 2010, and was formally approved on January 24, 2011. The Plan includes a cultural history of the oil field site, an overview of cultural resource artifacts, the presence of cultural resources at the oil field, a discussion of the Cone Trust House, and a section on cultural resources sensitivity training. The Plan also includes the Inadvertent Cultural Resource Discovery and Impact Form, Cultural Resource Training Materials, and an Inadvertent Cultural Resource Discovery Communication Chart. The Plan is available on the FM O&G web site at http://www.inglewoodoilfield.com.

To date, one incident has required the implementation of the Inadvertent Cultural Resource Discovery procedure. On November 9, 2010 during the preparation of the well pad for Well BC-6532, two headstones were unearthed. The protocols of the *Construction Treatment Plan* were followed and the Inadvertent Cultural Resource Discovery and Impact Form was completed. The County Coroner was contacted; however, no human remains were discovered. The headstones were not deemed to be significant and the operator was given clearance to continue the project.

The condition is considered to be fully effective at this time, no further evaluation is recommended.

New Technology:
The annual cultural sensitivity and archaeological training required under Provision E.8.b allows for the introduction and implementation of new technologies in cultural resource protection as they become available and applicable to the oil field. However, no improvements are identified at this time. If in the future improvements are deemed merited, they can be adopted as part of compliance review without the need for a Periodic Review.

Recommendations to Changes in Implementation:
This requirement has been implemented, no changes to implementation are recommended.

Recommendations to Changes in CSD Language:
No changes to the CSD language are recommended.

E.9 Lighting. *Outdoor lighting shall be restricted to only those lights which are required by code for the lighting of building exteriors, drilling, and redrilling rigs and for safety and security needs. In addition, the operator shall comply with the following provisions:*

a. Screening. All new point lighting sources within the oil field shall be screened and directed to confine direct rays to the oil field and to prevent offsite spillover lighting effects to the extent feasible.

b. Lighting Plan. A detailed lighting Plan shall be prepared for each new permanent structure and submitted to the director for review and approval. No work may be

commenced on such permanent structure until the lighting Plan therefore has been approved by the director. The lighting Plan shall include any measures requested by the director.

Summary of Complaints:
Two complaints regarding lighting has been documented through December 2013. One complaint was received by the facility 1 800 number at 2053 hours on May 8, 2013 from a Ladera Crest resident regarding bright lights in the northern part of the oil field. The complaint was investigated per the requirements of CSD Provision F.7, *Complaints*. The cause of the light was determined to be a member of the public using filming equipment approximately one mile north of the resident that called in the complaint. The member of the public conducting the filming activities was notified of the complaint issue.

The second complaint was discussed during a CAP meeting and involved a discussion of light from oil field operations impacting an adjacent home. As a result of this input from the public, the lighting and light shielding on the oil field rigs was adjusted to focus the lighting downward to minimize potential offsite light impacts.

Summary of Issues Raised by the Public:
The County has not received any concerns regarding the lighting at the Inglewood Oil Field except for the complaint discussed above which was not associated with the oil field activities.

Analysis of Compliance and Effectiveness:
Lighting at the oil field is primarily associated with the gas plant and tank farm facilities. Additional lighting is used with drill rig equipment as those operations occur 24 hours a day; office and outbuilding security lighting, and with limited vehicle traffic. The gas plant and the tank farms require lighting for operational and safety reasons. The lighting fixtures are screened to orient the light downward toward the area requiring illumination as feasible. Other lighting, such as security lighting at the office building, uses hood type screening fixtures to focus the light downward. Shortly after the CSD was implemented in November 2008, an assessment of all oil field lighting was completed to confirm compliance with the CSD lighting provisions and to confirm that there were no offsite lighting impacts.

Lighting for drilling rig operations at the oil field has been minimized to the maximum extent feasible given the operational and safety requirements necessary. Lights are focused downward from the monkey board of the drilling derrick as opposed to ground based flood lighting orientated upwards. A specific nighttime inspection by the County ECC on January 25, 2012 confirmed drill rig lighting was limited and focused downward towards the rig floor and adjacent work areas. Other night time site visits with spot checks on lighting have yielded similar results. Other rig operations at the oil field such as well reworking rigs are limited to day time operations from 7:00 am to 7:00 pm as required by CSD Provision E.28.c. With the exception of drill rigs which are required and permitted to operate 24 hours a day, FM O&G operations policy for all other rig operations in the oil field is to limit work activities to day light hours only and to avoid

using lighting whenever possible. When operational or safety issues require working past sundown, as may occur during the winter time, portable lights are brought in to complete the necessary work. These portable lights are shielded and focused downward toward the work area and work is halted by 7:00 pm as required by the CSD.

No new permanent structures requiring a lighting Plan have been proposed by FM O&G, therefore, CSD provision E.9.b has not been activated to date.

Lighting at the oil field meets the criteria outlined in CSD Provision E.9. Lighting has not been an issue with the public except for a single complaint regarding lighting not associated with the facility operations. The provision is considered to be fully effective at this time and no further analysis is recommended.

New Technology:
New permanent structures at the oil field are subject to CSD Provision E.9.b which requires a lighting Plan approved by the County. As such, as new technologies in lighting become available, the County can require implementation of those technologies through the lighting Plan review and approval process for any new permanent structure.

Recommendations to Changes in Implementation:
The lighting at the oil field is consistent with the CSD requirements for lighting and thus the provision has been implemented; no changes to implementation are recommended.

Recommendations to Changes in CSD Language:
The lighting at the oil field is in compliance with the CSD requirement and there have been no complaints or public issues from oil field lighting to date. Therefore, no changes in the CSD language are recommended.

E.10 Landscaping, Visual Screening, Irrigation and Maintenance. *The operator shall comply with the conceptual landscaping Plan for the oil field prepared by Mia Lehrer & Associates, dated October 2008, on file at the department of regional planning, which is intended to beautify and screen the oil field from adjoining residential, recreational, and institutional areas or adjacent public streets or highways. Landscaping required by this Plan shall be completed in phases over a two-to five-year period as approved by the director. All landscaping on the oil field shall be routinely inspected (on at least a monthly basis) and maintained in a neat, clean, and healthful condition, including proper watering, pruning, weeding, fertilizing, and replacement of plants as needed. Litter shall also be removed on a regular basis.*

Summary of Complaints:
One complaint, on February 9, 2012, was raised regarding a visual impact from the oil field. The complaint listed the issue as a blimp flying over the oil field. The blimp was part of the compliance effort for this provision because it was used to carry camera equipment to document the progress of the landscaping.

Summary of Issues Raised by the Public:
Input on the aesthetics of the oil field relative to vegetation and landscape screening was received by the County in comments solicited for the Periodic Review. Results of the electronic survey on the Periodic Review listed complaints that the oil field is an "eye sore", that the landscaping is not sufficient, and that oil field equipment is unsightly. One letter commented that the landscaping should use climate specific plantings and that the landscaping along oil field areas should be improved. A second letter requested that the landscaping along College Street and as viewed from the West LA College be improved and utilize native plants.

Issues regarding the aesthetics of the oil field were also noted at the May 13, 2012 CAP meeting during discussion of comments on the Periodic Review. Rusting pipes, areas with reduced vegetation, a lack of landscaping facing west, and the fact that the oil field is not adequately screened from the Culver City view shed were discussed. A dead tree was also noted at the meeting, located along Fairfax Avenue; however, the tree in question was later determined to not be located on oil field property.

Phase II Landscaping

Input on the landscaping effort was also received as part of the Settlement Agreement dated July 15, 2011 negotiated between concerned public parties, the County and PXP (now FM O&G). The agreement requires FM O&G to prepare and implement a series of landscaping plans that enhance the *Mia Lehrer Landscape Improvements Concept Plan* referenced by this provision. The agreement further requires the landscape plans be submitted to the Community Advisory Panel (CAP) for review, and to install the first two phases of landscaping within 9 months of County final approval of the plans. Finally, the agreement requires all landscaping be completed within three years of approval by the County of the final phase Plan.

Analysis of Compliance and Effectiveness:
The *Landscaping Plan Inglewood Oil Field* was first submitted in May 2009 and was revised in November 2010. This base Plan outlines seven phases of landscaping effort, prioritized by concerns for screening areas of public corridors and water conservation considerations with subsequent plans prepared for each landscaping phase. Landscaping for Phase 1 and 2 has been completed for areas at the Ladera Crest residential view shed looking north and along the Windsor Hills/La Brea traffic corridor view shed, respectively. Phase 3 outlines plans for the Ladera Crest residential view shed looking east. Phases 4 and 5 involve a roadway buffer along La Cienaga Boulevard. The plans for Phases 3, 4, and 5 have been approved by the County, Phase 5 was completed in November 2014. Phase 6, a landscape buffer for the Fairfax Avenue roadway was submitted to Public Works in December 2014 and Phase 7, a landscaping buffer for Stocker Street have been prepared in draft form and is posted on the oil field web site, http://www.inglewoodoilfield.com for review by the CAP.

Landscaping progress at Phases 1 and 2 has been periodically reviewed by the County ECC during site inspections.

The report prepared by the County in response to the request by PXP in October 2011 to increase the annual number of wells allowable for drilling or redrilling, the *Annual Well Increase Evaluation, December 2011*, includes analysis on the implementation of the visual and aesthetics provisions of the CSD. The report documents that the landscaping installation has begun and that additional landscaping will be phased in to improve the overall visual and aesthetics of the area around the oil field.

Landscaping

This provision is considered to be fully effective at this time, no further analysis is recommended. However, the provision requires that the landscaping be installed over a two to five year period as approved by the County. The Settlement Agreement requires that landscaping be completed three years after County approval of the final phase landscaping Plan. Thus, the Settlement Agreement language appears to allow for an implied time extension from the original provision language by not listing a required date for submittal of the final landscape plans. It is recommended that FM O&G schedule installation of remaining landscaping phases to achieve the landscaping required by this provision in a timely manner.

New Technology:
Water saving drip irrigation is used where feasible; use of recycled water has not been implemented to date because it is not available to the oil field at this time.

Recommendations to Changes in Implementation:
As noted above, it is recommended that the remaining landscaping be completed to better meet the schedule requirements for landscaping of the original CSD provision.

Recommendations to Changes in CSD Language:
This provision has been implemented and was augmented by the Settlement Agreement, no changes in the CSD language are recommended.

E.11 Oil Field Waste Removal*. The operator shall comply with the following provisions:*

a. Waste Collection. All drilling, redrilling, and reworking waste shall be collected in portable steel bins compliant with United States Department of Transportation standards. Any drilling, redrilling, and reworking wastes that are not intended to be injected into a Class II Well, as permitted by DOGGR, shall be removed from the oil field

no later than 30 days following completion of the drilling, redrilling, and reworking. This provision does not apply to active sumps and mud pits.

b. Waste Discharge. No oil field waste shall be discharged into any sewer, storm drain, irrigation systems, stream or creek, street, highway, or drainage canal. Nor shall any such wastes be discharged on the ground provided that the foregoing shall not prohibit the proper use of active drilling sumps and mud pits.

c. Recycling Plan. The operator shall comply with all provisions of a recycling Plan that has been approved by the director. The recycling Plan shall include any elements requested by the director.

Summary of Complaints:
No complaints associated with waste removal at the Inglewood Oil Field have been received by the County.

Summary of Issues Raised by the Public:
The County received one comment from the public on the CSD Periodic Review regarding oil field waste. The comment stated that the CSD requirements for drilling wastes and their disposal are not being followed by the operator; however, the comment did not specify what was not being done pursuant to the requirement.

Analysis of Compliance and Effectiveness:

Waste De-Water Bin

Waste generated by drilling, redrilling, and reworking activities is collected in bins and emptied with the use of a vacuum truck as necessary. FM O&G does not use sumps or mud pits (see discussion for CSD Provision E.15), and all such waste is contained in metal or plastic bins. The waste is transported to a processing facility on site operated by a sub-contractor. This facility, located east of the Edison yard, dehydrates the drilling mud and waste prior to transport to an approved offsite disposal location. All waste from drilling, redrilling, and reworking sites is removed within 30 days of the completion of the activity. Inspection of drilling, redrilling, and reworking is part of the periodic inspections completed by the County ECC as required by CSD Provision F.2.

Drill Mud Bin

As noted above, the subject waste is collected in bins and is not discharged to the ground. As mentioned in the discussion for CSD Provision E.3.d.ii and as documented in the *PXP Retention Basin Study*, the oil field retention basins are adequately size and maintained to handle the contents of the largest tank at the oil field along with 100 year storm event precipitation volume. Therefore, any spilled fluid waste material will remain within the oil field secondary containment and or retention basin system and not cause any offsite impacts. The retention basins are visually inspected during the dry months by the County ECC to confirm they are clean and free of debris and are prepared for each rain year by a storm water management consultant.

CSD Provision E.11.c requires compliance with an approved recycling Plan. The PXP *Recycling Plan Inglewood Oil Field* was approved on October 3, 2011. The Plan, originally submitted as required by CSD Provision L.9, on May 26, 2009, details the approach to recycling various types of waste at the oil field. The Plan provides protocols for the following types of recycled waste; tires, cell phones, batteries, scrap metal, computer components, industrial waste, office waste, and landscaping waste. The Plan also includes an education program for employees and contact information for waste recycling and disposal vendors.

The provision is considered to be fully effective at this time, no further analysis is recommended.

New Technology:
The oil field waste removal system currently implemented at the oil field is considered to be consistent with current technology. The oil field contains all waste from drilling, redrilling, and reworking activities in bins and does not use in ground sumps or pits. The recycling Plan approved by the County includes current recycling techniques and waste streams, however, new technologies in recycling in the future should be considered as applicable at the oil field.

Recommendations to Changes in Implementation:
This provision is implemented as intended, oil field waste is contained and recycled as required, therefore; no changes to implementation are recommended.

Recommendations to Changes in CSD Language:
This requirement is implemented as intended consistent with the CSD language, no changes in CSD language are recommended.

E.12 Construction of Private Roads. *Roads and other excavations shall be designed, constructed, and maintained to provide stability of fill, minimize disfigurement of the landscape, prevent deterioration of vegetation, maintain natural drainage, and minimize erosion. Prior to construction of any new road, the operator shall prepare and submit to the director of public works for review and approval a private road construction Plan. The operator shall thereafter comply with all provisions of the approved private road construction Plan. All new private access roads leading off any surfaced public street or*

highway shall be paved with asphalt or concrete not less than three inches thick for the first 50 feet of said access road from the public street or highway.

Summary of Complaints:
No private roads have been constructed at the Inglewood Oil Field since the adoption of the CSD; no complaints on this provision have been received by the County.

Summary of Issues Raised by the Public:
No private roads have been constructed at the Inglewood Oil Field since the adoption of the CSD and no issues regarding the construction of private roads have been raised by the public to date.

Analysis of Compliance and Effectiveness:
No private roads have been constructed to date and all oil field activities utilize existing access roads. This requirement has not been activated to date, no further evaluation is recommended.

New Technology:
No private roads have been constructed at the oil field since the adoption of the CSD; however, as required by the CSD provision, any new road requires the preparation and approval of a private road construction Plan. Required review of any future Plan for a private road by the director of public works will allow for review of new technology or updated County grading requirements. Therefore, implementation of such new technology can be required as applicable.

Recommendations to Changes in Implementation:
This requirement has not been activated to date, therefore, no changes to implementation are recommended.

Recommendations to Changes in CSD Language:
This requirement has not been activated to date and no changes to the CSD language are recommended.

E.13 Signs. *All signage shall comply with Part 10 of Chapter 22.52 of Title 22. In addition, the operator shall comply with the following provisions:*

a. Perimeter Identification Signs. Identification signs, at intervals acceptable to the director, shall be posted and maintained in good condition along the outer boundary line fence and along the fences adjoining the public roads that pass through the oil field. Each sign shall prominently display current and reliable emergency contact information that will enable a person to promptly reach, at all times, a representative of the operator who will have the

Emergency Contact Number Signage

expertise to assess any potential problem and recommend a corrective course of action. Each sign shall also have the telephone number of the county department of regional planning zoning enforcement section and the number of SCAQMD that can be called if odors are detected.

b. Main Entrance Sign. A sign shall be posted and maintained in good condition at the main entrance of the oil field prominently displaying a telephone number by which persons may contact a representative of the operator at all times to register complaints regarding oil field operations.

c. Other Required Signs. All identification signs, warning signs, no trespassing signs, and other signs required by county, state and federal regulations shall be properly posted and maintained in all required locations and in good condition.

d. Well Identification Signs. Well identification signs including the well name and well number shall be posted and maintained in good condition at each well location.

e. No Littering Signs. "No littering" signs shall be prominently posted and maintained in good condition on all oil field entrance gates.

Summary of Complaints:
The County approved the *Signage Plan Inglewood Oil Field* on May 18, 2009 and the required signage was installed. No complaints regarding the signage have been received by the County.

Summary of Issues Raised by the Public:
The County has not noted any issues raised by the public with regard to the facility signage.

Drill Rig Safety Signage

Analysis of Compliance and Effectiveness: The installation of the signage required by this CSD provision was completed upon approval of the *Signage Plan Inglewood Oil Field* dated January 2009 (Revision 1) approved by the County on May 18, 2009. The required signage is periodically reviewed during inspections completed by the County ECC. Faded or damaged signage is noted and recommended for repair or replacement. The 1-800 24 hour contact number, the South Coast Air Quality Management District, and the L.A. County Department of Regional Planning Zoning Enforcement section have all

Prop. 65 Signage Along Stocker St.

received calls from the public inquiring about oil field activities since the installation of the signs. Some of this correspondence indicates the signage may be providing the public with contact information as intended under CSD Provisions E.13.a and E.13.b (the contact information is also available via the Inglewood Oil Field and County DRP web sites).

FM O&G is currently in the process of reviewing and replacing applicable signs to reflect the name change from PXP to FM O&G. The provision is considered to be fully effective at this time, no further analysis is recommended.

New Technology:
As noted above, the County ECC inspector notes when signage requires replacement or repair. Therefore, signs will be updated periodically to ensure they are legible and meet the requirements of the CSD.

Recommendations to Changes in Implementation:
The required signage at the oil field was installed per the signage Plan approved on May 18, 2009; no changes to implementation are recommended.

Recommendations to Changes in CSD Language:
No changes to the CSD language are recommended.

E.14 Painting. *All oil operation-related structures visible from public roadways and surrounding properties within the oil field shall be painted or otherwise surfaced or textured with a color that is compatible with the surrounding areas and has been approved by the director. The painting or other surfacing of all structures covered by this subsection shall thereafter be maintained in good condition.*

Summary of Complaints:
No complaints regarding the painting of the Inglewood Oil Field have been received by the County.

Summary of Issues Raised by the Public:
The County has not noted any issues raised by the public with regard to the painting of the Inglewood Oil Field.

New Water Plant Tank Paint

Analysis of Compliance and Effectiveness:
The painting of the Inglewood Oil Field structures and equipment was completed on November 12, 2012. The paint color, *licorice*, was chosen with assistance of a landscape architect and was approved by the LA County Department of Regional Planning. The color, which is much darker than the previous industry standard paint

color tan or light brown, is intended to blend and be compatible with surrounding areas. The *Annual Well Increase Evaluation, December 2011,* included a discussion of the painting of the oil field facilities and the darker color of paint. The report concluded that the dark color helps to blend the equipment into the background, thereby reducing the visual and aesthetics of the oil field.

Prior to completion of the painting in November, 2012, semi-annual status reports were submitted to the County for review to document progress of the facility painting. Although the initial painting effort for the oil field was completed in late 2012, maintenance of the painting and coatings of the equipment and structures at the oil field is a continuous process and FM O&G employs a full time painter to maintain the coatings on the structures and equipment at the oil field.

The Inglewood Oil Field has been painted with a color approved by the County and the coatings are maintained by a full time painter on FM O&G's staff. The provision is considered to be fully effective at this time, no further analysis is recommended.

New Technology:
As noted above, the painting color approved is darker than the previous industry standard color of tan or light brown. Darker colors have been shown to blend and be more compatible with surrounding areas than the lighter shades previously chosen for oil field facilities.

Recommendations to Changes in Implementation:
The required painting of the Inglewood Oil Field was completed with the approved color in November, 2012. The coatings are maintained by a full time painter, therefore, the implementation of the condition is complete and no changes to implementation are recommended.

Recommendations to Changes in CSD Language:
The required painting and maintenance of the coatings of the Inglewood Oil Field structures and equipment has been implemented; no changes to the CSD language are recommended.

E.15 Sumps. *The operator shall comply with the following provisions:*

a. Sump Clean Out. All sumps that are used, installed, or maintained for use in connection with any well, and which have not been used for 90 days for the operation of or the drilling, redrilling, or reworking of such well or any other well in the vicinity, shall be cleaned out, and all oil, rotary mud, and rubbish removed.

b. Sump Fencing. Around each sump of any depth, there shall be erected and continuously maintained a fence that encloses the sump and complies with the requirements of Sections 11.48.010 - 11.48.050, Title 11 of the County Code. This provision shall not apply to sumps that are constantly and immediately attended while

drilling, redrilling, and reworking operations are proceeding as specified in Section 11.48.020, Title 11 of the County Code.

Summary of Complaints:
All sumps were cleaned out, filled in with clean soil and re-graded to surrounding topography in 2007. No new sumps have been installed or used for any oil field activities since the adoption of the CSD; no complaints regarding sumps have been received by the County.

Summary of Issues Raised by the Public:
As noted above, all oil field sumps have been cleaned out and filled in and no new sumps have been installed since the adoption of the CSD. The County has not noted any issues raised by the public with regard to sumps.

Analysis of Compliance and Effectiveness:
As discussed above, all historical sumps that existed on site were cleaned out, filled in with clean soil, and re-graded to match the surrounding topography in 2007. PXP, and now FM O&G, have not installed or used sumps for any oil field activities since the adoption of the CSD. The use of bins and portable tanks, often called by the vendor name “Baker Tanks”, is now common and standard practice in most oil and gas fields in California. These metal and plastic container structures have eliminated the need for the installation and use of in the ground sumps. The use of these portable structures has also eliminated the need for provision language requiring the clean out of sumps upon cessation of the associated drilling activity as the structures are not permanent and are moved from one job site to the next.

The requirement has not been activated to date due to the fact that the oil field no longer contains sumps or sump fencing and the use of portable metal or plastic bins and tanks and have replaced the need for them. It is recommended that the Operator continue the use of metal and or plastic bins and tanks consistent with standard industry practice. Eliminating the use of below ground sumps with above ground metal or plastic containment structures is considered to be an environmental benefit due to the fact that the oil, drilling mud and other fluids are confined to a better containment structure that is both easier to clean and remove from the drill site.

New Technology:
As noted above, the use of below ground sumps has been widely replaced by metal or plastic bins and tanks for most oil and gas facilities in California. FM O&G does not use below ground sumps at the oil field adopting the use of the portable bins and tanks as standard operating procedure for all drilling activities.

Recommendations to Changes in Implementation:
As previously discussed, the Inglewood Oil Field does not contain sumps and the use of sumps was discontinued prior to the adoption of the CSD, it is recommended that the Operator continue the practice of using above ground bins, no other changes to implementation are recommended.

Recommendations to Changes in CSD Language:
No changes to the CSD language are recommended.

E.16 Well Cellars. *All well cellars shall be constructed in accordance with the most current American Petroleum Institute standards. In addition, the operator shall comply with the following provisions:*

a. Cellar Fluids. Well cellars shall be kept free of all oil, water, or debris at all times. During drilling, redrilling, and reworking, the cellar shall be kept free of excess fluids by a pump which discharges into a waste tank, mud pit, vacuum truck, or other approved disposal system.

b. Access to Multi-Well Cellars. All multi-well cellars exceeding three feet in depth and 25 feet in length shall have two means of entrance and exit and an additional exit for every 50 feet in length thereafter. At least one means of entrance or exit for all multi-well cellars of 25 feet in length shall be a stairway constructed to California Division of Industrial Safety standards.

c. Single-Cellar Covers. All single-cellars shall be covered with open grating and have no openings larger than three inches at any point. Covers shall be capable of supporting vehicle weight or guardrails shall be erected to prevent vehicle access.

d. Cellar Ladder Openings. All openings for ladders through grating shall be designed to allow exit from underside without obstruction and shall be kept free of storage of any type. Said openings shall not be less than 24 inches on either side.

Summary of Complaints:
No complaints regarding the oil field well cellars have been received by the County.

Summary of Issues Raised by the Public:
There have been no issues raised by the public regarding well cellars.

Analysis of Compliance and Effectiveness:
The well cellars at the oil field are inspected annually by DOGGR and any time the associated well is re-worked, a DOGGR permit is required and thus reviewed. The cellars are kept free of fluid and debris and are inspected daily by operations staff. The well cellars are also checked periodically by the County ECC during site inspections. As noted in the discussion on CSD Provision E.15, bins and tanks are used for all drilling, redrilling and reworking activities on the oil field; mud pits or sumps are no longer utilized. The oil field does not contain any multi well cellars; all well cellars are of the single well cellar type; therefore, E.16b does not currently apply to any existing oil field structures.

All well cellars in the oil field are covered with an open grating and surrounded with fencing to prevent vehicle access. The well fencing includes signage depicting the

name of the well per the requirements listed in CSD Provision E.13.d. None of the wells require cellar ladder openings due to the shallow depth of the cellars.

Well cellars at the oil field meet current API standards as required and reviewed during DOGGR and County inspections, the provision is considered to be fully effective at this time, no further analysis is recommended.

New Technology:
As noted above, the well cellars on the oil field are required to meet the standards and specifications of the API. Therefore as new technologies for well cellars are developed and adopted by the API; those technologies would be required by the CSD without a need for any specific provision language changes.

Recommendations to Changes in Implementation:
This provision is implemented as intended, no changes to implementation are recommended.

Recommendations to Changes in CSD Language:
No recommendations in the CSD language are recommended at this time.

E.17.Stormwater Drainage Management. *The operator shall comply with the following provisions:*

a. Construction Storm Water Pollution Prevention Plan ("CWPPP"). The operator shall maintain and implement all provisions of a storm water pollution prevention Plan ("SWPPP") that has been inspected by the Regional Water Quality Control Board and the county department of public works. The operator shall provide the director and the director of public works with a copy of the SWPPP, and any future modifications, revisions, or alterations thereof, or replacements therefore. The SWPPP shall be updated prior to new construction activities as required by the Regional Water Quality Control Board.

b. Spill Prevention, Control, and Countermeasure Plan ("SPCCP"). The Operator shall maintain and implement all provisions of a spill prevention, control, and countermeasure Plan ("SPCCP") which meets the requirements of the Local California Unified Program Agency and the United States Environmental Protection Agency. The operator shall provide the director and the fire chief with a copy of the SPCCP and any future modifications, revisions, or alterations thereof, or replacements therefore.

c. Hydrological Analysis. A site-specific hydrologic analysis shall be completed to evaluate anticipated changes in drainage patterns and associated increased runoff at the site for any new grading that results in the loss of vegetated, sandy, permeable ground areas, which could alter surface runoff at the site. The analysis shall be completed consistent with Standard Urban Stormwater Mitigation Plan regulations, as specified in the county department of public works Hydrology Manual as amended. The

hydrological analysis shall be submitted to the director of public works for review and approval. The new grading that required the hydrologic analysis shall not occur until approval of the analysis by the director of public works.

Summary of Complaints:
There have been no complaints regarding the stormwater drainage management plans approved for the oil field.

Summary of Issues Raised by the Public:
The County has not received any input from the public on the oil field SWPPP or SPCCP.

Analysis of Compliance and Effectiveness:
The oil field SWPPP is updated as needed and submitted to the RWQCB and the DPW for review. Recent versions of the SWPPP include the requirements and associated general permit (CAS000002) for compliance with the National Pollution Discharge Eliminations System (NPDES). Recent updates to the SWPPP have been submitted annually along with the Master Grading Plan, the current SWPPP is dated August 2013. FM O&G utilizes an environmental consulting company with expertise in storm water management to assist with implementation of the provisions of the SWPPP and prepare the oil field for each storm season.

Vickers Basin Storm Water Testing

The *Spill Prevention, Control and Countermeasure Plan* (SPCCP), required under CSD Provision E.17.b., provides detail on the maintenance of tank and related equipment at the oil field which include inspection programs, corrosion prevention/corrosion monitoring techniques, and clean up equipment. The Plan also includes potential spill scenarios for each tank with containment calculations documenting the adequacy of the containment structures. The Plan is updated every five years; the most recent spill containment response training was completed on February 12, 2013.

The hydrologic analysis listed under Provision E.17.c has not occurred to date because no oil field projects have triggered the requirement. Projects at the oil field to date, as detailed and reviewed in the annual master grading Plan submittals, have not resulted in sufficient disturbance or loss of vegetated, sandy, or permeable ground areas that have altered surface runoff at the site. Thus this provision has not been triggered to date.

The provision is considered to be effective at this time, no further analysis is recommended.

New Technology:
Both the SWPPP and the SPCCP are reviewed by applicable regulatory agencies. As noted above, agencies involved in overseeing these plans include the County, RWQCB, the Local California Unified Program Agency and the United States Environmental Protection Agency. These evaluations allow for new technologies in storm water drainage management and spill control to be added to the subject plans as needed, and those new technologies can be required by the CSD through Plan changes and compliance and do not necessitate amendments to the CSD language.

Recommendations to Changes in Implementation:
The required storm water and spill control plans and measures are current and in place, therefore, no change in the implementation of the provision is recommended.

Recommendations to Changes in CSD Language:
The CSD language allows for review and revision of the subject plans through the oversight of the agencies listed above, thus the requirements of this provision can be updated as necessary; therefore; no changes in CSD language are recommended.

E.18 Water Management Plan. *The operator shall comply with all provisions of a water management Plan that has been approved by the director and the director of public works. The Plan shall include best management practices, water conservation measures, the use of a drip irrigation system, and shall include provisions for the use of surface water runoff in the retention basins for dust suppression and landscaping. The Plan shall also address the availability of reclaimed water for use at the oil field. The water management Plan shall be reviewed by the operator every three years to determine if modifications to the Plan are required. The operator shall make changes to the Plan if requested by the director or the director of public works. Any modifications to the water management Plan shall be submitted to the director and the director of public works for review and approval. The water management Plan shall include any elements requested by the director or the director of public works. In addition, the operator shall comply with the water conservation measures and reporting requirements specified in Sections 20.09.020 - 20.09.080, Title 20 of the County Code (Utilities).*

Summary of Complaints:
No complaints associated with the water management Plan for the oil field have been received by the County.

Summary of Issues Raised by the Public:
The public has not provided any input on the water management Plan for the oil field.

Water Pump with Noise Insulation

Analysis of Compliance and Effectiveness:
The *Water Management Plan Inglewood Oil Field* was initially submitted in May 2009 and was formally approved by County Public Works on August 8, 2012 and the County DRP on September 13, 2012. The Plan includes water conservation measures for office, landscaping, operations, and maintenance water uses. The Plan also includes a section on employee awareness to encourage water conservation. One of the main water conservation measures is the use of water contained in retention basins for dust suppression. This measure has been fully implemented as documented by the County ECC during periodic inspections. A pump and portable above ground storage tank system is currently at use at the Dabney-Lloyd retention basin to supply water for dust control applications. Starting with the 2014/2015 rain season, FM O&G installed temporary pumps and storage tanks at all of the oil field retention basins to allow for recycling of storm water when feasible.

The CSD does not require submittal of water usage records, however, the Baldwin Hills CSD EIR provided the average water use for 2006-2007 as 160,104 gallons per day. Water use for 2013 was reported by FM O&G at the December 2014 CAP meeting as 129,000 gallons per day average. The water Plan has been submitted and approved as required, the provision is considered to be fully effective at this time.

New Technology:
The CSD provision language includes requirements for operator review of the Plan every three years to determine if modifications are required and for the operator to make changes to the Plan if requested by the director of DPW. In addition, the language also requires compliance with the water conservation measures as specified in the County Code. Therefore, as new technologies in water management are developed and new requirements are added to the County Code, the CSD provision allows for implementation of those new technologies as directed by the director of DPW or by reference to the County Code.

Recommendations to Changes in Implementation:
The water management Plan is approved and implemented as intended, no changes to implementation are recommended.

Recommendations to Changes in CSD Language:
No changes to the CSD language are recommended.

E.19 Groundwater Monitoring. *The operator shall develop, implement, and carry out a groundwater quality monitoring program for the oil field that is acceptable to the director and consistent with all requirements of the Regional Water Quality Control Board. Pursuant to the approved program, the operator shall install and maintain groundwater monitoring wells in the vicinity of each surface water retention basin, which is permitted by the Regional Water Quality Control Board. Such monitoring wells shall be completed to the base of the permeable, potentially waterbearing, alluvium, Lakewood Formation, and San Pedro Formation, and to the top of the underlying, non-water bearing Pico*

Formation, as determined by a California-certified professional geologist. The Regional Water Quality Control Board and the director shall be regularly advised of the results of such monitoring and shall be immediately advised if such monitoring indicates a potential problem.

Summary of Complaints:
No complaints associated with the groundwater monitoring program for the Inglewood Oil Field have been received by the County.

Summary of Issues Raised by the Public:
The Regional Water Quality Control Board (RWQCB) provided a comment on the groundwater monitoring program in a letter dated October 17, 2012 regarding the *2013 Drilling, Redrilling, Well Abandonment, and Well Pad Restoration Plan.* The RWQCB recommended the installation of an up gradient groundwater monitoring well (or network) to measure water quality conditions at the perimeter of the oil field or up gradient to the field. This recommendation was also discussed at the October 2013 CAP-meeting with several members of the public also requesting that additional up gradient monitoring wells be installed, see additional subject discussion below.

Analysis of Compliance and Effectiveness:
The *Groundwater Monitoring Program and Work Plan Inglewood Oil Field Plan* was submitted in August of 2009. The Plan described the groundwater quality monitoring program including the site geology/hydrology, proposed monitoring well locations, the sampling and monitoring procedures, well installation method, data collection, and data quality assurance and control procedures. The Plan was approved by the RWQCB in September 2009 and by the County in November 2009. Monitoring wells were installed between January 2010 and March 2010 with monitoring reports starting the first quarter of 2010. Monitoring reports have been submitted quarterly to the RWQCB and the County since the monitoring effort began in early 2010. On February 7, 2013, the RWQCB approved a new array of ground monitoring wells for the Amended Waste Discharge Requirements for the Oil Field and Land Treatment Units Operations. These wells do not alter the wells required by the CSD but do enhance the ground water monitoring program per the RWQCB.

Groundwater monitoring samples are analyzed for a variety of contaminants and compared to State Maximum Contaminant Levels (MCLs) for drinking water standards. Sampled contaminants include petroleum hydrocarbons, diesel range organics, benzene, toluene, ethyl benzene, xylenes (BTEX), Methyl Tert Butyl Ether (MTBE), metals, oxygen, nitrate, and nitrite. Results from the monitoring program for all sampled parameters to date are below the applicable MCL for drinking water standards. The groundwater sampling program has also determined that the water bearing zones at the oil field are discontinuous with each other and are discontinuous with the water supply aquifers in the Los Angeles Basin.

The report prepared by the County in response to the request by PXP in October 2011 to increase the annual number of wells allowable for drilling or redrilling, the *Annual Well*

Increase Evaluation, December 2011, included analysis on the implementation of the ground water quality provision of the CSD. The report concluded that the CSD has been effective at controlling ground water contamination to levels that are protective of the health and general welfare of the public.

The groundwater monitoring program has been implemented and is ongoing with quarterly reports submitted to the RWQCB and the County as required. The provision is considered to be fully effective at this time.

New Technology:
The CSD provision language requires that the monitoring program be consistent with all requirements of the RWQCB. As new technologies in groundwater monitoring are reviewed and adopted by the RWQCB, the new technologies can be required pursuant to RWQCB direction.

Recommendations to Changes in Implementation:
The groundwater monitoring program has been implemented and is ongoing. The existing ground water monitoring system network was designed with input from the RWQCB, however, the RWQCB provided a recommendation in their review of the 2013 Annual Drilling Plan to install up gradient wells as discussed above. The installation of such wells remains a recommendation as recent permits issued by RWQCB to FM O&G have not required the installation of up gradient monitoring locations. It should be noted that the RWQCB can request from the operator an amendment to the Groundwater Monitoring Program requiring up gradient wells under their own authority independent of the CSD. Therefore, it is recommended that the Operator coordinate with the RWQCB and install additional groundwater monitoring wells if deemed necessary in the future. No other changes to the provision implementation are recommended.

Recommendations to Changes in CSD Language:
The groundwater monitoring program has been implemented with the required reports submitted to the RWQCB and the County. No changes to the CSD language is recommended. As discussed above regarding an up gradient monitoring location, if the RWQCB determines additional monitoring well locations are required, that requirement can be made as part of continuous compliance with the Plan and consistent with the language of the CSD provision and no changes in the CSD language would be required to add additional monitoring well locations. Therefore, no changes to the provision language are recommended at this time.

E.20 Fencing. *All portions of the oil field on which oil operations are conducted shall be enclosed with a fence compliant with DOGGR regulations codified at California Code of Regulations Title 14, Article 3, sections 1778 and 1779, or as may be subsequently amended by the state.*

Summary of Complaints:
The oil field is completely fenced with a chain link type fence that meets the requirements of the CSD fencing provision; the County has not received any complaints on the facility fencing.

Summary of Issues Raised by the Public:
The oil field is completely fenced with a chain link type fence that meets the requirements of the CSD fencing provision; no issues on the facility fencing have been raised by the public.

Analysis of Compliance and Effectiveness:
The CSD requirement references the California Code of Regulations, DOGGR regulations for oil field enclosures (fencing). The oil field is completely fenced with chain link type of fencing. The DOGGR requirement for chain link fencing is as follows; *(1) fences shall be not less than 5 feet high and mounted on 1 1/4" diameter steel posts with at least three strands of barbed wire mounted at a 45-degree angle from the top of the fence, (2) the fence shall be constructed of chain link or other industrial-type fencing of not less than 11-gauge wire and of not greater than 2-inch nominal mesh, (3) supporting posts shall be securely anchored to the surface, spaced no more than 14 feet apart, and (4) Tension wires of at least No. 9 gauge coil spring wire, or equivalent, shall be stretched at the top and bottom of the fence fabric and shall be fastened to the fabric at 24-inch intervals, there shall be no aperture large enough to permit any child to crawl under.*

The DOGGR fencing requirement further lists criteria for gates and sump screening. Gates are required to be *of a structure substantially the same as the required fences and shall be kept secured when not attended by an adult.* The gates at the oil field are chain link and are constructed consistent with the chain link fencing structure. As discussed for CSD Provision 15, *Sumps*, the facility does not have sumps nor are sumps used for any current oil field activity thus the DOGGR requirement for sumps is not applicable.

On at least one occasion, an unauthorized man gained access to the oil field by crawling under the fence in areas where the fence was not adequately secured to the ground. On another occasion, a man opened a water pipe and caused flooding of a well pad area. The ECC has requested that fencing be inspected by the Operator to address vulnerable areas and ensure that breaches can be avoided. Overall, the chain link fencing at the Inglewood Oil Field meets the DOGGR requirements listed above, therefore the provision is considered to be effective at this time.

New Technology:
As listed above in the CSD Provision language, the requirement lists the DOGGR regulation as *may be subsequently amended by the state.* Therefore, if the regulation is amended to reflect new technologies or requirements in fencing, the new requirements will be incorporated into the CSD as needed.

Recommendations to Changes in Implementation:
The installed fencing at the Inglewood Oil Field meets the CSD Provision requirements. Further, the fencing is periodically reviewed during the County ECC inspection process. However, as noted above, there have been breaches of the fence in the past by the unauthorized persons and the Operator has been requested to monitor and repair fencing as appropriate. The ECC and the Operator need to remain vigilant of potential vulnerable areas to avoid future breaches. With this continued vigilance no additional implementation changes are recommended.

Recommendations to Changes in CSD Language:
The installed fencing at the Inglewood Oil Field meets the CSD Provision requirements. In addition, the requirement provides for amended language should the State regulations change, therefore, no changes in the CSD language are recommended.

E.21 Oil Field Cleanup and Maintenance. *The operator shall maintain the site in a clean and orderly condition and shall comply with the following provisions:*

a. Equipment Removal. All facilities that have reached the end of their useful economic life shall be properly decommissioned and removed from the oil field within one year. Areas not slated for future use shall be restored and revegetated within 90 days of termination of use, unless such restoration and revegetation would interfere with fire safety or access to oil operations.

b. Equipment Maintenance. All equipment, improvements, facilities, and other personal property or fixtures located on the oil field shall be maintained in good condition to the satisfaction of the director and the director of public works.
c. Site Debris and Vegetation. The operator shall keep the property free of debris and vegetation overgrowth to the satisfaction of the director. All outside storage of parts or equipment shall comply with Part 7 of Chapter 22.52 of the County Code.

Summary of Complaints:
No complaints regarding the cleanup and maintenance of the Inglewood Oil Field have been received by the County.

Summary of Issues Raised by the Public:
Input on the aesthetics of the oil field relative to the facility equipment and vegetation was received by the County in comments solicited for the Periodic Review. Two comments noted rusting pipes along the perimeter of the oil field and one described a dead tree visible from Fairfax Avenue. A follow up investigation on the dead tree issue determined the tree was not located on oil field property. The County has asked the operator to review the status of pipelines visible along the fence line of the oil field.

Input on equipment removal, and the equipment removal Plan required by CSD Provision L.14, was also received as part of the Settlement Agreement dated July 15, 2011 negotiated between concerned public parties, the County and PXP (now FM

O&G). The *Unused or Abandoned Equipment Removal Plan Inglewood Oil Field* was submitted and implemented as required in 2009. Term 12 of the Settlement Agreement requires the operator to update the Plan periodically should equipment not included in the 2009 Plan become unused or abandoned. The Plan was most recently updated in December 2012.

Analysis of Compliance and Effectiveness:
The *Unused or Abandoned Equipment Removal Plan Inglewood Oil Field* describes the equipment removal activities completed since the adoption of the CSD. Figure 1 of the Plan provides a table listing 64 pieces of equipment that were removed in 2008 and 2009. The table also includes four tanks that were removed in 2012 documenting that the update of the Plan required by the Settlement Agreement has been implemented. The Plan includes removal procedures to ensure equipment is removed with appropriate removal measures for safety and to minimize environmental impact.

Equipment at the oil field is inspected and maintained by the field operations staff with operators completing rounds of the facility daily. All oil field equipment, and the associated maintenance of that equipment, is tracked and scheduled with a vendor supplied computer based maintenance management program (Maximo®). The operator also conducts annual internal safety audits of the facility which provide for review and inspection of the oil field equipment. There have been no issues with equipment maintenance requiring County DRP or Public Works involvement since the adoption of the CSD.

The report prepared by the County in response to the request by PXP in October 2011 to increase the annual number of wells allowable for drilling or redrilling, the *Annual Well Increase Evaluation, December 2011*, includes analysis on the implementation of the visual and aesthetics provisions of the CSD. The report documents that equipment removal activities have begun and that 60 pieces of unused equipment had been removed as of the date of the report.

Part 7 of Chapter 22.52 of the County Code stipulates that a property cannot be used for outside storage or display of raw materials, equipment or finished products unless the storage meets certain code requirements. Outside storage of equipment at the oil field is consistent with this requirement and typical for an oil and gas operation. Examples of outside equipment storage include the pipe rack yard and hazardous materials area.

The operation of the oil field meets the requirements of the site cleanup and equipment maintenance stipulations of this provision. The amended requirement for periodic updating of the equipment removal Plan ensures equipment no longer in use will be removed from the facility in a timely fashion. Equipment at the oil field is maintained and stored as required, therefore, the provision is considered to be fully effective at this time and no further analysis is recommended.

New Technology:
The equipment removal Plan includes measures for the safe and environmentally beneficial removal of equipment at the oil field. The Plan is updated and reviewed periodically by the County which will allow for new technologies associated with equipment removal to be implemented as they are developed.

Recommendations to Changes in Implementation:
The requirements for site cleanup and equipment maintenance of this provision have been implemented. Further, the periodic update of the equipment removal Plan required by the Settlement Agreement strengthens the intent of the requirement. No changes to implementation are recommended.

Recommendations to Changes in CSD Language:
As noted above, the Settlement Agreement augmented the existing CSD language to require periodic updates to the equipment removal Plan, no changes in the CSD language are recommended.

E.22 Security. *All unmanned entrances to the oil field shall be equipped with sliding gates which shall be kept closed at all times except when authorized vehicles are entering or leaving the oil field. The operator shall have a security guard on duty 24 hours per day.*

Summary of Complaints:
The Inglewood Oil Field is completely fenced with a chain link type fence that meets the requirements of the CSD fencing provision with sliding gates at all unmanned entrances. The County has not received any complaints regarding security at the Inglewood Oil Field.

Summary of Issues Raised by the Public:
The County has not received any concerns regarding security at the Inglewood Oil Field.

Analysis of Compliance and Effectiveness:
CSD requirement E.20 requires the oil field facility to be enclosed by fencing that meets DOGGR regulations. The gates associated with the facility fencing are also required to meet the DOGGR regulations for oil field enclosures. All gates at the oil field are consistent with these regulations and all unmanned entrances are equipped with the required sliding type gates. Current security at the oil field includes a 24 hour guard at the main entrance gate to the field off of Stocker Street and a guard at the entrance to the field and offices off of Fairfax Street. All vehicles must check in with the guard and sign in prior to gaining access to the oil field. The

Gate Entrance Signage

guard shack facilities have land line telephone access to the main office building to obtain authorization clearance to allow access for visitors not previously cleared for entrance. Prior to the facility security described above instituted by FM O&G, PXP maintained a guard 24 hours a day at the main field entrance off of Stocker Street; access to the oil field from Fairfax Street was restricted by a locked gate. The oil field security provisions are inspected annually by DOGGR.

The unmanned gates and site security at the oil field meet the requirements of the CSD provision and no significant issues regarding the security of the facility have occurred to date. Issues related to an unauthorized man repeatedly accessing the oil field by sliding underneath a fence are addressed under CSD provision E.20 above. This provision is considered to be fully effective at this time and no further analysis is recommended.

New Technology:
As noted above, CSD provision E.20, requires that facility gates meet DOGGR regulations as *may be subsequently amended by the state.* Therefore, if the regulation is amended to reflect new technologies with regards to gates, the new requirements will be incorporated into the CSD Provision by reference.

Recommendations to Changes in Implementation:
The unmanned gates and site security at the oil field meet the requirements of the CSD provision; no changes to implementation are recommended.

Recommendations to Changes in CSD Language:
The unmanned gates and site security at the Inglewood Oil Field meet the requirements of the CSD provision and no significant issues regarding the security of the facility have occurred to date. Therefore, no changes in the CSD language are recommended.

E.23 Vehicle Parking. *Vehicular parking shall comply with Part 11 of Chapter 22.52 of County Code.*

Summary of Complaints:
The parking facilities at the Inglewood Oil Field meet both the requirements of the CSD Provision and the demand of the FM O&G oil field operations. The County has not received any complaints with regards to vehicle parking.

Summary of Issues Raised by the Public:
All vehicle parking for FM O&G oil field operations occurs on site and does not impact the public; no issues relating to vehicle parking have been raised by the public.

Analysis of Compliance and Effectiveness:
The CSD requirement references the parking requirements of the LA County Code. The applicable requirements for an industrial land use are detailed in Section 22.52.1140 as follows; *there shall be provided parking space for all vehicles used directly in the conducting of such use and, in addition, not less than one automobile*

parking space for each two persons employed or intended to be employed on the shift having the largest number of employees, or each 500 square feet of floor area of the building used for such use, whichever is the larger.

The oil field contains sufficient parking for all employee, subcontractor, visitor, and heavy equipment vehicles. Marked parking spaces at the office building and warehouse areas are consistent with County code requirements. No vehicles associated with oil field operation park off site; therefore, parking of vehicles for oil field operations does not impact any public parking facility. This provision is considered to be fully effective at this time and no further analysis is recommended.

New Technology:
The vehicle parking capacity at the oil field is sufficient and meets County code requirements, a discussion on new technology is not applicable.

Recommendations to Changes in Implementation:
This requirement has been appropriately implemented, no changes to implementation are recommended.

Recommendations to Changes in CSD Language:
No changes to the CSD language are recommended.

E.24 Sanitation. *The operator shall comply with the following provisions:*

a. Garbage and Refuse. The oil field shall be maintained in a clean, sanitary condition, free from accumulations of garbage, refuse, and other wastes.

b. Toilets and Wash Facilities. Sanitary toilet and washing facilities shall be installed at any site where personnel are permanently stationed. Portable facilities shall be provided wherever crews are temporarily employed. Such facilities shall be maintained in a clean and sanitary condition at all times.

Summary of Complaints:
No complaints associated with garbage and refuse at the oil field have been received by the County. Oil field toilets and wash facilities are not open to the public.

Summary of Issues Raised by the Public:
No issues regarding garbage and refuse at the Inglewood Oil Field have been raised by the public. Oil field toilets and wash facilities are not open to the public.

Analysis of Compliance and Effectiveness:
Garbage and refuse are picked up and removed weekly by a subcontractor garbage collection company. Garbage bins are located at the office, the warehouse, and other locations throughout the oil field.

Permanent toilet and wash facilities are located at the office building, the warehouse, the gas plant, the "halfway house" across from the gas plant, and at two modular buildings used by sub-contractors. The restroom facilities are maintained by a sub-contractor janitorial service. Portable facilities are located throughout the field and moved as needed, the portable restrooms are maintained by the subcontractor providing the units.

The provision is considered to be fully effective at this time, no further analysis is recommended.

New Technology:
New technologies in garbage and refuse collection such as improvements in the collection trucks would be implemented by the subcontractor providing the service as required by regulations outside the scope of the CSD.

Recommendations to Changes in Implementation:
This provision is implemented as intended, no changes to implementation are recommended.

Recommendations to Changes in CSD Language:
No changes in the CSD language are recommended at this time.

E.25 Storage of Hazardous Materials. *The operator shall comply with all provisions of a hazardous materials business Plan that has been submitted to the fire chief. The operator shall deliver to the fire chief for review and approval an updated hazardous material business Plan on an annual basis. This Plan shall provide the location of where hazardous materials are stored at the oil field. Hazardous materials shall be stored in an organized and orderly manner and identified as may be necessary to aid in preventing accidents, and shall be reasonably protected from sources of external corrosion or damage to the satisfaction of the fire chief.*

Summary of Complaints:
No complaints associated with the hazardous materials business Plan for the Inglewood Oil Field have been received by the County.

Hazardous Material Storage with Secondary Containment Curb

Summary of Issued Raised by the Public:
No issues regarding the hazardous materials business Plan for the Inglewood Oil Field have been raised by the public. However, questions were raised during the June, 2013 CAP meeting in reference to the relocation of the hazardous materials storage area from near the Operator's office and Labrea Blvd to a more central location within the oil field. The storage

area is a staging area for new product (lube oils for equipment); empty drums ready for re-cycling; and hazardous waste (partially empty paint cans and damaged aerosol cans). No additional comments were brought up on this issue.

Analysis of Compliance and Effectiveness:
The hazardous materials business Plan for the oil field is submitted to the Fire Department for review and approval on an annual basis as required. Hazardous materials at the oil field are stored in a location near the facility pipe yard. The storage area consists of a concrete pad with secondary containment to capture potential spills. Hazardous materials are organized by chemical type and containers are labeled per Department of Transportation (DOT) and National Fire Prevention Association (NFPA) regulations. The hazardous materials storage area is periodically inspected by the Fire Department. The provision is considered to be fully effective at this time, no further analysis is recommended.

New Technology:
The hazardous materials business Plan is submitted to, reviewed, and approved by the Fire Department annually. As new technologies are developed in the storage of hazardous materials the Fire Department can request implementation of those new technologies through the business Plan review and approval process.

Recommendations to Changes in Implementation:
This provision is implemented as intended, no changes to implementation are recommended.

Recommendations to Changes in CSD Language:
No changes in the CSD language are recommended at this time.

E.26*. *Drilling, Redrilling, and Reworking Operations. *The operator shall comply with all of the following provisions:*

a. DOGGR Regulations. All DOGGR regulations related to drilling, redrilling, and reworking operations.

b. Number of Drilling and Redrilling Rigs. No more than three drilling or redrilling rigs shall be present within the oil field at any one time.

c. Annual Drilling, Redrilling, Well Abandonment, and Well Pad Restoration Plan. Before the end of each calendar year, the operator shall develop and deliver to the director an annual drilling, redrilling, well abandonment, and well pad restoration Plan, which shall describe all drilling, redrilling, well abandonment, and well pad restoration activities that may be conducted during the upcoming calendar year. Drilling and redrilling shall be scheduled to avoid over concentration of such activities in that year in anyone area if located near a developed area. The operator may at any time submit to the director proposed amendments to the then current annual Plan. No drilling, redrilling, or

abandonment activity may be commenced unless it is described in a current annual Plan (or an amendment thereto) which has been approved by the director. The annual Plan (and any amendments) shall be provided to the CAP for review and comment. All comments on the annual Plan from the CAP shall be submitted to the director in writing, and, if timely submitted, will be considered as part of the director's review and approval. The director shall complete the review of the annual Plan (and any amendments) within 45 days of receipt, and shall either approve the annual Plan or provide the operator with a list of deficiencies. The annual Plan shall comply with the provisions of this subsection, and shall include the following:

i. The maximum number of wells proposed to be drilled or redrilled;

ii. Approximate location of all wells proposed to be drilled or redrilled;

iii. Approximate location of all proposed new well pads, including their size and dimensions;

iv. Estimated target depth of all proposed wells and their estimated bottom hole locations;

v. A discussion of the steps that have been taken to maximize use of existing well pads, maximize use of redrilled wells, and maximize the consolidation of wells;

vi. Location of all proposed well abandonments, if known, in accordance with DOGGR integrity testing program of idle wells;

vii. Location of all well pads proposed to be abandoned and restored;

viii. A proposed schedule and phasing of the drilling, redrilling, well abandonment, well pad abandonment, and restoration activities;

ix. A discussion of the latest equipment and techniques that are proposed for use as part of the drilling and redrilling program to reduce environmental impacts; and

x. A topographic vertical profile showing proposed location of new wells that reflects local terrain conditions and that addresses the potential visibility of existing and proposed wells and other production facilities from residential and recreation areas.

d. Drill Rig Engines. All engines used for drilling and redrilling operations shall be operated by muffled internal-combustion engines or by electric motors.

e. Fire Safety Regulations. All drilling, redrilling, and reworking shall be in conformance with applicable fire and safety regulations.

f. New Technology. Proven reasonable and feasible technological improvements which are capable of reducing the environmental impacts of drilling and redrilling shall be considered as they become, from time to time, available.

g. Derricks and Portable Masts. All derricks and portable masts used for drilling, redrilling, and reworking shall meet the standards and specifications of the American Petroleum Institute as they presently exist or as may be amended.

h. Equipment Removal. All drilling and redrilling equipment shall be removed from the site within 90 days following the completion of drilling or redrilling activities unless the equipment is to be used at the oil field within five days for drilling or redrilling operations.

i. Drill Site Conditions. All drilling sites shall be maintained in a neat and orderly fashion.

j. Belt Guards. Belt guards shall be required over all drive belts on drilling, redrilling, and reworking equipment. Guarding shall be as required by Title 8 of the California Code of Regulations, section 6622, or as may be subsequently amended.

Summary of Complaints:
The County has received complaints on several different issues that have the potential to be associated with drilling, redrilling and reworking operations at the oil field. The complaints included issues with odor, noise, vibration, ground movement, and property damage. Discussion of these issues is included in the applicable analysis section of this Periodic Review.

Summary of Issues Raised by the Public:
Input from the public has been raised on a variety of issues regarding the drilling operations at the oil field. Comments have been received at Community Advisory Panel (CAP) meetings; comments have also been received on the annual drilling plans submitted by the applicant to date; as part of discussions for the revised requirements in the Settlement Agreement dated July 15, 2011, negotiated between concerned public parties, the County and PXP (now FM O&G); and in the input received by the County in comments solicited for the Periodic Review.

Hydraulic Fracturing
One of the main issues of concern regarding oil field operations is the well enhancement method of hydraulic fracturing. Public input on hydraulic fracturing has been received repeatedly during CAP meetings, in the electronic survey on the Periodic Review, and in emails and letters regarding the Periodic Review. Term 13 of the 2011 Settlement Agreement required the preparation of a hydraulic fracturing study to be completed by an independent third party consultant. In response to this requirement, the oil field operator commissioned a site specific report on hydraulic fracturing for the oil field that included data from high-volume hydraulic fracturing tests at two wells at the oil field (Wells VIC1-330 and VIC1-635). The two hydraulic fracturing tests included seismic monitors and the presence of the ECC and County representatives. The study was completed in 2012 with a report issued October 12, 2012.

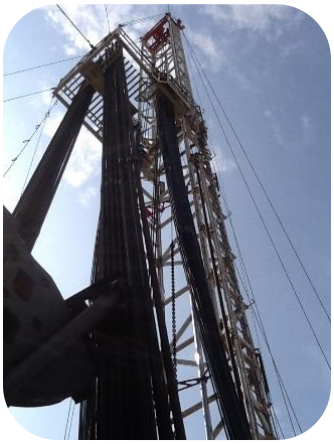
The study provided a number of findings on the potential impacts of hydraulic fracturing at the Inglewood Oil Field. Monitoring before, during, and after for ground movement and seismicity showed no detectable effect from the hydraulic fracturing activities or an increase in the potential for earthquakes. The report further concluded that the noise, vibration, and air emissions associated with the hydraulic fracturing tests were within the standards set by the CSD. Before and after monitoring of groundwater was also included during the tests and did not result in any impacts to groundwater resources. Finally, the report analyzed the impacts of the hydraulic fracturing tests against the conclusions of the community health assessment conducted by the County Department of Public Health and the EIR prepared for the CSD and concluded that the hydraulic fracturing tests did not contribute to additional health risks or impacts greater in significance than those analyzed in the EIR.

On September 20, 2013, California signed into law Senate Bill 4 (Pavley), a bill that regulates well stimulation techniques, including hydraulic fracturing. The bill directed DOGGR to adopt regulations that will require permits, groundwater monitoring, air quality monitoring, notification of nearby property owners for wells using stimulation techniques such as hydraulic fracturing. The new law also required that well stimulation fluid vendors make certain disclosures regarding the chemical formulation of those fluids and that DOGGR prepare an EIR to analyze the impacts of hydraulic fracturing across the state. On November 15, 2013, DOGGR released draft regulations and the Notice of Preparation (NOP) of the EIR pursuant to Senate Bill 4 with a 60 day public comment period which closed on January 14, 2014. During the comment period, DOGGR hosted five public hearings around the state.

Hydraulic fracture well enhancement techniques are not in use at the oil field at this time nor are they proposed in the recently approved 2014 *Annual Drilling, Redrilling, Well Abandonment, and Well Pad Restoration Plan*. In addition, the Operator has committed to providing advance notice of any potential future hydraulic fracturing that could occur at the field.

Annual Drilling, Redrilling, Well Abandonment, and Well Pad Restoration Plan

The public has also provided input on the *Annual Drilling, Redrilling, Well Abandonment, and Well Pad Restoration Plan* that is submitted to the County on an annual basis as required by this provision. For the 2014 Plan, more information was requested regarding slant drilling paths and whether this drilling technique can result in a bottom hole location outside the boundaries of the CSD and potentially under a residence. This issue has been discussed at CAP meetings and the operator has confirmed that all drilling operations at the oil field stay within the boundaries defined by the Inglewood Oil Field. Another comment was made on the usefulness of the Subsection xi of the Plan, which requires preparation of topographic vertical profiles showing the proposed location of new wells to address the potential visibility of the rigs. The commenter suggested eliminating this requirement altogether. Other public comments on the drilling Plan include requests for micro-seismicity monitoring during drilling operations and for the County to allow the CAP to play a more prominent role in the review and approval of the drilling plans.



Workover Rig Derrick with Pipe

Input has also been received on the drilling plans for the previous years since the adoption of the CSD. Comments on the 2009 Plan focused on requests for better detail on well, well pad, and well bore paths. Comments from both the County and the public noted that exact locations of these well characteristics are necessary to determine compliance with the CSD; prevent drilling in setbacks or outside the boundaries of the CSD, and to avoid an overconcentration of rigs in one area. As part of the approval process, the County plotted the well data into a GIS mapping system and determined the proposed well locations were in compliance with the provisions of the CSD. The public also requested that the plans be provided at an earlier date to allow for more review time.

Comments on the 2010 Plan expressed similar concerns regarding the location, schedule, and number of wells in a given area and the potential to concentrate noise and other impacts from drilling on one residential area. Several comments noted that the County should be directing the Operator to direct drilling efforts toward the center of the field to allow for the perimeter edges to be restored and returned, over time, to open space. In support of maximizing the drilling activity in the middle of the field several comments requested that the Operator be required to abandon more wells and well pads along the edges of the oil field. However, it must be noted that this is not a requirement of the CSD. Input was also received that the Plan should provide more detail on how the significance of the visual impact of drilling rigs was determined and mitigated.

The 2011 Plan comments also requested more detail on the location and schedule of the proposed wells. Concern from the public was documented on the potential for the over concentration of wells in one area and the associated noise and visual impacts. Both the County and the public requested that the Plan reflect and discuss complaints from the public and the results of the investigation of those complaints. The public also expressed concerns that both the rate of abandonment of wells and the progress of the landscaping effort were not meeting the requirements of the CSD. The public noted the similar concern that the application and installation of the new flare for the gas plant was not consistent with the schedule required by the CSD. The review and subsequent approval of the 2011 Plan confirmed Operator compliance with the progress of those CSD provisions.

Drill Rig

Comments on the 2012 Plan made similar requests as those on the previous drilling plans for consolidation of wells in the center of the oil field and abandonment of more wells with the focus on the perimeter sections of the field. In response to these requests, the County noted that the CSD does not require the Operator to “shrink” the oil field operations into the center of the field and that the proposed drilling locations were in compliance with the CSD. Comments were also noted that the proposed number of wells and request for bonus wells was not adequately documented; however, the County determined the information in the Plan was consistent with the applicable CSD requirements. The public also requested more information on the geological review of the drilling Plan, production zone information, and data on the nodular shale zones. The County requested the information where required by the CSD, however, much of the requested information is not required by the ordinance. Other comments requested that the gas buster/flare system be required for all drilling sites and concerns regarding hydraulic fracturing well enhancement techniques.

Comments on the 2013 Plan included specific questions about well locations and the information required to be included in the Plan to document compliance with the CSD. The 2011 Settlement Agreement requires the Plan to provide additional information on certain well types and for certain well depths and locations. Upon review of the Plan, the County determined the information submitted was, as revised, in compliance with the requirements of the CSD and Settlement Agreement. Comments on the 2013 Plan were also received from the Regional Water Quality Control Board (RWQCB) including a request that the Plan provide more information on abandoned wells and the ground water monitoring well network. Upon review, the County determined that the Annual Drilling, Redrilling, Well Abandonment, and Well Pad Restoration Plan provision does not require data on abandoned wells noting that annual reports on vapor testing of abandoned wells is submitted annually to DOGGR. The County also noted that the groundwater well monitoring network was approved by the RWQCB. See the analysis and recommendation for Provision 19, *Groundwater Monitoring*, for more detail. Additional comments on the 2013 Plan requested that the document provide more detail on new technologies for drilling rigs such as electric and natural gas powered drill rigs.

The 2011 Settlement Agreement

The Settlement Agreement resulted in additional documentation requirements for wells that involve slant drilling and for wells located in certain mid-zone and shallow depth locations. Operations that meet the criteria for these types of wells must be detailed in a supplemental review section of the annual drilling Plan. Other requirements included revising the limit on the number of drilling rigs, as discussed below, clean technology for drilling equipment, and increasing the length of cement well plugs. Well plugs are discussed in the analysis of Provision E.33, *Well and Well Pad Abandonment.*

Additional comments regarding the general safety, environmental impacts, and health impacts to the public from oil drilling activities were noted in the comments submitted on the Periodic Review.

Analysis of Compliance and Effectiveness:
Subsection E.26.a requires that all well activities related to drilling, redrilling, and reworking operations meet the applicable DOGGR regulations. Drilling, redrilling, and reworking and operations at the oil field are regularly inspected by DOGGR to ensure compliance with these state regulations. The DOGGR inspections often include specific review for the drilling rig blow out preventer (BOP) system. The Operator is required to notify DOGGR to witness BOP function for all permitted new or redrilled production and injection wells.

As noted above, the Settlement Agreement revised the provision subsection regarding the allowable number of drilling and redrilling rigs at the oil field. The original provision listed a maximum of three of these rig types; the Settlement Agreement limits that number to two. Current and historic operations since the applicability of the CSD have had a single drilling rig onsite; however, the 2014 drilling Plan has a drilling schedule set up for two such rigs. At no time since the adoption of the CSD has the oil field had three drilling and redrilling rigs operating at the same time.

The *Annual Drilling, Redrilling, Well Abandonment, and Well Pad Restoration Plan* has been submitted to the County on an annual basis as required. The Plan is reviewed and approved prior to the initiation of drilling activities for the given year. The Plans have also been provided to the CAP for comment consistent with this provision. County review of the plans includes consideration of input received from the CAP. These annual drilling plans must contain the information required under subsections E.26.c.i through E.26.c.x to be approved by the County. Annual plans have been amended as necessary, as allowed by subsection E.26.c, to reflect changes that may occur during the drilling year. The annual Plan for the calendar year 2014 has been approved by the County. The plans are available at the Inglewood Oil Field web site at http://www.inglewoodoilfield.com.

Drill rig engines used at the oil field are properly muffled as required. Fire and safety regulations and orderly drill site conditions are followed at all drilling, redrilling, reworking sites in the oil field; compliance for these requirements is checked periodically during DOGGR and County ECC inspections. As noted above the Operator is required to notify DOGGR for specific permitted well operations. The County inspections and permits document compliance with the rig standards for derricks, portable masts and belt guards as required under subsections E.26.g and E.26.j. New technology for reducing the environmental impacts of drilling and redrilling is discussed in the annual drilling plans submitted to the County for review prior to each drilling activity year. Natural gas powered drill rigs have been discussed in recent drilling plans but this technology has not been proven feasible to date due to the lack of available rigs using this

Drill Rig Pipe Rack and “V” Door Noise Dampening Rubber Surfaces

technology. Currently, only one rig in California is operated on natural gas. However, that drill rig is committed to other operators throughout California and is not available to FM O&G. In addition, the gas rig is significantly taller and would have a bigger footprint than the rig currently in use. Air emissions were also found to have a negligible benefit when compared with using the conventional rigs with the CSD mandated emission controls.

Because the drilling, redrilling, and reworking rigs at the oil field are provided and operated by sub-contractors to FM O&G; these rigs are not idle and are removed from the oil field pursuant to subsection E.26.h if no longer scheduled for use on the oil field.

The number of wells drilled and redrilled is limited on an annual and overall project basis by the conditions of Provision H.1, *Director's Review Required*. The drilling limits prescribed in the CSD were revised by the Settlement Agreement; please see the analysis for Provision H.1 for a discussion on the well limits for the oil field.

The provision is considered to be fully effective at this time, no further analysis is recommended.

New Technology:
Subsection E.26.f requires that reasonable and feasible technological improvements capable of reducing the environmental impacts of drilling and re-drilling activities be considered as they become available. The *Annual Drilling, Redrilling, Well Abandonment, and Well Pad Restoration Plan* includes a discussion on applicable new technologies with this Plan submitted to the County for review. See discussion for Provision E.2 for information on CARB oil rig engine technology and emissions requirements.

Recommendations to Changes in Implementation:
This provision is implemented as intended, no changes to implementation are recommended. However, in consideration of a commenter who suggested elimination of the requirements of subsection c.x and the substantial costs associated with the preparation of the topographic vertical profiles, the preparers recommend considering removing the subject figures/maps from the Annual Drilling Plan until the information is deemed useful for inclusion in future plans.

Recommendations to Changes in CSD Language:
No changes in the CSD language are recommended at this time.

E.27 Processing Operations*. The operator shall comply with the following provisions:*

a. Limits on Processing Operations. Unless otherwise expressly required by DOGGR, the only processing operations permitted at the well site shall be the dehydration of oil and gas produced from the well; the storage, handling, recycling, and transportation of such materials; and those processing operations required for water injection purposes.

b. Refining. No refining shall be conducted within the oil field.

c. Well Pump Motors. All well pumping units shall be operated by electric motors.

d. Well Pumps. Downhole submersible pumps and low-profile pumping units for production wells must be used wherever feasible.

e. Removal by Pipeline Only. All oil, gas, and other hydrocarbons produced from any well in the oil field shall be shipped and transported through pipelines, except in case of an emergency or when access to a pipeline becomes unavailable. Excluded from this requirement are propane and other related natural gas liquids that are in amounts in excess of what can be blended into the pipeline. Should any pipeline through which oil or gas is currently transported become unavailable for the safe transportation of said products due to maintenance problems with the pipeline, or lack of sufficient capacity within the pipeline to handle the volume of oil and gas needing transportation, or because the owner or operator of such pipeline elects to discontinue transporting oil or gas through such pipeline, then the operator shall within 180 days of the date the existing pipeline becomes unavailable, seek to acquire a private right of way or easement, or shall file an application for a right of way, easement, encroachment permit, or franchise for the construction of a replacement pipeline and shall diligently prosecute such application until such pipeline is completed. During any emergency situation, or during such time as any existing pipeline becomes unsafe or unavailable, oil and gas may be transported by truck until the emergency situation is resolved or until a replacement pipeline shall be permitted and constructed in compliance with all applicable laws and regulations.

f. Pipelines. The operator shall comply with the following provisions:

> *i. New pipelines that remove oil or gas from the oil field shall be buried below the surface of the ground;*
>
> *ii. All pipelines which are not enclosed within a fence shall be placed underground or covered with materials approved by the fire chief. Said covers shall be maintained in a neat, orderly, and secure manner;*
>
> *iii. Any and all water or brine produced during pipeline construction shall either be injected in accordance with DOGGR requirements, or disposed of in accordance with other local, state or federal regulations;*
>
> *iv. New pipeline corridors shall be consolidated with existing pipelines or electrical transmission corridors where feasible; and*
>
> *v. Upon completion of pipeline construction, the site shall be restored to the approximate previous grade and condition.*

g. Active Pipeline Plot Plan. The operator shall submit to the fire chief a plot Plan depicting the approximate location of all active pipelines regulated by the United States Department of Transportation or California State Fire Marshall owned by the operator that are located outside the outer boundary line, including waste water, and trunk and gathering lines to transport oil or petroleum products. The plot Plan shall be submitted within 30 days of the installation of any new pipelines or the relocation of an existing pipeline.

h. Machinery Enclosures. The operator shall maintain enclosures around machinery with moving parts consisting of a fence, screening, or housing. Said enclosures shall be installed in compliance with Section 11.16.020, Title 11 of the County Code.

i. Opening Protections. The operator shall cap, close, or protect the openings in all oil wells, test holes, and similar excavation in compliance with Section 11.54.010, Title 11, of the County Code.

Summary of Complaints:
No complaints associated with the requirements on the processing operations at Inglewood Oil Field have been received by the County.

Summary of Issues Raised by the Public:
No issues specific to the requirements on the processing operations at the oil field have been raised by the public.

Analysis of Compliance and Effectiveness:
The processing operations at Inglewood Oil Field are in compliance with the requirements of this provision. The only processing occurring at the oil field is associated with the dehydration of oil and gas; the storage, handling, recycling, and transportation of those materials; and water injection operations. The oil field does not need to process hydrogen sulfide or other impurities prior to transportation to offsite refineries.

All well pump motors at the oil field are powered electrically; the field does not have any internal combustion engine well pump motors. Down hole submersible pumps require specific engineering and geologic conditions to be feasible. Specifically, the amount of sand in the formation is the primary determining factor in the use of submersible pumps because high levels of sand cause significant deterioration of the pump mechanisms. To date approximately 50 wells at the oil field have been retrofitted with submersible pump technology. The oil field does not currently have any low profile pumping units in operation. All oil, gas, and other hydrocarbons produced in the oil field are shipped and transported via pipelines and all natural gas liquids are blended into the oil and thus transported by pipeline. Trucking offsite of oil or gas has occurred once since the adoption of the CSD due to a leak with an offsite oil pipeline operated by another company. Production was curtailed and oil was trucked offsite from September 11 to September 14, 2013 to allow for repair of the oil pipeline.

No new pipelines that transport oil or gas from the oil field have been constructed since the adoption of the CSD. As noted in the discussion regarding CSD Provision E.20 regarding oil field fencing, the oil field is completely fenced in with chain link fencing that meets the DOGGR requirements, thus all oil field pipelines are also enclosed by a fence.

All water or brine generated at the oil field is injected in accordance with DOGGR requirements, new injection wells are subject to review through the annual drilling Plan submittal to the County and the DOGGR Area of Review (AOR) process. Pipeline construction within the oil field is consolidated to the maximum feasible in existing pipeline routes and corridors. Pipeline corridors are returned to pre-existing grade and condition upon completion of construction consistent with the oil field master grading Plan. The active pipeline plot Plan was submitted to the Fire Department on December 9, 2009 and has not been required to be updated to date.

Machinery enclosures and openings associated with wells, test holes, and excavations are inspected by oil field operators during daily rounds. This equipment is also reviewed annually during safety audits performed by the operator and periodically inspected by the County ECC. The equipment at the oil field complies with the referenced County code requirements under Section 11 for health and safety requirements for hazards. Maintenance, safety inspections, and safety audits of this equipment is implemented consistent with the Safety, Inspection, Maintenance, and Quality Assurance Program (SIMQAP) as required by CSD Provision F.3.

The provision is considered to be fully effective at this time, no further analysis is recommended.

New Technology:
Any new pipelines that transport oil or gas offsite from the oil field would require permits from local and state regulatory agencies. The assessment and potential implementation of new technology in pipelines or pipeline construction would be part of the review and approval process of the pipeline permit applications. The machinery enclosure and opening protection requirements outlined in E.27.h and E.27.i above; are linked to County Code requirements, updates to those requirements are therefore incorporated by reference to the CSD.

Recommendations to Changes in Implementation:
This provision is implemented as intended, no changes to implementation are recommended.

Recommendations to Changes in CSD Language:
No changes in the CSD language are recommended at this time.

E.28 Well Reworking Operations. *The operator shall comply with the following provisions:*

a. DOGGR Regulations. The operator shall comply with all DOGGR regulations related to well reworking operations.

b. Number of Reworking Rigs. No more than eight reworking rigs shall be present within the oil field at any one time, unless an emergency condition requires additional Reworking rigs. This does not include equipment used for well maintenance or well abandonment.

c. Hours of Operation. With exception of emergencies, well reworking operations shall not be allowed after 7:00 p.m. or before 7:00 a.m., nor on Sundays or legal holidays.

d. Specifications. Reworking rigs shall meet the standards and specifications of the American Petroleum Institute.

e. Equipment Removal. Reworking rigs shall be removed from the oil field within seven days following the completion of reworking operations unless such rig will be used on another well at the oil field within five days.

Summary of Complaints:
The County has received complaints regarding noise associated with rig operations at the oil field. The most common complaint is the noise from pipe sections banging against each other. The exact number of noise complaints directly linked to well reworking operations is not clear, but most of the complaints from pipe banging noise has been determined to be from maintenance rig operation. Review of the complaint logs indicates three noise complaints associated with well reworking operations with one confirmed and two unconfirmed.

Summary of Issues Raised by the Public:
In addition to the noise complaints associated with the operation of rigs at the oil field, the public has also noted the observation of too many rigs in one area, which resulted in two public complaints in 2013. This issue has been raised by the public at Community Advisory Panel (CAP) meetings, however, there is no specific CSD condition requiring that rig operations associated with reworking efforts be spread throughout the field to minimize the impact from the rig activities.

Analysis of Compliance and Effectiveness:
Wells associated with reworking operations require a permit from DOGGR and thus must meet the applicable well reworking requirements. It should be noted that these well activities are not part of the *Annual Drilling, Redrilling, Well Abandonment, and Well Restoration Plan*, the permitting is a separate process completed directly with DOGGR with permits copied to the County. Compliance with the number of reworking rigs at the oil field is documented by weekly email updates to the County listing the number of

reworking rigs and the well location of the work, this data is confirmed by periodic County ECC inspections.

Standard policy for the operation of reworking rigs operation is daylight hours only. Operation during non-daylight hours only occurs when necessary to complete a critical task or for an emergency situation. Reworking rigs are not operated outside 7:00 am to 7:00 pm or on Sundays or legal holidays consistent with the CSD requirements. The reworking rigs at the oil field are provided and operated by a sub-contractor. The rigs must have a valid Department of Motor Vehicles license and meet the specifications of the American Petroleum Institute (API) to operate in California. The reworking rigs are removed from the field to be used elsewhere by the sub-contractor unless scheduled for use at another well in the oil field.

The provision is considered to be effective at this time, no further analysis is recommended.

New Technology:
As noted above, the well reworking rigs are required to meet the standards and specifications of the API. Therefore as new technologies are developed and adopted by the API, those technologies would be consequently required by the CSD. See discussion for Provision E.2 for information on CARB oil rig engine technology and emissions requirements.

Recommendations to Changes in Implementation:
This provision is implemented as intended; however, in response to the recent complaints of overconcentration of rigs in a given area (along with the presence of the drill rig), it is recommended that the Operator facilitate better coordination when scheduling reworking and the other types of rigs at the oil field to avoid concentrating too many rigs in one area. Since this has only been reported as an issue in two separate occasions, additional vigilance is recommended to the Operator and additional oversight is suggested to the ECC. No other changes to implementation are recommended.

Recommendations to Changes in CSD Language:
No changes in the CSD language are recommended at this time.

E.29 Tanks. *The operator shall comply with the following provisions:*

a. New Tank Specifications. All new tanks and appurtenances shall be designed, constructed, installed, and maintained in accordance with current County Fire Code, American Petroleum Institute, DOGGR, California Division of Industrial Safety, Environmental Protection Agency Standards, applicable provisions of Title 14 of the California Code of Regulations section 1774, and applicable CalARP Program requirements.

b. Setbacks. No new storage Tank, excluding a replacement tank, shall be constructed closer than 500 feet from any developed area, or closer than 200 feet from a public road. No building shall be constructed within 50 feet of any oil storage tank.

c. Vapor Recovery. Oil, wash, and produced water tanks shall be vapor tight and shall be equipped with a vapor recovery system.

d. Specifications for New Tank Piping, Valves, Fittings, and Connections. All new tank piping, valves, fittings, and connections including normal and emergency relief venting, shall be installed and maintained in accordance with current American Petroleum Institute standards to the satisfaction of SCAQMD and DOGGR.

e. Detection of Tank Bottom Leaks. The operator shall design, implement, and comply with a program, approved by the fire chief, for controlling and detecting tank bottom leaks on all tanks at the oil field. The operator may use a combination of methods including but not limited to diversion walls, dikes, tank foundations of concrete or gravel, and a tank bottom leak detection system in compliance with Title 14 of the California Code and Regulations section 1773, or subsequently enacted state regulations regarding tank bottom leaks.

Summary of Complaints:
No complaints associated with the tanks at the Inglewood Oil Field have been received by the County.

Summary of Issues Raised by the Public:
No issues regarding the tanks for the Inglewood Oil Field have been raised by the public.

Analysis of Compliance and Effectiveness:
Four new tanks have been constructed since the adoption of the CSD. All four tanks contain oil and water and are referred to as wash tanks, all four were sized at 5,000 barrels capacity. Construction of the new tanks required County building and land use permits and a South Coast Air Quality Management permit for the vapor recovery system. The permitting of these tanks included the tank piping, valves, fittings, and connections. Thus, the tanks were built pursuant to the agency requirements for new tank specifications outlined in E.29.a and E29.d above.

Tanks Signage and Paint

Of the four tanks constructed, one tank located at the LAI Last Chance tank battery, was built within the setback criteria described in Provision E.29.b. However, the tank replaced an existing tank in the same location and therefore the construction was consistent with the CSD requirement. No buildings have been

constructed within 50 feet of an oil tank. All oil, wash, and produced water tanks at the Inglewood Oil Field are vapor tight and are equipped with a vapor recovery system; this requirement is enforced and documented by annual and periodic inspections by the South Coast Air Quality Management District and by periodic ECC inspections.

As outlined in the Safety, Inspection, Maintenance, and Quality Assurance Program (SIMQAP) required under Provision F.3, all tanks at the Inglewood Oil Field have a program to detect tank bottom leaks. The SIMQAP, and leak detection program, are required to be reviewed and approved for compliance with Title 14 of the California Code of Regulations and other state regulations. The leak detection for all tanks at the oil field consists of either direct view monitoring of the exterior surface and bottom or by the use of tank foundations of either concrete or gravel. A Tank Leak Detection and Containment Plan was approved by County Fire on 2/18/10. The A*nnual Well Increase Evaluation, December 2011,* also confirmed that the required tank leak detection measures are in place.
The provision is considered to be fully effective at this time; no further analysis is recommended.

New Technology:
All new tanks require permits from County Departments of Public Works and Regional Planning and from the South Coast Air Quality Management District. New technologies in the construction and monitoring of oil field tanks would be part of the review and approval process for the permitting of those tanks. Therefore, any new technologies applicable to oil field tanks can be required pursuant to the subject agency permitting requirements and would be consequently incorporated into the CSD by reference.

Recommendations to Changes in Implementation:
This provision is implemented as intended, no changes to implementation are recommended.

Recommendations to Changes in CSD Language:
No changes in the CSD language are recommended at this time.

E.30 Well Production and Reporting*. The operator shall deliver annual production reports to the director and the fire chief. The reports shall provide the following information:*

a. A copy of all DOGGR Forms 110 and 11 OB submitted during the previous 12 months.

b. Number and mapped location of wells drilled or redrilled, including well identification numbers.

c. Number and mapped location of water injection wells, including well identification numbers.

d. Number and mapped location of idled wells, including well identification numbers and the date each well was idled.

e. Number and mapped location of abandoned wells, including date each well was abandoned and/or re-abandoned.

f. Any additional information requested by the director or the fire chief.

Summary of Complaints:
No complaints regarding the well reports required by this provision have been received by the County.

Summary of Issues Raised by the Public:
The public has not raised any issues specific to this CSD requirement; the public does provide comment on the oil field wells through the public outreach provisions of the CSD by commenting on the *Annual Drilling, Redrilling, Well Abandonment and Well Restoration Plan*. Community Advisory Panel (CAP) members have requested to have information on the start and end date for the drilling of each well. Information summarizing the start and end dates of each well drilled for the previous quarter has been recently provided verbally by the County at the CAP meetings.

Analysis of Compliance and Effectiveness:
The reports requested by this provision have been submitted annually to the County and Fire Chief as required. The forms listed under E.30.a are submitted to DOGGR monthly and are compiled for the annual submittal to the County. The County submittal consists of three document packets; Well and Production Report Maps, Well and Production Report Production Forms, and Well and Production Report Injection Forms. These documents are available at the oil field web site at http://www.inglewoodoilfield.com.

Projected location of wells drilled or redrilled is provided in the Annual Drilling Plan submitted according to CSD Provision E.26. The provision is considered to be fully effective at this time and no further analysis is recommended.

New Technology:
This CSD provision is not directly linked to technology; however, as new technologies in well reporting are implemented by DOGGR and added to the reporting forms, the new reporting information would be incorporated into the CSD provision by reference.

Recommendations to Changes in Implementation:
The provision has been implemented and is considered to be fully effective at this time, no changes to implementation are recommended.

Recommendations to Changes in CSD Language:
The provision considered to be fully effective at this time, no changes to the CSD language are recommended.

E.31 Idle Well Testing and Maintenance*. The operator shall comply with Title 14 of the California Code of Regulations section 1723.9 regarding testing and maintenance of idle wells, or subsequently enacted state regulations regarding testing and maintenance of idle wells. The operator shall carry out all additional tests, remedial operations, and mitigation measures required by DOGGR if any idle wells do not meet the test standards.*

Summary of Complaints:
This provision is administrated and regulated by DOGGR, the County has not received any complaints or comments on idle well testing or maintenance.

Summary of Issues Raised by the Public:
The public has not raised any issues specific to this CSD requirement; however, wells at the oil field are discussed in the *Annual Drilling, Redrilling, Well Abandonment and Well Restoration Plan* and the public has the opportunity to provide comments on the Plan through the public outreach provisions of the CSD.

Analysis of Compliance and Effectiveness:
Title 14 of the California Code of Regulations section 1723.9 provides testing and maintenance requirements that apply to wells that have not produced oil or natural gas or been used for fluid injection for a continuous six-month period during any consecutive five-year period. The testing includes the determination of the fluid level of the well and may include other diagnostic tests as required by DOGGR. PXP and now FMO&G complete the required testing and maintenance pursuant to the DOGGR and submit the results to DOGGR pursuant to the regulations in an annual report.

The provision is considered to be fully effective at this time and no further analysis is recommended.

New Technology:
This CSD provision is not directly linked to technology; however, the requirement language is linked to DOGGR regulations. As new technology regarding idle well testing and maintenance is developed and added to the state regulations, those requirements would be incorporated into the CSD provision by reference.

Recommendations to Changes in Implementation:
The provision has been implemented and is considered to be fully effective at this time, no changes to implementation are recommended.

Recommendations to Changes in CSD Language:
The provision considered to be fully effective at this time, no changes to the CSD language are recommended.

E.32 Abandoned Well Testing. *The operator shall conduct annual hydrocarbon vapor testing of areas within the oil field that contain abandoned wells. The testing shall be done using a soil gas vapor probe, or another method approved by the director. The*

results of the testing shall be submitted to the director and DOGGR on an annual basis. Abandoned wells that are found to be leaking hydrocarbons that could affect health and safety shall be reported to the director and DOGGR within 24 hours of the abandoned well test. If directed by DOGGR, the operator shall re-abandon the well in accordance with DOGGR rules and regulations. If the test results for an abandoned well area are at or below the background levels for two consecutive years that area shall thereafter be tested every five years.

Summary of Complaints:
Abandoned well area testing has occurred annually since the adoption of the CSD as required; no complaints associated with the testing have been received by the County.

Summary of Issues Raised by the Public:
No issues regarding the abandoned well testing have been raised by the public. However, as part of the Settlement Agreement dated July 15, 2011 between concerned public parties, the County and PXP, the length of cement plugs used in the well abandonment process at the Inglewood Oil Field was increased from the 25 feet required by DOGGR to 150 feet.

Analysis of Compliance and Effectiveness:
Abandoned well area hydrocarbon vapor testing has been completed annually by a third party consultant since the adoption the CSD. Results of the sampling were compared to the regulations and requirements of the City of Inglewood, LA County Department of Public Works, LA County Fire Department, the California Code, and the South Coast Air Quality Management District in reports submitted to LA County and DOGGR. The reports completed to date, 2009 through 2013 inclusive and summarized below, concluded that there is no evidence of leaking wells, pipelines or natural seepage from abandoned well areas at the oil field.

In 2009, 96 soil samples were taken at a depth of four feet with the samples analyzed for hydrocarbons and hydrogen sulfide. The results indicated that all areas where hydrocarbons were detected had values below regulatory concerns. Hydrogen sulfide was not detected in any of the soil samples. The testing in 2010 included 96 soil samples for hydrocarbons and hydrogen sulfide; none of the 2010 soil samples contained hydrocarbons above regulatory thresholds and hydrogen sulfide was not detected. Additional sampling occurred in 2010 at the location of the 12 highest results for hydrocarbons; surface air testing for methane was completed using an organic vapor analyzer, methane was not detected at any of the 12 air sampling locations. For the 2011 sampling program 31 soil samples were taken with no results above any regulatory threshold of concern for hydrocarbons and hydrogen sulfide was not detected. The 2012 well area hydrocarbon sampling program included 24 soil samples with the highest result measured significantly below the levels of possible concern. Consistent with previous year sampling, hydrogen sulfide was not detected. The sampling program in 2013 included sampling at 11 locations, all results were below the levels of concern.

The annual abandoned well area hydrocarbon vapor testing program to date has concluded that there is no evidence of leaking wells, pipelines or natural seepage. The reports further conclude that the low levels of hydrocarbons detected are likely the result of natural degradation of crude oil in the near surface soil resulting from historic oil operations. The Annual Abandoned Well Testing reports are available at the Inglewood Oil Field web site at http://www.inglewoodoilfield.com.

Finally, all wells abandoned since the settlement agreement was adopted have exceeded the 150 feet length of cement plugs as verified by the County. The annual abandoned well area hydrocarbon vapor testing has been completed as required, the provision is considered to be fully effective at this time and no further analysis is recommended.

New Technology:
The annual abandoned well area hydrocarbon vapor testing is performed by a third party consultant consistent with accepted sampling procedures and lab analysis per the American Society for Testing and Materials (ASTM) D1945 analytical techniques. As new techniques in soil testing and analysis are developed and implemented, the testing program will be modified accordingly.

Recommendations to Changes in Implementation:
The required annual abandoned well area hydrocarbon vapor testing has been completed as required; no changes to implementation are recommended.

Recommendations to Changes in CSD Language:
The provision has been completed as required to date and no abandoned wells have been found to be leaking hydrocarbons that could affect health and safety. No wells have been required by DOGGR to be re-abandoned due to leaking hydrocarbons. Therefore, no changes to the CSD language are recommended.

E.33 Well and Well Pad Abandonment. *If DOGGR orders the operator to plug and abandon any wells on the oil field, the operator shall deliver to the fire department, on a timely basis, all notices of intent to plug and abandon a well that the operator files with DOGGR and shall commence promptly and proceed diligently with the plugging and abandonment operations in accordance with DOGGR rules and regulations and the terms of the DOGGR permit to plug and abandon the well. Well abandonment may commence once all necessary permits and approvals are obtained. If the well pad associated with the abandoned well does not contain other production, injection, or idle wells, and will not be used for future drilling, then the operator shall promptly abandon the well pad consistent with the following provisions:*

a. Closure of Sumps. The operator shall clean out all sumps, cellars, and ditches, and level and fill all sumps and depressions pursuant to DOGGR requirements. If sumps are lined with concrete, bottoms and walls shall be broken up and removed. Sumps shall be

closed in accordance with Regional Water Quality Control Board and California Department of Toxic Substances Control requirements.

b. Well Pad Site Cleanup. The operator shall leave the site entirely free of oil, rotary mud, oil-soaked earth, asphalt, tar, concrete, litter, debris, and other substances to the satisfaction of DOGGR and in compliance with federal requirements.

c. Contaminated Materials. All contaminated soils and materials within the well pad boundaries shall be removed and treated or disposed of in accordance with all local, county, State, and federal regulations.

d. Well Pad Revegetation. The Well pad shall be revegetated following the requirement of the native habitat restoration Plan.

Summary of Complaints:
This provision has not been implemented by DOGGR to date and the County has not received any complaints on the requirement to date.

Summary of Issues Raised by the Public:
There have been no issues raised by the public specific to this provision and DOGGR has not ordered any wells to be plugged or abandoned pursuant to this requirement. Wells at the oil field associated with plugging and abandonment activities are discussed in the *Annual Drilling, Redrilling, Well Abandonment and Well Restoration Plan* and may be subject to DOGGR Area of Review (AOR) requirements as discussed below. The public has the opportunity to provide comments on the *Annual Drilling, Redrilling, Well Abandonment and Well Restoration Plan* through the public outreach provisions of the CSD.

While no public input was received on this CSD provision, the terms of the Settlement Agreement negotiated between concerned public parties, the County and PXP (now FM O&G) included additional requirements to the CSD regarding well plugs. The agreement language increases the length of the cement surface plug from the 25 foot DOGGR requirement to 150 feet, the applicable language from the settlement agreement is listed below.

Well Plugs. DOGGR requires oil field operators to utilize a minimum 25-foot cement surface plug at the top of a well when abandoning any such well pursuant to Title 14 of the California Code of Regulations section 1723.5. To augment this requirement, for all wells abandoned at the Oil Field from the date of this Agreement, PXP shall utilize a total of 150-foot cement surface plug.

Analysis of Compliance and Effectiveness:
As noted above, DOGGR has not implemented this provision to require FM O&G to plug and abandon any wells to date. Wells voluntarily scheduled for plugging and abandonment are included in the *Annual Drilling, Redrilling, Well Abandonment and Well Restoration Plan* subject to DOGGR and the County review and approval. In

addition, idle or previously plugged and abandoned wells are subject to the DOGGR Area of Review (AOR) process which is implemented when a new injection well is proposed as summarized below.

In California, injection wells associated with oil and natural gas production operations (Class II injection wells) are regulated by DOGGR pursuant to their Underground Injection Control (UIC) Program. The program is coordinated with the EPA for regulation of Class II injection wells under the federal Safe Drinking Water Act. When injection wells are included in the *Annual Drilling, Redrilling, Well Abandonment and Well Restoration Plan*, DOGGR implements the AOR process for the area with the potential to be affected by the proposed injection well. DOGGR defines the AOR surrounding a proposed injection well bore as a minimum one quarter mile radius, with local geology and reservoir characteristics providing other input to the determination of the size of an AOR. The Inglewood oil field is divided into 15 AOR sections. The AOR process analyzes all wells, including idle and abandoned wells, in the area of a proposed new injection well to ensure the wells will not cause damage to life, health, property, or natural resources.

The provision language also includes requirements for closure of sumps, well pad clean up, contaminated materials, and well pad revegetation. As discussed for CSD *E.15 Sumps*, the Inglewood Oil Field does not contain any sumps and sumps are no longer used at the oil field. Existing well pads have been cleaned up but are not scheduled for abandonment or restoration because FM O&G standard practice is to re-use the well pad sites as feasible to avoid the impact of developing new well pad areas.

The provisions requiring abandonment of wells, closure of sumps and well pads cleanup have not been activated to date, however, the intent of the requirement is met through other CSD and DOGGR regulations, no further analysis is recommended.

New Technology:
This CSD provision is not directly linked to technology; however, the requirement language is linked to DOGGR regulations. As new technology or requirements regarding plugging and abandonment of wells are developed and added to the state regulations, those requirements would be incorporated into the CSD provision by reference.

Recommendations to Changes in Implementation:
The provision requirement has not been implemented to date, however, the intent of the requirement is accomplished through DOGGR requirements other CSD provisions. No further analysis is recommended.

Recommendations to Changes in CSD Language:
The provision requirement has not been activated to date and the oil field wells are reviewed annually through DOGGR requirements and other CSD provisions. There is the potential for DOGGR to require the plugging and abandonment of a well that is not part of an annual Plan or associated with an injection well project in the future.

Therefore, the requirement should remain and no changes to the CSD language are recommended at this time.

E.34 County Request for Review of Well Status. *The director may periodically review the status of the operator's wells and submit to DOGGR a list of wells the director believes should be plugged and abandoned as specified in Public Resources Code section 3206.5 or any subsequently enacted state law related to a local jurisdiction's right to request state-agency review of idle wells.*

Summary of Complaints:
There have been no complaints regarding the County's discretion to request DOGGR review of wells as provided for in this provision.

Summary of Issues Raised by the Public:
There have been no issues raised by the public specific to County's discretion to request DOGGR review of wells as provided for in this requirement. The public has the opportunity to provide comments on oil field documents such as compliance reports, plans, audits, and studies including the *Annual Drilling, Redrilling, Well Abandonment and Well Restoration Plan*.

Analysis of Compliance and Effectiveness:
The County has not requested that DOGGR require the Operator to plug or abandon any wells pursuant to this provision to date, therefore, the requirement has not been activated to date. Well status is reviewed by the County through other provisions of the CSD such as the *Well Abandonment and Well Restoration Plan* which must be approved prior to the initiation of each year's drilling program. CSD provision E.32, *Abandoned Well Testing*, requires abandoned well areas to be tested for hydrocarbon contamination and these reports be submitted to the County and DOGGR on an annual basis. If the County discovers any anomalies regarding the well testing, the County can request that DOGGR require the Operator to abandon or plug a well that could be emitting hydrocarbons. As stated above, this has not been necessary to date.
The provision requirement has not been activated to date and no further analysis is recommended.

New Technology:
This CSD provision is not directly linked to technology, however, the requirement language does include the associated state law, Public Resources Code section 3206.5. Should the state law be revised, operational status of wells, or the plugging and abandonment schedules of wells based on new technology, the new law would be incorporated into the CSD provision by reference.
Recommendations to Changes in Implementation:
The provision requirement has not been implemented to date and County review of the status of wells is accomplished through other CSD provisions. No further analysis is recommended.

Recommendations to Changes in CSD Language:
The provision requirement has not been activated to date and well status is reviewed annually through other CSD provisions. There is the potential for the need to review a well or wells that may not be part the *Annual Drilling, Redrilling, Well Abandonment and Well Restoration Plan* or other required plans. Therefore, the requirement should remain and no changes to the CSD language are recommended at this time.

E.35 Reduced Throughput Triggering Review*. When oil or gas throughput is less than 630 barrels per day, the director shall conduct a public hearing to determine if shut down of the oil field or other actions are appropriate.*

Summary of Complaints:
This provision is intended to be implemented at or near the end of the Inglewood Oil Field's project life to determine if the oil production at the site remains economically viable and whether abandonment of the oil field is merited. The oil field has not reached the production levels that trigger this review and this provision has not been activated to date. The County has not received any complaints on the requirement.

Summary of Issues Raised by the Public:
The public, specifically the parties involved in the Settlement Agreement dated July 15, 2011, requested additional language be added to the requirement. The Settlement Agreement details additional requirements to the CSD as negotiated between the concerned public parties, the County and PXP (now FM O&G). The additional language from the Settlement Agreement regarding *CSD E.35, Reduced Throughput Triggering a Review* is listed below:

CSD Review Based On Reduced Production. When production drops to three percent of the estimated peak production of 21,000 barrels of oil per day, the County will review the CSD to consider whether modifications or closure of the Oil Field is necessary or appropriate or at such earlier date as the County determines appropriate.

Analysis of Compliance and Effectiveness:
As noted above, the intent of this provision is to assist in the determination of the end of the project life of the oil field and therefore has not been activated to date. The provision requirement was augmented by additional language documented in the 2011 Settlement Agreement dated July 15, 2011, which provided for County review prior to the production throughput trigger of 3 percent of the estimated peak production to date of 21,000 barrels. The original CSD language required oil production throughput to reach 630 barrels per day to trigger County review. It should be noted that the numerical trigger for throughput review in both the original CSD language and the additional language from the settlement agreement is the same, 630 barrels per day (3% of 21,000 = 630).

The provision is considered to be fully effective at this time and no further analysis is recommended.

New Technology:
This provision is intended to assist in the determination of the end of the project life of the oil field based on a production throughput value. However, the additional language from the Settlement Agreement allows for County review *"at such earlier date as the County determines appropriate"*. Therefore, should the County decide that a review is appropriate prior to the oil production reaching the trigger value in the provision; the County can initiate the review.

Recommendations to Changes in Implementation:
The provision is intended to be implemented at or near the end of the oil fields project life and therefore has not been activated to date. The existing language and the amendments made through the Settlement Agreement provide sufficient flexibility to allow a review as the County considers appropriate. No changes to implementation are recommended.

Recommendations to Changes in CSD Language:
The provision has not been activated to date and the requirement has been revised by additional language from the Settlement Agreement dated July 15, 2011. No additional changes to the CSD language are recommended.

E.36. Abandonment Procedures. *Within 180 days of permanent facility shut down, the operator shall submit an abandonment Plan to DOGGR and submit to the director for review and approval a time line for facility removal, site assessment, and remediation as necessary. The operator shall begin abandonment of the site no later than 20 days after the director's approval of the timeline, and shall provide to the director quarterly updates on the abandonment process until such time as the oil field is abandoned and remediated. The operator shall post a performance bond to insure compliance with all provisions of this subsection and the operators and landowners shall continue to pay property taxes at the rates assessed during oil field operation until all site restoration work has been fully completed, as determined by the director.*

Summary of Complaints:
This provision is intended to be implemented at the cessation of oil field activities and permanent shut down of the Inglewood Oil Field. Therefore, the provision has not been activated to date. The County has not received any complaints on the requirement.

Summary of Issues Raised by the Public:
This provision will not be implemented until permanent shut down of the Inglewood Oil Field occurs. The County has not received any public input on the requirement.

Analysis of Compliance and Effectiveness:
As noted above, the provision will not be implemented until the Inglewood Oil Field is permanently shut down. The requirement includes that the facility abandonment Plan be submitted to DOGGR and reviewed and approved by the County. This review process will allow for both DOGGR and the County to ensure the abandonment Plan meets all applicable requirements for plugging and abandonment of wells, equipment removal and remediation of the site. The requirement also includes a performance bond and the continuation of property tax payments until the County determines all site restoration work has been successfully completed. The Operator has provided an abandonment bond consistent with the provisions of this subsection.

The actual abandonment provision of this subsection has not been activated, no further analysis is recommended at this time.

New Technology:
As the facility has not been shut down to date, this provision has not been activated. However, the condition language requires that the abandonment Plan be submitted to DOGGR and to the County for approval. Therefore, new technologies involving facility removal, site assessment, and remediation available at the time the facility ceases operation may be reviewed, required and implemented as applicable to the abandonment Plan.

Recommendations to Changes in Implementation:
The provision involves requirements for abandonment and restoration of the Inglewood Oil Field and therefore has not been implemented. No changes to implementation are recommended.

Recommendations to Changes in CSD Language:
The provision has not been activated. In addition, new technology or improvements in facility removal, site assessment, and remediation can be included to the CSD requirement through the review and approval of the abandonment Plan. Therefore, no changes to the CSD language are recommended.

F.1 Environmental Quality Assurance Program ("EQAP")*. The operator shall comply with all provisions of an environmental quality assurance program that has been approved by the director. The following provisions relate to the EQAP:*

*a. EQAP Requirements. The EQAP shall provide a detailed description of the steps the operator shall take to assure compliance with **all** provisions of this section, including but not limited to, all of the monitoring programs called for by this section.*

b. Annual EQAP Reports. Within 60 days following the end of each calendar year, the operator shall submit to the director an annual EQAP report that reviews the operator's compliance with the provisions of the EQAP over the previous year and addresses such

other matters as may be requested by the director. The annual EQAP report shall include the following:

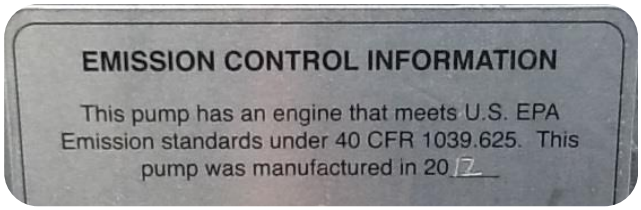
> *i. A complete list and description of any and all instances where the provisions of the EQAP, or any of the monitoring programs referred to therein or in this section, were not fully and timely complied with, and an analysis how compliance with such provisions can be improved over the coming year.*
>
> *ii. Results and analyses of all data collection efforts conducted by the operator over the previous year pursuant to the provisions of this section.*

c. EQAP Updates. The EQAP shall be updated as necessary and submitted to the director for approval along with the annual EQAP report. The EQAP updates shall be provided to the CAP and MACC for review and comment. Comments from the CAP and MACC, if timely received, shall be considered by the director before making a decision to approve the same. The director shall complete the review of EQAP updates as soon as practicable, and shall either approve the updated EQAP or provide the operator with a list of specific items that must be included in the EQAP prior to approval. The operator shall respond to any request for additional information within 30 days of receiving such request from the director, unless extended by the director.

Summary of Complaints:
The County has not received any complaints regarding the EQAP provision of the CSD.

Summary of Issued Raised by the Public:
The public has not raised any issues specific to the EQAP provision. CAP members have received briefings at the CAP meetings regarding the annual audits conducted at the oil field by the ECC and the ECC responded to questions from the CAP members as appropriate.

Analysis of Compliance and Effectiveness:
The EQAP was approved by the County in February 2009 and was revised on August 25, 2009. The EQAP contains sections on the background and operations of the oil field, the relationship of the EQAP with other CSD monitoring compliance programs, the EQAP compliance program and the compliance monitoring conducted by the oil field operator. The document also discusses the organization and relationship of the oil field compliance team consisting of County staff, the Environmental Compliance Coordinator (ECC), the MACC, the CAP, third party consultants and auditors, the ombudsperson, and the oil field operator staff. The EQAP contains the documentation requirements for the compliance program including the Environmental Quality Control Report, reporting of onsite inspection visits, and the format for the annual EQAP report. Subsection F.1.c requires periodic updates to the



Water Pump Emission Standard Certifcation Placard

EQAP as determined by the County, the EQAP has not been required to be updated since August, 2009.

Annual EQAP compliance reports have been prepared and submitted by the operator as required by this provision with the first report completed on March 1, 2010. Subsequent reports have been completed in March 2011, February 2012, and February 2013. The annual reports are composed of three components; a narrative summary of the compliance status of the oil field, a compliance matrix in tabular format, and records of compliance documents completed for the subject year. The annual EQAP reports are reviewed by the County and are one of the primary documents analyzed during the annual compliance audits completed by the ECC.

Annual EQAP audits have been completed for the operating years 2010, 2011, and 2012. Audits are scheduled after review of the annual EQAP reports submitted by the Operator. Results of the audits are documented in a report that includes findings and recommendations for potential improvements in continued compliance with the EQAP-related provisions of the CSD. The suggestions are then tracked and monitored by the ECC to document the implementation of the recommendations. Overall, the Operator has been found to be in substantial compliance with all provisions of the CSD and the results of the audits have been favorable. However, recommendations for improvement have been provided after each yearly audit. Results of the 2010 EQAP audit generated the following recommendations:

- Vapor Pressure Monitoring & Venting System: Include a bar at the 90-percent mark in the CSD Vapor charts to more easily identify recorded alarms reflected in the daily alarm reports.

- Ombudsperson: Add PXP's time of response to written complaints log in order to provide documentation that PXP responds within 1 hour as specified the CSD section J.3.

- Conduct a What If Analysis on scenarios that could cause odors to include 1) Loss of power, 2) ESD activation and 3) Maintenance activities such as tank cleaning and carbon on vacuum trucks. Based on the findings, incorporate operational measures, as deemed necessary that could be taken to reduce the possibility of odors under these scenarios.

- Meteorological Station: Analyze whether or not a back-up power source can be installed to provide continuous power to the meteorological station during power outages. The intent is to ensure that meteorological data is collected without interruption. Power outages could accompany an incident at the oil field and collection of meteorological data during that time could prove to be important.

- Noise Monitoring: Reestablish the baseline at Location 2 over a continuous 72-hour period and provide continuous audio recording.

The 2010 recommendations were subsequently addressed by the Operator and incorporated into various plans and procedures as appropriate with the exception of complaint log documentation recommendation, which was adopted in 2012 as noted below.

The 2011 EQAP audit had the following recommendations:

- Ombudsperson: Add PXP's time of response to written complaints log in order to provide documentation that PXP responds within 1 hour as specified in CSD section J.3. (*Note: PXP started documenting the response time in the 2012 2nd quarterly report*).

- Water Management Plan: Provide an updated Plan that identifies the projected water usage numbers. Confirm the same number is reflected in the Recycled Water Report and obtain approval.

The 2011 recommendations were subsequently addressed by the Operator and incorporated into various plans and procedures as appropriate.

Recommendations from the 2012 audit included:

- Noise Making Equipment Service: Update the equipment maintenance management program (Maximo®) to include the inspection and, if necessary, service of noise making equipment consistent with CSD provision 22.44.142E5d. The maintenance management program data shall serve as the equipment service log required by the subject requirement.

- Contractor/Sub-Contractor Training: The FM O&G Training Records Report does not include a complete list of contractor/subcontractor training records. Compliance with the EQAP requires confirmation that all CSD training is being conducted. Include contractor/sub-contractor training records in the FM O&G Training Records Report or provide the records in a format that documents that the required training has been completed.

The 2012 recommendations are currently being addressed by the Operator. Compliance verification will be reviewed by the County during ECC inspections and at the 2013 EQAP audit.

The annual EQAP audits provide the County with the opportunity to complete a formal review of compliance activities and compliance documentation of the provisions of the CSD. The results of the audits indicate that the oil field is being operated in compliance with those requirements. The provision is considered to be fully effective at this time and no further analysis is recommended.

New Technology:
Provision F.1.c requires periodic updates to the EQAP as required by the County, therefore, as new technologies are developed for environmental protection and compliance for oil field operations, those requirements may be added to the EQAP as applicable.

Recommendations to Changes in Implementation:
The provision has been implemented and is considered to be fully effective at this time, no changes to implementation are recommended.

Recommendations to Changes in CSD Language:
The provision considered to be fully effective at this time, no changes to the CSD language are recommended.

F.2 Environmental Compliance Coordinator. *The operator shall recommend and fund the environmental compliance coordinators. The number of environmental compliance coordinators shall be determined by the county and shall take into account the level of oil operations at the oil field. The environmental compliance coordinator(s) shall be approved by, and shall report to, the director. The responsibilities of the environmental compliance coordinator(s) shall be set forth in implementation guidelines that may be developed by the county for the oil field and shall generally include:*

a. On-site, day-to-day monitoring of construction or drilling and redrilling activities as determined by the director.

b. Taking steps to ensure that the operator, and all employees, contractors, and other persons working in the oil field, have knowledge of, and are in compliance with all applicable provisions of this section.

c. Evaluating the adequacy of drilling, redrilling, and construction impact mitigations, and proposing improvements to the operator or contractors and the county.

d. Reporting responsibilities to the various county agencies with oversight responsibility at the oil field, as well as other agencies such as DOGGR, and SCAQMD.

Summary of Complaints:
The County has not received any complaints regarding the ECC provision.

Summary of Issues Raised by the Public:
The County received input on the ECC in comments solicited for the Periodic Review. A member of the CAP commented that employment of the ECC by a consultant to the County is a conflict of interest and the ECC should be an independent hire. The comment is unclear; however, the ECC is hired directly by the County as part of a tri-party agreement with the Operator and acts independently from the Operator. While the

Operator is required to pay for the costs of the ECC, the ECC reports directly to the County thereby avoiding any potential conflict of interest.

Analysis of Compliance and Effectiveness:
An ECC position has been funded by the operator as required by this provision since the adoption of the CSD. The ECC have met the qualification requirements for the position and have been approved by the County. The ECC are familiar with the compliance requirements of the CSD and the environmental impacts and mitigation associated with oil field operations. The oil field site visits performed by the ECC include an inspection of the drilling or redrilling rig to check compliance on the CSD provisions such as the Quiet Mode Drilling Plan, air quality monitoring equipment, and noise monitoring equipment. The ECC site inspections are coordinated with oil field management to gain access to oil field staff, oil field contractors and for access to the oil field to check on the compliance provisions of the CSD. The ECC also participates in reviewing and commenting of all plans submitted by the Operator in compliance with the CSD. The ECC also includes a number of oil field related subject matter experts that can be used at any given time depending on the compliance needs of the County in ensuring compliance with the CSD. Experts include acoustical engineers, air quality, biology, landscape architects, risk assessment and planning experts, among others. As outlined in the EQAP, the ECC is part of the coordinated compliance effort of the County, other resource agencies, and the oil field operator.

The provision is considered to be fully effective at this time and no further analysis is recommended.

New Technology:
The EQAP and ECC provisions allow new technologies in environmental compliance equipment to be used by the ECC as those technologies are developed.

Recommendations to Changes in Implementation:
This provision is implemented as intended, no changes to implementation are recommended.

Recommendations to Changes in CSD Language:
No changes in the CSD language are recommended at this time.

F.3 Safety Inspection, Maintenance, and Quality Assurance Program ("SIMQAP")*.*
The operator shall comply with all provisions of a safety inspection, maintenance, and quality assurance program that has been approved by the director and the fire chief.
a. SIMQAP Requirements. The SIMQAP shall, at a minimum provide for:

i. Inspection of construction techniques;

ii. Regular maintenance and safety inspections;

iii. Periodic safety audits;

iv. Corrosion monitoring and leak detection; and

v. Inspections of all trucks carrying hazardous and/or flammable material prior to loading.

b. SIMQAP Updates. The operator shall periodically review and revise the SIMQAP to incorporate changes in procedures, and new safety and maintenance technologies and procedures. The operator shall make such revisions at least every five years, or more frequently, if the operator determines changes are necessary or if requested by the director or the fire chief. The operator shall submit SIMQAP updates to the director and the fire chief for their review and approval. The director shall complete the review of SIMQAP updates as soon as practicable, and shall either approve the updated SIMQAP or provide the operator with a list of specific items that must be included in the SIMQAP prior to approval. The operator shall respond to any request for additional information within 30 days of receiving such request from the director, unless extended by the director.

c. Worker Notification. The operator shall ensure that all persons working on the oil field comply with all provisions of the currently approved SIMQAP.

d. Inspections. The SIMOAP shall provide for involvement of county staff or the environmental compliance coordinator in all inspections required by this section.

Summary of Complaints:
The County has not received any complaints regarding the SIMQAP provision of the CSD.

Summary of Issues Raised by the Public:
Maintenance frequency of oil field equipment was discussed at the September and October 2013 Community Advisory Panel (CAP) meetings with regards to the overflow of a tank from a failed level controller. Members of the public requested additional information on why the controller failed, how the incident was responded to by oil field staff, and questioned the operator about redundant equipment or other measures that could be implemented to prevent equipment failures of this type in the future. The equipment in question was part of the inspection and maintenance program required by subsection F.3.a.ii of this provision. While the piece of equipment failed, it had been inspected as part of the maintenance program. The program provides for sufficient inspection and maintenance of equipment, but does not completely ensure against potential malfunctions that could occur to various pieces of equipment. The program;

CARB Portable Equipment Registration Progam Equipment Certifcation Placard

however, allows for a feedback loop to alert the Operator to additionally check equipment that has had the propensity for failure.

Analysis of Compliance and Effectiveness:
The SIMQAP was completed and implemented in May, 2009 and approved on 4/13/11. The document was prepared with the assistance of a professional engineer familiar with the equipment, environmental impacts, and environmental regulations of oil field facilities. The SIMQAP includes requirements for facility staffing, fire protections systems, process controls, gas detection, emergency systems, and leak prevention and detection measures. The inspection and maintenance section of the document provides details on the preventive maintenance program, safety device inspections, equipment inspections, electrical equipment inspection, and the inspection and maintenance of flow lines. The document also includes a discussion of the Transportation Security Plan which lists the requirements for trucks carrying hazardous and/or flammable materials as required by subsection F.3.a.v. Oil field staff has received training on the SIMQAP as a component of the training on the CSD completed on an annual basis.

All oil field equipment, and the associated maintenance of that equipment, is tracked and scheduled with a vendor supplied computer based maintenance management program (Maximo®). This schedule is linked to the requirements of the SIMQAP. The operator also conducts annual internal safety audits of the facility which provide for review and inspection of the oil field equipment. There have been no issues with equipment maintenance requiring County DRP or Public Works involvement since the adoption of the CSD.

The A*nnual Well Increase Evaluation, December 2011,* reviewed the SIMQAP and noted the program serves to improve the overall safety and reliability of the oil field equipment and thereby reduces the likelihood of an equipment failure that could lead to an impact to the environment. However, a comprehensive SIMQAP audit by all appropriate agencies has not been conducted to date. It is recommended that a SIMQAP audit be conducted over the next year in coordination with the EQAP audit and that appropriate interested regulatory agencies be noticed of the audit for participation as applicable.

The provision is considered to be fully effective at this time and no further analysis is recommended.

New Technology:
The SIMQAP is required by this provision to be periodically reviewed and revised to incorporate changes in procedures, new safety technologies, and new maintenance technologies.

Recommendations to Changes in Implementation:
This provision is implemented as intended, no changes to implementation are recommended. However, as stated above, it is recommended that a SIMQAP audit be conducted over the next year in coordination with the EQAP audit and that appropriate interested regulatory agencies be noticed of the audit for participation as applicable.

Recommendations to Changes in CSD Language:
No changes in the CSD language are recommended at this time.

F.4 Annual Emergency Response Drills of the County and Culver City Fire Departments. *The operator shall demonstrate the effectiveness of the emergency response Plan by responding to one planned emergency response drill per year which shall be conducted in conjunction with the county and Culver City fire departments. Emergency response drills required by other agencies that involve the county and Culver City fire departments can be used to satisfy this provision. In addition, the operator shall demonstrate the effectiveness of the emergency response Plan by responding to not more than two unannounced drills each year which may be called by the county fire department at the oil field. If critical operations are then underway at the oil field, the operator need not respond to a unannounced drill to the extent such a response would, as a result of such critical operations, create an undue risk of personal injury or property damage, but in such case the operator must promptly explain the nature of the critical operations, why response is not possible, and when the critical operations will be completed.*

Summary of Complaints:
The County has not received any complaints regarding the emergency response provision of the CSD.

Summary of Issues Raised by the Public:
No issues have been raised by the public regarding the emergency response drills or the requirements of the emergency response provision.

Analysis of Compliance and Effectiveness:
Emergency response drills were conducted annually by the operator on November 5, 2009, November 8, 2010, October 26, 2011, November 7, 2012, and November 6, 2013. Each drill is coordinated by the State Office of Spill Prevention and Response (OSPR) with notice to other resource agencies including the County and Culver City fire departments. The emergency response drills include a demonstration of the field capabilities and equipment for emergency response. The emergency response exercise held November 6, 2013 included representatives from LA County Fire Department, the Culver City Fire Department, LA County Hazardous Materials staff, and OSPR. This provisions also calls for up to two unannounced drills per year at the discretion of the Fire Department, no unannounced drills have taken place at the oil field to date.

The provision is considered to be fully effective at this time and no further analysis is recommended. However, it is recommended that efforts are made to ensure that unannounced drills take place at the oil field as allowed for by the provision of the CSD. The Department of Regional Planning will coordinate with the County Fire Department to ensure that unannounced drills occur in the future.

New Technology:
The annual emergency response drills and updates to the ERP document allow for new technology and techniques to be introduced and included as they become available.

Recommendations to Changes in Implementation:
This provision is implemented as intended, no changes to implementation are recommended. However, as stated above, it is important to ensure that unannounced drills are conducted periodically at the oil field.

Recommendations to Changes in CSD Language:
No changes in the CSD language are recommended at this time.

F.5 Noise Monitoring. *The public health department shall retain an independent qualified acoustical engineer to monitor ambient noise levels in the areas surrounding the oil field as determined necessary by the director or the director of public health. The monitoring shall be conducted unannounced and within a time frame specified by the director or the director of public health. Should noise from the oil operations exceed the noise thresholds specified in this section, no new drilling or redrilling permits shall be issued by the county until the operator in consultation with the director and director of public health identifies the source of the noise and the operator takes the steps necessary to assure compliance with thresholds specified in this section. The results of all such monitoring shall be promptly posted on the oil field website and provided to the CAP.*

Summary of Complaints:
The County has not received any complaints regarding the requirement for noise monitoring of this provision. Noise complaints are discussed in the analysis for CSD Provision E.5.

Summary of Issues Raised by the Public:
See the discussion of CSD Provision E.5, *Noise Attenuation*, for detail on noise issues with the oil field.

Analysis of Compliance and Effectiveness:
The provision requires that the County Department of Public Health use of an independent qualified acoustical engineer for noise monitoring if deemed necessary. As discussed in the analysis for the noise attenuation provision, no exceedances of the noise regulations in the County Code or of the noise limits specified subsection E.5.a of the CSD have been recorded. Therefore, the County has not determined that the additional noise monitoring required by this provision to be necessary.

The provision has not been activated to date and no further analysis is recommended.

New Technology:
The provision requires the use an independent qualified acoustical engineer for noise monitoring, therefore, any noise monitoring required by this provision would be completed with current noise measurement technology.

Recommendations to Changes in Implementation:
This provision has not been implemented to date, however, no changes to implementation are recommended.

Recommendations to Changes in CSD Language:
No changes in the CSD language are recommended at this time.

F.6 Vibration Monitoring*. The public health department shall retain an independent qualified acoustical engineer to monitor vibration in the areas surrounding the oil field as determined necessary by the director or the director of public health. The monitoring shall be conducted unannounced and within a time frame specified by the director or the director of public health. Should vibration from the oil operations exceed the vibration thresholds specified in this section, no new drilling or redrilling permits shall be issued by the county until the operator in consultation with the director and director of public health identifies the source of the vibration and the operator takes the steps necessary to assure compliance with thresholds specified in this section. The results of all such monitoring shall be promptly posted on the oil field web site and provided to the CAP. A telephone number by which persons may contact the operator at all times to register complaints regarding oil operations shall be posted in the main entrance sign to the facility and included in the annual newsletter required by subsections J.2.b and on the oil field web site required by subsection J.2.c.*

Summary of Complaints:
The County has not received any complaints regarding the requirement for vibration monitoring of this provision. Vibration is discussed in the analysis for CSD Provision E.6.

Summary of Issues Raised by the Public:
See the discussion of CSD Provision E.6, *Vibration Reduction*, for detail on vibration issues within the oil field.

Analysis of Compliance and Effectiveness:
The provision requires that the County Department of Public Health use an independent qualified acoustical engineer for vibration monitoring if deemed necessary. As discussed in the analysis for the vibration reduction provision, no exceedances of the vibration criteria specified in subsection E.6. of the CSD have been recorded. Therefore, the County has not determined that the additional vibration monitoring required by this provision to be necessary.

The provision has not been activated to date and no further analysis is recommended.

New Technology:
The provision requires the use of an independent qualified acoustical engineer for vibration monitoring, therefore, any vibration monitoring required by this provision would be completed with current vibration measurement technology.

Recommendations to Changes in Implementation:
This provision has not been implemented to date, and no changes to implementation are recommended.

Recommendations to Changes in CSD Language:
No changes in the CSD language are recommended at this time.

F.7 Complaints. *All complaints related to oil operations received by the operator shall be reported on the same business day to the environmental compliance coordinator and to the director. In addition, the operator shall maintain a written log of all complaints and provide that log to the director, the MACC, and CAP on a quarterly basis. Depending upon the nature of the complaint, the operator shall report the complaint to the SCAOMD, DOGGR, and any other appropriate agencies with oversight authority regarding the complaint at issue. If the complaint is received after normal business hours, it shall be reported to the environmental compliance coordinator and the agencies at the opening of the next business day*

Summary of Complaints:
The County has received complaints on a variety of issues regarding the operation of the oil field including noise, odor, vibration, ground movement, property damage, and dust. These complaints are discussed in the applicable sections this Periodic Review.

Summary of Issues Raised by the Public:
Comments have been noted on the complaint process with requests by the public for more detail in both the follow up investigation of complaints and the documentation of that follow up investigation. The public has also requested that the complaint logs be documented in digital format as opposed to hand written complaint logs. Complaint logs are posted on the County web site by quarter and are no longer presented in hand written format. The public has also expressed dissatisfaction with the results of the follow up investigation and documentation of complaints, particularly odor complaints.

Analysis of Compliance and Effectiveness:
The complaint procedure required by this provision has been implemented and is ongoing. The oil field assigns a primary and a back-up staff person to be on call to respond to complaints. In addition, the oil field ombudsperson is available to coordinate directly with the public to discuss complaint issues with the oil field. Oil field personnel responding to a complaint follow a procedure for logging in and responding to complaints from the public.

The procedure first requires that oil field staff call back the complaining party and obtain the following information:

- Name, address, phone number.
- Location of the issue (noise, odor, vibration, other).
- Specific detail on the complaint (sound type, smell, other).
- Time the issue was first noticed.
- Confirm with caller that the issue will be investigated.

The next step in the complaint procedure is to contact the oil field operator currently in charge of the field and initiate an investigation on the complaint. The oil field operator is required to correspond back as soon as possible on the results of the investigation. The oil field staff person handling the complaint then reports the results of the investigation back to the member of the public that filed the complaint and updates the complaint log. The incident is reported to the oil field ombudsperson no later than the next business day and the Director, ECC, and any other appropriate agency staff with oversight authority are notified of the complaint. A follow up of the complaint is then a component of the ECC site inspection. The SCAQMD has also assisted the oil field operator on complaint investigations and their input is noted on the complaint logs. A summary of the complaint log through December 2013 is provided in the table below.

Complaint Log Summary						
Type/Year	**2009**	**2010**	**2011**	**2012**	**2013**	**Total**
Odor	19	15	23	23	14	94
Noise	12	5	11	10	12	50
Vibration	2	2	1	1	5	11
Ground Movement	1	0	0	0	0	1
Property Damage	0	3	10	8	5	26
Work Inquiry	1	1	0	0	0	2
Dust	2	0	0	1	0	3
Lighting	0	0	0	0	1	1
Visual	0	0	0	1	0	1
Total	37	26	45	44	37	**189**

The provision is considered to be fully effective at this time and no further analysis is recommended.

New Technology:
Complaint logs are posted to the County web site quarterly and the equipment used for follow up investigations, such as noise or air quality monitoring equipment, represents current technology and is updated as new technology becomes available.

Recommendations to Changes in Implementation:
This provision is implemented as intended and no changes to implementation are recommended.

Recommendations to Changes in CSD Language:
No changes in the CSD language are recommended at this time.

G.1 Cost of Implementing Monitoring and Enforcing Conditions*. The operator shall be fully responsible for all reasonable costs and expenses incurred by the county or any county contractors, consultants, or employees, in implementing, monitoring, or enforcing this section, including but not limited to, costs for permitting, permit condition implementation, mitigation monitoring, reviewing and verifying information contained in reports, undertaking studies, research and inspections, administrative support, and including the fully burdened cost of time spent by county employees on such matters.*

Summary of Complaints:
This requirement involves the County cost recovery methodology for CSD compliance; no complaints from the public have been received on this provision.

Summary of Issues Raised by the Public:
The public is not involved in this condition; the payment of CSD compliance and enforcement costs is a legislative procedure implemented through the CSD and the Los Angeles County Code requirements. No public input has been received on this provision.

Analysis of Compliance and Effectiveness:
FM O&G, and PXP prior to the change in operator, have made timely payments on all CSD monitoring and enforcement costs to the County through the draw down account required by CSD Provision G.2. All costs from the implementation of the CSD, permit processing, mitigation monitoring, compliance report research, review and verification, inspections, and administrative costs have been paid by the operator from this account. Review of the payment history since the adoption of the CSD shows no late payments or other issues with the legislative cost reimbursement outlined in this provision.

The condition is considered to be fully effective at this time and is administrative in its intent, no further evaluation is recommended.

New Technology:
This provision of the CSD is a County administrative process and, a discussion of new technology is not applicable.

Recommendations to Changes in Implementation:
This requirement has been implemented, the subject payments are made by the operator in a timely manner, no changes to implementation are recommended.

Recommendations to Changes in CSD Language:
No changes to the CSD language are recommended.

G.2 Draw-Down Account*. The operator shall maintain a draw-down account with the Department of Regional Planning from which actual costs will be billed and deducted for the purpose of defraying the expenses involved in the county's review and verification of the information contained in any required reports and any other activities of the county, including but not limited to, enforcement, permitting, inspection, coordination of compliance monitoring, administrative support, technical studies, and the hiring of*

independent consultants. The initial amount to be deposited by the operator shall be $500,000. In the first year, if withdrawals from the account have reduced its balance to less than 50 percent of the amount of the initial deposit ($250,000), the operator shall deposit $50,000 in supplemental funds within 30 business days of notification. After the first year, if the balance in the draw-down account is reduced at any time to $50,000, the operator shall deposit $50,000 in supplemental funds on each occasion that the account is reduced to $50,000 or less within 30 business days of notification. There is no limit to the number of supplemental deposits that may be required. At the discretion of the operator, the amount of an initial or supplemental deposit may exceed the minimum amounts specified in this subsection. The director may, from time to time, increase the minimum $50,000 figure to account for inflation or the county's experience in obtaining funds from the account.

Summary of Complaints:
This requirement involves the payment method of CSD compliance and enforcement costs between the County and FM O&G; no complaints have been received by the County on this provision.

Summary of Issues Raised by the Public:
This provision details the accounting and payment method of CSD compliance and enforcement costs between the County and FM O&G, no public issues have been raised on this requirement.

Analysis of Compliance and Effectiveness:
As noted in the discussion for CSD Provision G.1, PXP, and now FM O&G, have made timely payments on all CSD monitoring and enforcement costs. These payments have been made via the draw-down account as required by this provision. The draw-down account has been maintained at or above the $50,000 balance as required by this requirement since the adoption of the CSD. The County has not required an increase of the minimum balance of the draw-down account to date.

The condition is considered to be fully effective at this time and is administrative in its intent, no further evaluation is recommended.

New Technology:
This condition is a financial agreement between the operator and the County, a discussion on new technology is not applicable.

Recommendations to Changes in Implementation:
This requirement has been implemented, the draw down account is maintained by the operator as required; no changes to implementation are recommended.

Recommendations to Changes in CSD Language:
No changes to the CSD language are recommended.

***G.3 Indemnification**. The operator shall enter into an agreement with the county to indemnify and hold harmless the county, its elected and appointed officials, agents, officers, and employees from any claim, action, or proceeding for damages arising from its oil operations, including water, air or soil contamination, health impacts, or loss of property value during the oil operations, well abandonment, and post-abandonment activities with terms approved by, and in a form acceptable to, the CEO.*

Summary of Complaints:
This provision is administrative in its intent and is a standard condition for County approval of discretionary land use permits; no complaints have been received by the County on this provision.

Summary of Issues Raised by the Public:
As noted above, this is an administrative requirement that is a standard County permit condition, no public input has been received by the County on this provision.

Analysis of Compliance and Effectiveness:
This provision is administrative in its intent and is a standard condition for County approval of discretionary land use permits. The required agreement was documented in a letter signed by the operator and the County dated November 12, 2009, the agreement is on file with the County.

The condition is considered to be fully effective at this time and is administrative in its intent, no further evaluation is recommended.

New Technology:
This condition is an administrative requirement that is a standard County condition for all discretionary land use permits, a discussion on new technology is not applicable.

Recommendations to Changes in Implementation:
This requirement is a standard County administrative requirement and has been implemented, no changes to implementation are recommended.

Recommendations to Changes in CSD Language:
No changes to the CSD language are recommended.

***G.4 Insurance Requirements**. Within 90 days following the effective date of the ordinance creating this section or such later time as may be approved by the director for good cause shown, and without limiting the operator's indemnification of the county as required in the preceding subsection, the operator shall provide evidence of insurance coverage that meets county requirements as required and approved by the CEO including identifying the county and its elected and appointed officers and employees as additional insureds. Such coverage shall be maintained so long as oil operations are conducted within the district and until such time as all abandonment requirements are met and certified by the appropriate local, state, and federal agencies. Such insurance coverage shall include but is not necessarily limited to the following: general liability, auto liability, professional liability, and environmental impairment liability coverage*

insuring clean-up costs and endorsing for 'Sudden and Accidental' contamination or pollution. Such coverage shall be in an amount sufficient to meet all applicable state and federal requirements, with no special limitations. At the operator's request and only with county approval by the CEO, the operator may self-insure all or any part of the above coverage obligations in lieu of purchasing commercial coverage. These insurance requirements shall be in addition to all other indemnification, insurance and performance security required by federal, state, and local regulations and permits.

Summary of Complaints:
This provision is administrative in its intent requiring an insurance policy for operation of the oil field; the County has not received any complaints from the public on the insurance requirement except as discussed below.

Summary of Issues Raised by the Public:
Input on both the insurance liability monetary amount and the amount of the performance security bond required by CSD Provision G.5 was received by the County in comments solicited for the Periodic Review. Three letters and one comment received at the CAP meeting on May 23, 2013 expressed concerns by the public on the amounts of liability insurance and bonding required by the CSD. In addition, a comment was noted at the May 23, 2013 CAP meeting that the language of both the insurance and bonding CSD provisions be revised to allow for a better interpretation of the requirements. The comment letters expressed concern that the liability insurance and bonding amounts were not sufficient. One letter referenced the 2010 Macondo Oil Rig blowout in the Gulf of Mexico and the San Bruno gas pipeline explosion as examples of the high cost of accidents related to oil and gas operations. The requirements outlined in the Culver City oil and gas ordinance regarding bonding for oil and gas projects was noted in one comment letter.

The comments noted above by the public on the insurance and bonding provisions of the CSD can be summarized as requesting that both amounts be increased and that the amounts required be sufficient to cover a worst case incident at the oil field.

Analysis of Compliance and Effectiveness:
PXP, the operator at the time of CSD adoption, provided the County with an insurance policy meeting the liability and environmental impairment liability requirements of this provision on January 18, 2010. The current operator of the oil field, FM O&G, updated this insurance to reflect the change in operator on June 25, 2013. The updated insurance policy has been reviewed by the County and meets all applicable state and federal requirements. The County has evaluated the amount of coverage currently provided by the Operator and has determined that given the nature of the operations at the oil field, no additional coverage amounts are necessary. Further, the CSD does not determine the amount of insurance required under Provision G.4 or the performance bond amount required under Provision G.5; the financial and technical requirements of these provisions are determined by the County CEO. In addition, the County may conduct additional review at any time independent of the Periodic Review process. It is also important to note that operations at the oil field are very different than those used in the examples made by the public and referenced above. The oil field does not have the

same level of risk as an offshore drilling operation with potential high pressures, as in the Macondo Oil Spill and does not include the transport of large volumes of pressurized gas, as in the San Bruno explosion.

The condition is administrative in its intent and is considered to be fully implemented, no further evaluation is recommended.

New Technology:
This condition is an administrative requirement, new technology is not applicable.

Recommendations to Changes in Implementation:
This requirement is an administrative requirement that has been implemented no changes to implementation are recommended.

Recommendations to Changes in CSD Language:
No changes to the CSD language are recommended.

***G.5 Performance Security**. The operator shall be subject to the following provisions:*

a. Performance Bond. Prior to issuance of the first drilling or redrilling permit pursuant to this section, the operator shall provide to the department of regional planning a faithful performance bond or financial instrument in the sum to be determined by the CEO, payable to the county and executed by a corporate surety acceptable to the county and licensed to transact business as a surety in the state of California. Such bond shall be conditioned upon the faithful performance by the operator of duties related to well abandonment, site restoration, and environmental cleanup and shall be in a format and include terms approved by the CEO.

b. Change of Operator. The performance bond shall continue in force for one year following any sale, transfer, assignment, or other change of operator of the oil field, or of the current operator's termination of activities at the oil field. The county may release said bond prior to the end of the one-year period upon satisfaction by the operator of all its obligations. Notwithstanding the foregoing, the performance bond shall not be terminated or released upon the sale, transfer, assignment, or other change of operator until the new operator has delivered a replacement bond complying with the provisions of this subsection G.

c. Funding Options. At its sole option, the county may accept certificates of deposit, cash deposits, or U.S. government securities in lieu of commercial bonds to meet the above bonding requirements on terms approved by the CEO.

Summary of Complaints:
This provision is administrative in its intent requiring a bond regarding the abandonment, site restoration, and environmental cleanup of the oil field. The County has not received any complaints on the performance security required by this provision apart from the public input noted below and in the discussion for CSD Provision G.4.

Summary of Issues Raised by the Public:
As noted in the discussion for CSD Provision G.4, the County received three letters and two comments by the public on the amounts of liability insurance and bonding required by the CSD. The comments requested that the amounts of insurance and bonding be increased along with one comment requesting that the language of both requirements be revised to allow for a better interpretation of the requirements.

Analysis of Compliance and Effectiveness:
PXP, the operator at the time of CSD adoption, provided the County with a performance bond issued by an acceptable corporate surety licensed to transact business in the state of California on September 29, 2009. The current operator of the oil field, FM O&G, updated this bond to reflect the change in operator on June 25, 2013.

The County has reviewed the bonding requirements and determined that they are appropriate for the levels of operations at the oil field. As noted in the discussion on Provision G.4 above, the CSD does not determine the amount of insurance required under Provision G.4 or the performance bond amount required under Provision G.5; the financial and technical requirements of these provisions are determined by the County CEO. Further, the County may conduct additional review at any time independent of the Periodic Review process, therefore, the County has the ability, through this provision, to amend the amounts required if deemed necessary in the future.

The condition is administrative in its intent and is considered to be fully implemented, no further evaluation is recommended.

New Technology:
This condition is an administrative requirement, a discussion on new technology is not applicable.

Recommendations to Changes in Implementation:
This requirement is an administrative requirement that has been implemented; no changes to implementation are recommended.
Recommendations to Changes in CSD Language:
No changes to the CSD language are recommended.

***G.6 Other Obligations**. The insurance, indemnification, and performance security requirements in subsections G.3, GA, and G.5 shall be in addition to all other indemnification, insurance, and performance security required by federal, state and local regulations, and permits.*

Summary of Complaints:
This provision is administrative in its intent and references the requirements to the operation of oil field in addition to those outlined in the CSD; the County has not received complaints on this provision.

Summary of Issues Raised by the Public:
The County has not received input on the other agency requirements referenced by this condition. Any input received by these other agencies regarding those regulations is outside the scope of this Periodic Review.

Analysis of Compliance and Effectiveness:
The condition is administrative in its intent and is considered to be fully implemented, no further evaluation is recommended.

New Technology:
This condition is an administrative requirement; a discussion on new technology is not applicable.

Recommendations to Changes in Implementation:
This requirement is an administrative requirement, no changes to implementation are recommended.

Recommendations to Changes in CSD Language:
No changes to the CSD language are recommended.

G.7 Periodic Review*. The county shall conduct a comprehensive review of the provisions of this section at least every five years to determine if the provisions of this section are adequately protecting the health, safety, and general welfare. Such reviews shall, among other things, consider whether additional provisions should be added, appended, or removed. One of the main goals of the Periodic Review shall be to evaluate if proven technological advances that would further reduce impacts of oil operations on neighboring land uses should be incorporated into the provisions of this section.*

a. Review Requirements. Each review shall include a report by a hearing officer designated by the director, which shall be prepared after public notice; and an opportunity for public comment. The report shall include a comprehensive analysis of the effectiveness of this section, and shall review and consider enforcement activity, operational records, and any other issues relating to oil operations. The report, at the option of the county, may include a survey of residents near the oil field regarding noise, odors, vibrations, and other issues requested by the director of public health. A draft of the report shall be provided to the CAP and the operator for review and comment. All comments on the draft report from the CAP and the operator shall be submitted to the hearing officer in writing, and will be considered, if timely received, before the report is finalized. The final report by the hearing officer shall include a recommendation as to whether the director should prepare proposed amendment to this section for submission to the board of supervisors.

b. Early Reviews. At the discretion of the director, reviews of this section may be conducted more frequently than every five years. Without limiting such discretion, the

director shall consider whether an early review should be undertaken if more than three material violations occur within any 12-month period.

c. Initial Review. The initial review shall occur no sooner than three years and no later than five years after the effective date of the ordinance establishing this section unless the director determines that such initial annual review shall occur at an earlier time pursuant to subsection b, above.

Summary of Complaints:
This review is the first analysis to be completed pursuant to the Periodic Review process, thus, no complaints to date have been received by the County.

Summary of Issues Raised by the Public:
The County solicited input on the CSD for this Periodic Review as required by this provision. Input from the public was obtained in two main ways; results of an electronic survey and by comments provided by letter, email, and/or at the Community Advisory Panel (CAP) meetings. Comments have been received on a variety of CSD provisions and are acknowledged and discussed in the analysis of the relevant CSD condition of this report. One comment on the Periodic Review requirement was received regarding this provision requesting that the Periodic Review be completed every two years as opposed to the 5 year schedule stipulated in this condition.

Analysis of Compliance and Effectiveness:
This report, prepared subject to this provision, documents compliance with the Periodic Review requirement. The review provides a comprehensive analysis of the effectiveness of the requirements of each CSD provision. Information sources and input for this review included:

- Compliance records, reports, plans, and training records.
- Monitoring data.
- Operational records.
- ECC site inspections.
- Annual EQAP audit reports.
- Enforcement actions.
- Interviews of FM O&G staff.
- Results of the electronic survey.
- CAP meeting comments.
- Written comments.
- Complaint records.

The draft report was circulated for review and comment to both the CAP, members of the public, other agencies and the operator. Comments on the draft report were considered in the preparation of the final draft. The report was prepared consistent with the five year time frame requirement stipulated in CSD Provision G.7.c.

This report was prepared pursuant to the CSD requirement, therefore the condition is considered to be fully implemented; no further evaluation is recommended.

New Technology:
This Periodic Review of the CSD discusses new technology, as applicable, in the analysis of each condition of the CSD permit of the report.

Recommendations to Changes in Implementation:
This requirement has been implemented, no changes to implementation are recommended.

Recommendations to Changes in CSD Language:
No changes to the CSD language are recommended.

G.8 Multiple Agency Coordination Committee ("MACC")*. A MACC shall be established to coordinate activities and communications between the various agencies with regulatory authority over the oil operations within the district. While each agency will continue to make its own decisions with regard to their respective areas of authority, the MACC will allow for collection and analysis of data and for discussion of both strategic evaluations and enforcement actions taken by the various agencies at the oil field.*

a. MACC Members. The director shall establish a MACC that includes representatives from the following agencies: the county department of regional planning, the county fire department, the county department of public works, and the county department of public health. The SCAQMD, the Regional Water Quality Control Board, DOGGR, and Culver City fire department shall be invited to appoint a representative from their agency as a member of the MACC.

b. MACC Chair. The director or his designee shall chair the MACC meetings and shall coordinate all MACC activities including scheduling and keeping minutes of MACC meetings.

c. MACC Meetings. The MACC shall determine its meeting schedule.

d. Documents Provided to the MACC. Copies of all monitoring and compliance reports, plans, and other documents that are requirements of this section shall be submitted to the MACC.

Summary of Complaints:
The County has not received any complaints on the MACC.

Summary of Issues Raised by the Public:
The County received input on the MACC during the discussion of the Periodic Review at the May 13, 2013 CAP meeting. A member of the public noted that there should be more communication between the MACC and the CAP, requesting an annual

presentation to the CAP by MACC. Additional input also included requests for the members of the CAP to attend the MACC meetings. These requests will be scheduled for discussion at a forthcoming MACC meeting.

Analysis of Compliance and Effectiveness:
As noted above, the MACC held its first meeting on March 16, 2009. Subsequent meetings have been held on April 20, 2009, July 16, 2009, September 17, 2009, February 11, 2010, July 8, 2010, November 4, 2010, April 12, 2011, May 13, 2013, and January 28, 2014. Minutes from these meetings is available on the County web site at www.planning.lacounty.gov/baldwinhills/macc

MACC members include the following representative agencies:

- Culver City Fire Department (CCFD).
- County of Los Angeles
    - Department of Regional Planning (DRP)
    - Fire Department (LACoFD)
    - Department of Public Works (DPW)
    - Department of Public Health (DPH)
- State of California
    - Department of Conservation, Division of Oil Gas and Geothermal Resources (DOGGR)
    - Department of Justice, Office of the Attorney General
    - California Environmental Protection Agency
    - Regional Water Quality Control Board (RWQCB)
    - South Coast Air Quality Management District (SCAQMD)

Pursuant to this requirement, MACC meetings are facilitated by a meeting Chair, meetings are scheduled by the committee as deemed appropriate, and documents requested by the MACC are submitted in a timely manner. Regarding the CAP request to attend MACC meetings, no regulatory mechanism exists to require other MACC agencies to agree to involve the public in the annual MACC process which, by design, is intended to be an internal agency compliance review as opposed to a public forum.

New Technology:
This provision is administrative in its intent outlining the requirements for the MACC, a discussion of new technology is not applicable.

Recommendations to Changes in Implementation:
As noted above, discussions will take place at the next MACC meeting on providing a MACC report to the CAP on annual basis. This requirement has been implemented, no changes to implementation are recommended.

Recommendations to Changes in CSD Language:
No changes to the CSD language are recommended.

G.9 Related County Code Provisions. *The county code contains a number of provisions related to oil wells and oil field operations. Where the regulations of this section differ from any other provisions in the county code, these regulations shall supersede unless the contrary provisions are mandated by state law.*

Summary of Complaints:
This provision is standard administrative County language to clarify jurisdiction on similar county code requirements; there have been no complaints on this provision.

Summary of Issues Raised by the Public:
As noted above, this requirement is a standard administrative condition; no public issues have been noted on this provision.

Analysis of Compliance and Effectiveness:
The provision is a standard County requirement to clarify jurisdiction on similar code and regulations. The CSD was developed to augment and strengthen the existing requirements codified in the County code for oil and gas operations. The requirements of the CSD supersede other provisions unless mandated by state law. There have been no conflicts between contrary code provisions requiring the County to invoke this provision to date.

This provision is standard County permit language and has not been activated to date, no further analysis is recommended.

New Technology:
This provision is a standard County administrative requirement; a discussion of new technology is not applicable.

Recommendations to Changes in Implementation:
This requirement has not been activated to date, however, no changes to implementation are recommended.

Recommendations to Changes in CSD Language:
No changes to the CSD language are recommended.

H.1 Director's Review Required*. The operator shall apply for and receive approval of a director's review pursuant to the provisions of Part 12 of Chapter 22.56 prior to any new drilling and redrilling. New drilling and redrilling approved through a director's review procedure shall be limited to no more than 53 wells per year, with the maximum number of newly drilled wells of that total, limited to 45 per year, except that during the first year following the effective date of the ordinance establishing this section, new drilling and redrilling shall be limited to no more than 24 wells. Approval through director's review for drilling new wells shall be limited to 600 wells over 20 years, beginning on the effective date of this ordinance. Drilling and redrilling shall be planned to avoid over concentration of such activities in one area in anyone year, if near developed areas. The director's review procedures shall also apply to emergency*

actions determined by the director as necessary to prevent an imminent hazard, or to other immediate measures required for the purposes of protecting health and safety. No new permits for drilling or redrilling shall be approved by the director unless the subject wells have been approved as part of an annual drilling Plan as described in subsection E.26.c. Approval shall not be granted until copies of all related permits have been submitted to the director; other permits include, but are not limited to, the permits required by DOGGR, the county fire department; the county department of public works, the county sanitation district, RWQCB, SCAOMD, and other pertinent agencies identified by the director.

Summary of Complaints:
No complaints specific to this provision has been received by the County, however, complaints regarding drilling activities have been made on several different issue areas as discussed in the relevant sections of this document.

Summary of Issues Raised by the Public:
Input on the number of wells allowed at the oil field has been discussed at Community Advisory Panel (CAP) meetings, in comments submitted for input on this Periodic Review and as part of the Settlement Agreement dated July 15, 2011 negotiated between concerned public parties, the County and PXP (now FM O&G). The number of wells provided for in this provision has been revised based on public input and the Settlement Agreement, a summary of which is provided below.

Analysis of Compliance and Effectiveness:
Provision E.26, *Drilling, Redrilling, and ReWorking Operations*, requires an annual submittal of a drilling Plan which identifies the number and other details of wells proposed to be drilled for a given year, however, it does not provide limits for the number of wells allowed on either an annual or total project basis. This provision provides the limits on wells to be drilled at the oil field on an annual basis and for the life of the CSD. These limits have been augmented by the requirements of the Settlement Agreement and the Annual Well Evaluation dated December 5, 2011. The maximum number of wells allowed per year under this provision is as follows:

- 53 new and re-drilled wells per year.
- New wells limited to 45 of the 53 well total.
- New and re-drilled wells limited to 24 for year 2009.
- 600 total wells for 20 year time frame starting at the adoption of the CSD.

The Settlement Agreement revised the annual well drilling limits and introduced the “Bonus Well” concept. The bonus wells program was developed to encourage moving well activities away from developed areas by establishing the area within 800 feet of any developed area as a target zone for well abandonment as opposed to well drilling activities. For each well abandoned in this target zone, the Settlement Agreement allowed for two new wells to be drilled outside the target zone. These “bonus wells” did not count against the annual new well limit, thus allowing for additional wells above the annual new well limit to encourage abandonment of well activities near developed areas. The Settlement Agreement also identified two drilling periods for well limits.

These time periods were defined as before and after the first 50 wells are drilled, referred to as “Time Period One” and the “Full Operational Period”. In addition to reaching the 50 wells drilled milestone, the Full Operations Period also required that the County determine that the CSD has been effective in protecting the health, safety, and general welfare of the public; this analysis, the *PXP Baldwin Hills Community Standards District Annual Well Increase Evaluation*, was completed in December 2011.

The *Annual Well Increase Evaluation* reviewed the following CSD compliance subject areas; noise, vibration, air emissions, odors, ground movement, visual/aesthetics, hazards/fire protection/emergency response, and ground water quality. The results of the review concluded that for these areas of review, the CSD has been effective in protecting the health, safety, and general welfare of the public. The 50 wells drilled milestone was reached in October, 2011.

As discussed above, the oil field entered the Full Operations Period in December 2011; the revised well limits for the CSD are as follows:

- 35 new or re-drilled wells per year.
- 18 bonus wells per year.
- 53 total wells per year.
- 500 total wells through October 1, 2028 or during the remaining life of the CSD, whichever is later.

The actual number of wells drilled at the oil field through July 30, 2013 is summarized in the table below.

Number of Wells Drilled Since the Adoption of the CSD		
Year	**Number of Wells**	**Bonus Wells Used**
2009	0	0
2010	19	0
2011	40	5
2012	20	0
2013 (through July 30, 2013)	30	0
Total (through July 30 2013)	**109**	**5**

As shown in the above table, the number of wells drilled at the oil field was within the allowable limits of the CSD and the CSD as revised by the Settlement Agreement. The requirements for County and other agency approval of the drilling activities stipulated by this provision are met by the annual submittal, review, and approval of the *Annual Drilling, Redrilling, Well Abandonment and Well Restoration Plan* required under Provision E.26.c.

The condition is considered to be fully effective at this time, no further evaluation is recommended.

New Technology:
New technologies in oil well drilling and associated activities are discussed in the *Annual Drilling, Redrilling, Well Abandonment and Well Restoration Plan* as submitted to the County for review and approval.

Recommendations to Changes in Implementation:
The condition is considered to be fully effective at this time, no changes to implementation are recommended.

Recommendations to Changes in CSD Language:
The language of this CSD provision has been augmented by the terms of the Settlement Agreement, no additional changes to the CSD language are recommended.

H.2 Conditional Use Permit (CUP) Required*. Provided a conditional use permit has first been obtained as provided in Part 1 of Chapter 22.56, and while such permit is in full force and effect in conformity with the conditions of such permit, the following uses may be established:*

a. Drilling or redrilling that exceeds the maximum number allowed pursuant to a director's Review;

b. Steam drive plant; and

c. New tanks with a capacity of greater than 5,000 barrels.

Summary of Complaints:
This provision is administrative in its intent allowing for certain additional uses subject to a conditional use permit; no such permit has been obtained or applied for by the oil field operator to date. No complaints have been received by the County on the provision.

Summary of Issues Raised by the Public:
As noted above, this is an administrative requirement for a land use permit process that has not been implemented to date by the oil field operator; no input on this provision has been received by the County.

Analysis of Compliance and Effectiveness:
This provision is administrative in its intent and details specific uses allowed under a conditional use permit at the oil field. The operator has not obtained nor applied for such a permit to date. Drilling and redrilling activities at the oil field have been under the maximum number allowed by the CSD except for those wells allowed for under the Settlement Agreement dated July 15, 2011 and the Annual Well Evaluation dated December 5, 2011. A steam drive plant has not been built or proposed for the oil field and all new tanks constructed to date have been sized at 5,000 or less barrels capacity. The condition is considered to be fully effective at this time, is administrative in its intent, and has not been activated to date; no further evaluation is recommended.

New Technology:
This condition is an administrative requirement and is linked to the conditional use permit process of the County. Any technological improvements the County deems appropriate to this provision may be implemented during the review and approval of the subject County permit.

Recommendations to Changes in Implementation:
This provision is administrative in its intent allowing for certain uses subject to a conditional use permit and has not been activated to date. No changes to implementation are recommended.

Recommendations to Changes in CSD Language:
No changes to the CSD language are recommended.

H.3 Conditional Use Permit (CUP) Requirements*. For those uses requiring a conditional use permit, in addition to the requirements of Part 1 of Chapter 22.56, the applicant shall substantiate to the satisfaction of the hearing officer that:*

a. The requested use is in compliance with the provisions of this section; and

b. All reasonable measures were taken to reduce and minimize potential impacts from the proposed operation.

Summary of Complaints:
This provision is administrative in its intent and has not been activated to date; no complaints have been received by the County on the provision.

Summary of Issues Raised by the Public:
As noted above, this is an administrative requirement for a land use permit process that has not been implemented to date by the oil field operator; no input on this provision has been received by the County.

Analysis of Compliance and Effectiveness:
This provision is administrative in its intent and details specific additional requirements applicable to the oil field regarding the approval of a conditional use permit (CUP). The operator has not applied for a CUP to date.

The condition is considered to be fully effective at this time, is administrative in its intent, and has not been activated to date; no further evaluation is recommended.

New Technology:
This condition is an administrative requirement and provides additional specific requirements to the conditional use permit process of the County applicable to the oil field. The provision requires that in addition to existing CUP requirements mandated by the County ordinance, any proposal for a new permit contain "*All reasonable measures were taken to reduce and minimize potential impacts from the proposed operation*".

Therefore new technologies developed to minimize impacts from operation of the oil field can be required pursuant to the review and approval of the subject County permit.

Recommendations to Changes in Implementation:
This provision is administrative in its intent and allows for additional mitigation measures be required for any new CUP at the oil field. The provision has not been activated to date, no changes to implementation are recommended.

Recommendations to Changes in CSD Language:
As noted above, the existing CSD language allows for the County to require all reasonable measures to minimize impacts from operations at the oil field when a new CUP is approved. Therefore, no changes to the CSD language are necessary or recommended.

H.4 Application Where Violation Exists*. No application required pursuant to this section shall be accepted for processing or approved where any existing use in the district is being maintained or operated by the operator or its agents in violation of any material provision of this title.*

Summary of Complaints:
This provision is administrative in its intent requiring the operator to resolve any violations prior to the application of any new permit at the oil field. No complaints on this provision have been received by the County.

Summary of Issues Raised by the Public:
This provision has not been implemented to date, the County has not received any input on this provision.

Analysis of Compliance and Effectiveness:
This provision is administrative in its intent and has not been implemented to date. The condition requires the operator to resolve any land use violations prior to the application of any new permit application at the oil field. The requirement also states that no permit application may be approved if such a violation exists.

The condition is considered to be fully effective at this time, is administrative in its intent, and has not been activated to date, and no further evaluation is recommended.

New Technology:
This condition is an administrative requirement linked to the County permitting process requirements; a discussion of new technology is not applicable.

Recommendations to Changes in Implementation:
This requirement is a County administrative requirement that has not been activated to date and no changes to implementation are recommended.

Recommendations to Changes in CSD Language:
No changes to the CSD language are recommended.

I. Enforcement.
This subsection of the CSD provides enforcement provisions that augment the enforcement procedures specified in Part 6 of Chapter 22.60 of the County Code. Subsection I.1 details monetary amounts for violations and the procedures for payment and appeal of those violations and penalties. Subsection I.2 is the administrative requirement documenting that access to all records and facilities for enforcement of the CSD be made available to the County and subsection I.3 provides for access to the oil field for inspections or as deemed necessary by the County.

The condition is considered to be fully effective at this time, no violations or enforcement actions have been taken by the County through this Periodic Review period (December 2013) and there have been no issues regarding access to compliance documentation or for access to the oil field; no further evaluation is recommended.

J.1 Community Advisory Panel ("CAP"). *A community advisory panel shall be established by the director to foster communication about ongoing operations at the oil field and to allow the community representatives to provide input to the county and the operator.*

a. CAP Members. The CAP may include representatives of the county, the city of Los Angeles, the city of Culver City, West Los Angeles College, the operator, the landowners, and each of the major neighborhoods surrounding the oil field (including Ladera Heights, Windsor Hills, Oak Park, View Park, Culver Crest, Blair Hills, and Raintree). The operator and each of the governmental entities previously referred to may each designate a representative to the CAP. Each landowner and neighborhood organization of the surrounding communities may submit a nomination to the director for appointment to the CAP. Where there is no neighborhood organization, a community resident may make a request to the director to be appointed to the CAP. School districts with schools in the vicinity of the oil field and the lessors may make a request to the director to have a representative appointed to the CAP.

b. CAP Meetings. The CAP shall determine its meeting schedule.

c. Documents Provided to the CAP. A notice of availability of all monitoring and compliance reports and results, all plans, audits and studies, and any other available documents that are required by this section shall be submitted to the CAP promptly after they are prepared or otherwise available. Copies of these reports, documents, and other items shall be provided to CAP members upon request except to the extent information therein may not be legally disclosed. Prior to each CAP meeting, the county shall provide to the CAP a list of all violations of the provisions of this section that have occurred since the last CAP meeting.

Summary of Complaints:
CAP meetings have occurred approximately monthly since the first meeting on March 26, 2009. The County has received input on the CAP meetings as discussed below.

Summary of Issues Raised by the Public:
Input on the CAP process has been made during discussion at the CAP meetings and for comments solicited for the Periodic Review. Requests have been made for revisions to the selection process of CAP members, a revision to the role of the County in the CAP process, to broadcast the CAP meetings on television, and for a larger room to hold the meetings. Additional comments were received regarding the oil field compliance and Plan documentation available to the CAP for review and comment. Requests for the complaint logs to be available in electronic format, earlier submittal of the documents; and for strengthening the role the CAP plays in the review and approval of the documents.

Analysis of Compliance and Effectiveness:
The CAP was established to foster communication and ensure continued community input for the County and for FM O&G. Twenty one panel seats were allocated to the categories specified in subsection J.1.a by the Director of Planning. Nominations were accepted on a first-come, first-serve basis and the introductory meeting was held March 26, 2009. Panelists on the CAP serve in a representative capacity and all meetings are open to the public. Bylaws were created and approved by the CAP on June 25, 2009. Current CAP members are designated from the following entities:

- Governmental Entities
  - Department of Regional Planning
  - City of Culver City
  - West Los Angeles College
  - Culver City Council

- Oil Field Operator
  - FM O&G

- Landowners
  - Vickers Family Trust
  - Cone Fee Family Trust

- Neighborhood Organizations (Recognized Homeowners Association)
  - Ladera Heights Civic Association
  - Windsor Hills Homeowners Association (HOA)
  - United HOA (View Park)
  - Culver Crest Neighborhood Association
  - Blair Hills Hills HOA
  - Raintree Community HOA
  - Baldwin Hills Estates HOA

- Neighborhood Organizations (No Recognized Homeowners Association)

  - Ladera Crest
  - Baldwin Vista

- School Districts
  - Los Angeles Unified
  - Culver City Unified

- Other Organizations
  - Windsor Hills Block Club
  - Community Health Council
  - Baldwin Hills Conservancy
  - The City Project

The meeting schedule for CAP meetings is determined during the monthly meetings. Monitoring reports, compliance reports, plans, audits, studies, and other documents required by the CSD are provided to the CAP as required by subsection J.1.c. Documentation made available to the CAP is typically posted on the Inglewood Oil Field website with some materials distributed at CAP meetings in hardcopy format. Meeting minutes and informational hand outs are available at the County DRP web site.

Issues with CAP membership and attendance have been discussed at recent CAP meetings. The Director of the DRP sent a letter out to CAP members in 2014 reminding them of their obligations as a member of the CAP. The County is amendable to facilitating new CAP membership as applicable.

The condition is considered to be fully effective at this time, no further evaluation is recommended.

Recommendations to Changes in Implementation:
Members of the CAP have expressed concerns to DRP on various issues related to the CAP as explained above. They include a request to revisit the membership of the CAP as it relates to members that are frequently absent or have not participated in CAP meetings for a long time. In addition, members of the public have requested that additional neighborhood groups be represented and that new members be included. The DRP Director will take into consideration of comments made by the public during the Periodic Review process, allow for new members to replace vacant panel seats, evaluate current CAP membership and determine how to proceed under the existing CSD language regarding the intent of the CAP.

Recommendations to Changes in CSD Language:
No changes to the CSD language are recommended.

J.2 Community Relations.

a. Community Meetings. The operator shall hold community meetings on an annual basis to provide updates on oil operations.

b. Newsletter. The Operator shall publish an informational newsletter annually, which shall contain updated information on oil operations including drilling, redrilling, maintenance, repair, and reworking activities and all recently granted conditional use permits or applications filed for conditional use permits for the oil field. The newsletter shall be mailed by the operator to all owners of property located within 1,000 feet of the outer boundary line; all owners of property within 1,000 feet of the perimeter of the district as shown in the records of the county assessor's office; to any person or entity who has filed a written request therefore with the director; and to neighboring cities. The operator shall also make these newsletters available on the oil field web site. The oil field web site address shall be publicized in each newsletter.

c. Oil Field Web Site. The operator shall maintain and update on a regular basis an oil field web site that shall include information on oil operations at the oil field, including drilling and production activities. All monitoring and compliance reports and results, plans, audits and studies, and any other available documents that are required by this section (except to the extent they contain information that may not legally be disclosed) shall be promptly posted on the Oil Field Web Site in pdf format.

Summary of Complaints:
The County received input on the 2013 Community Meeting, held November 12, 2013, at the December 2013 CAP meeting consisting of two main complaints. The first complaint noted that an informational video presented by FM O&G used up approximately 20 minutes of meeting time and was not relevant to the oil field. The second complaint referenced the fact that FM O&G was not prepared to answer questions from the public and that sufficient time was not allotted for those public questions. Other complaints received on the 2013 Community Meeting included a request for better noticing of the meeting, scheduling the meeting on a Saturday to allow for better attendance, and for FM O&G to have web access available to assist in answering questions from the public.

Summary of Issues Raised by the Public:
Input on community relations has been provided by the public at both Community Advisory Panel (CAP) meetings and for comments solicited for the Periodic Review. Specific comments include requests for better communication between the oil field operator and the public and better communication between the County and the public. The public has also requested that documentation that is posted to the oil field web site should be made available sooner. Input was also received on the complaint process; see the discussion for Provision F.7 more detail.

Analysis of Compliance and Effectiveness:
Community meetings have occurred annually since the adoption of the CSD with the first meeting occurring on May 26, 2009. Subsequent meetings have taken place on April 21, 2010, June 8, 2011, October 15, 2012, November 12, 2013, and November 18, 2014. The newsletters required by Provision J.2.b have been prepared annually and are mailed out prior to the community meetings with noticing of the forthcoming meeting date, time, and location. The newsletters are distributed to the public as required and are posted on the oil field web site. The 2013 newsletter included sections on the following: an introduction to Freeport-McMoRan Oil & Gas (FM O&G) as the new

operator of the oil field, a summary of operational activities for 2013, an overview of compliance efforts of the CSD to date, an outline of proposed oil field projects for 2014, an update on the landscaping status of the field, and an overview FM O&G's community service and charitable work.

The oil field web site, http://www.inglewoodoilfield.com, was launched on January 19, 2010. The web site includes information on the history and future of the oil field, oil field operations, operational plans, compliance plans, community and environmental sections, and information on the CSD. The web site contains over 100 documents related to operational and compliance information with the documentation posted in pdf format as required by this provision. The web site provides contact information and includes an interactive email system to allow for direct input to the operator and for registering for email updates on oil field activities.

The condition is considered to be fully effective at this time with the community meetings, newsletter and web site implemented and ongoing, no further evaluation is recommended.

Recommendations to Changes in Implementation:
Due to the public input on the 2013 Community Meeting, it is recommended that agendas for future Community Meetings be specific to oil field operations and issues and measures be implemented to ensure questions from the public are addressed appropriately.

Recommendations to Changes in CSD Language:
No changes to the CSD language are recommended.

J.3 Ombudsperson. *The operator shall designate employees or authorized agents to serve as ombudspersons to respond to questions and concerns concerning the oil operations. Each ombudsperson shall be familiar with all the provisions of this section and all conditions of approval related to permits and approvals issued by the county or the State of California. It shall be the further responsibility of the ombudsperson to facilitate, to the extent feasible, the prompt resolution of any issues that may arise relating to the above-stated matters or the impacts of the oil operations. The name, title, email address, and telephone number of the ombudsperson shall be posted on the oil field web site, prominently displayed in the newsletter, distributed twice per year to the CAP and MACC, and provided to any other persons requesting such information. An ombudsperson shall be available at all times, and shall respond within one hour after an initial call. An ombudsperson shall also meet at reasonable times with interested parties in an attempt to resolve issues related to oil operations. An ombudsperson shall have authority to initiate a response on behalf of the operator in all foreseeable matters. The operator shall be required to maintain a written log of all calls to the ombudspersons registering complaints or concerns regarding oil operations or other matters. The log shall include the complainant's name, date, time, phone number, nature of complaint, and the response or resolution offered. A copy of the log shall be provided to the director, the MACC, and the CAP on a quarterly basis.*

Summary of Complaints:
No complaints on the ombudsperson provision have been received by the County.

Summary of Issues Raised by the Public:
As noted in the discussion for Provision J.2, *Community Relations*, comments on the interface between the operator and the public have been provided at both Community Advisory Panel (CAP) meetings and for comments solicited for the Periodic Review. The main issue raised by the public regarding the ombudsperson is regarding the information provided by the ombudsperson at the CAP meetings. The public has requested that both more information be provided and that more detail be provided on the information that is presented. In addition, the public as asked that the information posted to the oil field web site be available faster than what has occurred in the past.

Analysis of Compliance and Effectiveness:
The ombudsperson system has been in place since the adoption of the CSD and serves as primary contact between the oil field operator and the community. The ombudsperson contact information is included in the annual newsletters and in the agendas for CAP meetings. In addition to the ombudsperson, the oil field maintains two staff members on an on-call basis to coordinate and respond to calls from the public or regulatory agencies regarding oil field operations. The current ombudsperson, Lisa Paillet, contact information is:

Ms. Lisa Paillet
Email: lisa_paillet@fmi.com
Phone: 1-800-766-4108

Freeport-McMoRan Oil & Gas
5640 S. Fairfax Ave.
Los Angeles, CA 90056

Although some concerns have been expressed by members of the CAP on timeliness on information received about operations at the oil field, this is considered an ongoing compliance issue that can be resolved under the existing provisions. Measures have been taken to ensure that the items that remain pending from previous CAP meetings are addressed at the next meeting by the Ombudsperson or individually with the members of the public making the inquiry. The County will remain vigilant to ensure that the Operator continues to provide information to the public through the ombudsperson as appropriate. The condition is considered to be fully effective at this time and no further evaluation is recommended.

Recommendations to Changes in Implementation:
This requirement has been implemented, no changes to implementation are recommended.
Recommendations to Changes in CSD Language:
No changes to the CSD language are recommended.

K. Modification of Development Standards.
This subsection of the CSD lists the requirements and permit processing procedures for a request for a modification to the development standards specified in subsection E of the CSD. The County may approve a modification to these standards if the oil field operator can provide documentation that satisfactorily meets the criteria specified in this provision. Subsections K.1.a through K.1.e require that a proposed modification be necessary for a substantial property right of the operator, that the modification will not create an adverse safety impact to the community or environment, the modification will not be contrary to the improvements from or purpose of the CSD, and that the proposed change be consistent with the County General Plan and permitting requirements.
Subsections K.2, K.3, K.4, K.5, K.6 describe specific requirements for the application, noticing, permit processing procedure, notification of decision, and appeal procedures, respectively, for a modification of development standards proposal. No proposal or application for a modification of the development standards of CSD subsection E has been applied for to date. The condition is considered to be fully effective at this time, is administrative in its intent, and has not been activated to date; no further evaluation is recommended.

L. Implementation Provisions.
This subsection of the CSD lists the various implementation plans and other stipulations required for initial compliance along with a submittal schedule for the subject compliance. The schedule requirements for the Plan and compliance submittals required under this provision range from 30 days to two years following the effective date of the CSD (October 28, 2008). All plans and initial requirements of this CSD subsection were completed; therefore, this requirement is no longer applicable and Periodic Review is not merited. A discussion of the ongoing implementation of the plans and conditions required by this provision is provided in the review and analysis of CSD Provisions E, *Oil Field Development Standards*, G8, *Multiple Agency Coordination Committee*, and J, *Public Outreach*. The table below provides a summary of the plans and initial compliance requirements of this CSD Subsection along with the associated submittal date.

CSD Subsection L Compliance Summary		
CSD Subsection L Implementation Provision	Submittal Schedule Requirement (Days)	Submittal or Completion Date
1. Fire Protection and Emergency Response		
a. Fire Protection Audit	120	March 3, 2009
b. “CAN” System	120	March 2009
c. Spill Containment Response Training	90	February 4, 2009
2. Air Quality and Public Health		
a. Odor Minimization Plan	90	February 2009
b. Air Monitoring Plan	90	February 2009
c. Oil Tank Pressure Monitoring and	180	May 26, 2009

CSD Subsection L Compliance Summary		
CSD Subsection L Implementation Provision	Submittal Schedule Requirement (Days)	Submittal or Completion Date
Venting		
d. Meteorological Station	120	March 26, 2009
e. Fugitive Dust Control Plan	120	March 2009
f. Well Amortization Report	120	March 2009
3. Safety and Risk of Upset		
a. Propane and Natural Gas Liquids Bullet Fireproofing	90	February 23, 2009
b. Gas Plant Audit	120	March 11, 2009
c. Oil Tank Secondary Containment	One Year	January 23, 2010
d. Retention Basins	120	January 23, 2010
e. Above Ground Piping	One Year	January 23, 2010
4. Geotechnical		
a. Accelerometer	180	May 26, 2009
b. Tank Seismic Assessment	180	May 26, 2009
c. Erosion Control Plan	180	May 26, 2009
d. Accumulated Ground Movement Study	90	May 26, 2009
e. Ground Movement Monitoring Plan	90	May 26, 2009
5. Noise Attenuation		
a. Drilling Quiet Mode Plan	90	February 2009
b. New Gas Plant Flare	120	March 29, 2009
6. Biological Resources		
a. Special Status Species and Habitat Protection Plan	180	May 2009
b. Emergency Response Plan	180	February 17, 2010
7. Cultural/Historic Resources		
a. Worker Training	120	March 26, 2009
b. Construction Treatment Plan	180	May 2009
8. Landscaping, Visual Screening, and Irrigation		
9. Oil Field Waste Removal	180	May 2009
10. Signs		
a. Perimeter Identification Signs	60	May 18, 2009
b. Oil Field Entrance Sign	30	May 18, 2009
c. Other Required Signs	60	May 18, 2009
d. Well Identification Signs	180	May 18, 2009
e. No Littering Signs	120	May 18, 2009
11. Painting	Two Years	November 12, 2012
12.Water Management Plan	180	May 2009
13. Groundwater Monitoring	One Year	August 2009
14. Oil Field Cleanup and Maintenance	180	May 18, 2009

CSD Subsection L Compliance Summary		
CSD Subsection L Implementation Provision	Submittal Schedule Requirement (Days)	Submittal or Completion Date
15. Storage of Hazardous Materials	30	December 22, 2008
16. Drilling, Redrilling, Well Abandonment, and Well Restoration Plan	60	January 2009
17. Processing Operations		
a. Pipelines	180	May 26, 2009
b. Active Pipeline Plot Plan	One Year	December 26, 2009
18. Tanks	180	May 26, 2009
19. Monitoring and Compliance		
a. Environmental Quality Assurance Program (EQAP)	90	February 25, 2009
b. Safety, Inspection, Maintenance, and Quality Assurance Program (SIMQAP)	180	May 26, 2009
20. Administrative Items (MACC)	60	March 16, 2009
21. Public Outreach		
a. Community Advisory Panel (CAP)	60	March 26, 2009
b. Oil Field Web Site	90	January 1, 2009
c. Community Meeting	180	May 26, 2009

Appendix A

Public Comments

This page intentionally left blank.

Appendix B

Periodic Review Summary Table

This page intentionally left blank.

Appendix C

Settlement Agreement and Mutual Release, July 15, 2011

This page intentionally left blank.

Appendix D

Annual Well Increase Evaluation

This page intentionally left blank.