

ATTACHMENT G

SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT

Final Environmental Assessment For Proposed Amended Rule 1148.1 – Oil and Gas Production Wells

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PREFACE

This document constitutes the Final Environmental Assessment (EA) for Proposed Amended Rule 1148.1 – Oil and Gas Production Wells. The Draft EA was released for a 30-day public review and comment period from April 29, 2015 to May 28, 2015 which identified the topics of air quality and greenhouse gases, and energy as environmental topic areas that may be adversely affected by the proposed project, but after completing the analysis, were shown to have less than significant impacts.

Two comment letters were received from the public regarding the analysis in the Draft EA. The comment letters and responses to individual comments are included in Appendix C of this document. No comment letters were received that identified other potentially significant adverse impacts from the proposed project.

Subsequent to release of the Draft EA, minor modifications were made to the proposed project and some of the revisions were made in response to verbal and written comments on the project's effects. To facilitate identification, modifications to the document are included as underlined text and text removed from the document is indicated by ~~striketrough~~. Staff has reviewed the modifications to the proposed project and concluded that none of the modifications constitute significant new information or a substantial increase in the severity of an environmental impact, nor provide new information of substantial importance relative to the draft document. In addition, revisions to the proposed project in response to verbal or written comments would not create new, avoidable significant effects. As a result, these minor revisions do not require recirculation of the document pursuant to CEQA Guidelines §15073.5 and §15088.5. Therefore, this document now constitutes the Final EA for the proposed project.

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CHAPTER 1

PROJECT DESCRIPTION

Introduction

California Environmental Quality Act

Project Location

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Project Description

INTRODUCTION

The California Legislature created the South Coast Air Quality Management District (SCAQMD) in 1977¹ as the agency responsible for developing and enforcing air pollution control rules and regulations in the South Coast Air Basin (Basin) and portions of the Salton Sea Air Basin and Mojave Desert Air Basin referred to herein as the district. By statute, the SCAQMD is required to adopt an air quality management plan (AQMP) demonstrating compliance with all federal and state ambient air quality standards for the district². Furthermore, the SCAQMD must adopt rules and regulations that carry out the AQMP³. The 2012 AQMP concluded that major reductions in emissions of particulate matter (PM), oxides of sulfur (SO_x), volatile organic compound (VOC) and oxides of nitrogen (NO_x) are necessary to attain the state and national ambient air quality standards for ozone and particulate matter with an aerodynamic diameter of 2.5 microns or less (PM_{2.5}). VOC emission reductions, along with NO_x emission reductions, are necessary because emission reductions of both of these ozone precursors are necessary to meet the ozone standards. VOC emission reductions also contribute to achieving the PM_{2.5} ambient air quality standards.

Although health-based standards have not been established specifically for VOCs, health effects can occur from exposures to high concentrations of VOCs because of interference with oxygen uptake. In general, ambient VOC concentrations in the atmosphere are suspected to cause coughing, sneezing, headaches, weakness, laryngitis, and bronchitis, even at low concentrations. Some hydrocarbon components classified as VOC emissions are thought or known to be toxic air contaminants (TACs). With stationary and mobile sources being the major producers of VOCs, which contribute to ozone formation, reducing the quantity of VOCs in the district has been an on-going effort by the SCAQMD.

Rule 1148.1 – Oil and Gas Production Wells, was adopted in 2004 to implement portions of the 2003 AQMP Control Measure FUG-05 – Emission Reductions from Fugitive Emission Sources, to reduce VOC emissions from well cellars as well as from sources of untreated produced gas located at oil and gas production facilities. Rule 1148.1 also requires a visual inspection and maintenance program for controlling untreated produced gas and contains additional regulatory considerations for sources located within 100 meters of sensitive receptors. However, due to an increased awareness of oil and gas production wells by the community, leading to multiple complaints and public comments requesting more proactive and preventative measures, SCAQMD staff has revisited the requirements in Rule 1148.1 to see what, if any, improvements can be made to the rule in order to minimize air quality and odor impacts to local residents and sensitive receptors that are often located nearby from ongoing operations that do not include drilling or well stimulation.

To prevent public odor nuisance and possible detriment to public health caused by exposure to VOC, TAC, and total organic compound (TOC) emissions from the operation and maintenance of oil and gas production facilities, SCAQMD staff is proposing amendments to Rule 1148.1 that would: 1) increase the minimum proximity distance to sensitive receptors (e.g., from 100 meters

¹ The Lewis-Presley Air Quality Management Act, 1976 Cal. Stats., ch 324 (codified at Health and Safety Code, §§40400-40540).

² Health and Safety Code, §40460 (a).

³ Health and Safety Code, §40440 (a).

to 1,500 feet) that would trigger additional emission and odor preventative measures; 2) require the use of odor mitigation best practices for operation and maintenance of oil and gas production facilities; 3) require specific cause analysis and reporting for confirmed odor events and confirmed oil deposition events; 4) require Odor Mitigation Plans for facilities with continuing odor issues; and, 5) make administrative changes by removing obsolete rule language and making minor revisions to promote clarity, consistency, and enforceability throughout the rule.

CALIFORNIA ENVIRONMENTAL QUALITY ACT

Because the proposed project is to be carried out by a public agency, it is a “project” as defined by the California Environmental Quality Act (CEQA). SCAQMD is the lead agency for the proposed project and has prepared this Final draft Environmental Assessment (EA) with no significant adverse impacts pursuant to its Certified Regulatory Program. California Public Resources Code §21080.5 allows public agencies with regulatory programs to prepare a plan or other written document in lieu of an environmental impact report once the Secretary of the Resources Agency has certified the regulatory program. The SCAQMD's regulatory program was certified by the Secretary of the Resources Agency on March 1, 1989, and is codified as SCAQMD Rule 110 - Rule Adoption Procedures to Assure Protection and Enhancement of the Environment.

CEQA and Rule 110 require that potential adverse environmental impacts of proposed projects be evaluated and that feasible methods to reduce or avoid significant adverse environmental impacts of these projects be identified. To fulfill the purpose and intent of CEQA and pursuant to Rule 110 (the rule which implements the SCAQMD's certified regulatory program), SCAQMD has prepared this Final Draft EA to evaluate potential adverse environmental impacts associated with implementing the proposed project. The Final Draft EA is a public disclosure document intended to: 1) provide the lead agency, responsible agencies, decision makers and the general public with information on the environmental effects of the proposed project; and, 2) be used as a tool by decision makers to facilitate decision making on the proposed project. This Final Draft EA includes an Environmental Checklist and project description. The Environmental Checklist provides a standard evaluation tool to identify a project's adverse environmental impacts.

SCAQMD's review of the proposed project shows that PAR 1148.1 would not have a significant adverse effect on the environment. Because PAR 1148.1 will have no statewide, regional or areawide significance, no CEQA scoping meeting was required to be held for the proposed project pursuant to Public Resources Code §21083.9 (a)(2). Further, pursuant to CEQA Guidelines §15252, since no significant adverse impacts were identified, no alternatives or mitigation measures are required to be included in this Final Draft EA. The analysis in Chapter 2 supports the conclusion of no significant adverse environmental impacts. The Draft EA was released for a 30-day public review and comment period from April 29, 2015 to May 28, 2015. Written Two comment letters on the environmental analysis in the Draft EA were received and will be were evaluated, and Responses to all of the comments received have will been prepared. The comment letters and the responses are included in Appendix C of this Final EA.

Subsequent to release of the Draft EA, minor modifications were made to the proposed project and some of the revisions were made in response to verbal and written comments on the project's

effects. Staff has reviewed the modifications to the proposed project and concluded that none of the modifications constitute significant new information or a substantial increase in the severity of an environmental impact, nor provide new information of substantial importance relative to the draft document. In addition, revisions to the proposed project in response to verbal or written comments would not create new, avoidable significant effects. As a result, these minor revisions do not require recirculation of the document pursuant to CEQA Guidelines §15073.5 and §15088.5. Prior to making a decision on the proposed amendments to Rule 1148.1, the SCAQMD Governing Board must review and adopt the Final EA as providing adequate information on the potential adverse environmental impacts of the proposed amendments to Rule 1148.1.

PROJECT LOCATION

The proposed amendments to Rule 1148.1 would affect all on-shore oil producing wells, wellheads, well cellars, and untreated produced gas operations within the SCAQMD's jurisdiction, unless specifically exempt. The SCAQMD has jurisdiction over an area of approximately 10,743 square miles, consisting of the four-county South Coast Air Basin (Basin) (Orange County and the non-desert portions of Los Angeles, Riverside and San Bernardino counties), and the Riverside County portions of the Salton Sea Air Basin (SSAB) and Mojave Desert Air Basin (MDAB). The Basin, which is a subarea of the SCAQMD's jurisdiction, is bounded by the Pacific Ocean to the west and the San Gabriel, San Bernardino, and San Jacinto mountains to the north and east. It includes all of Orange County and the non-desert portions of Los Angeles, Riverside, and San Bernardino counties. The Riverside County portion of the SSAB is bounded by the San Jacinto Mountains in the west and spans eastward up to the Palo Verde Valley. The federal nonattainment area (known as the Coachella Valley Planning Area) is a subregion of Riverside County and the SSAB that is bounded by the San Jacinto Mountains to the west and the eastern boundary of the Coachella Valley to the east (see Figure 1-1).

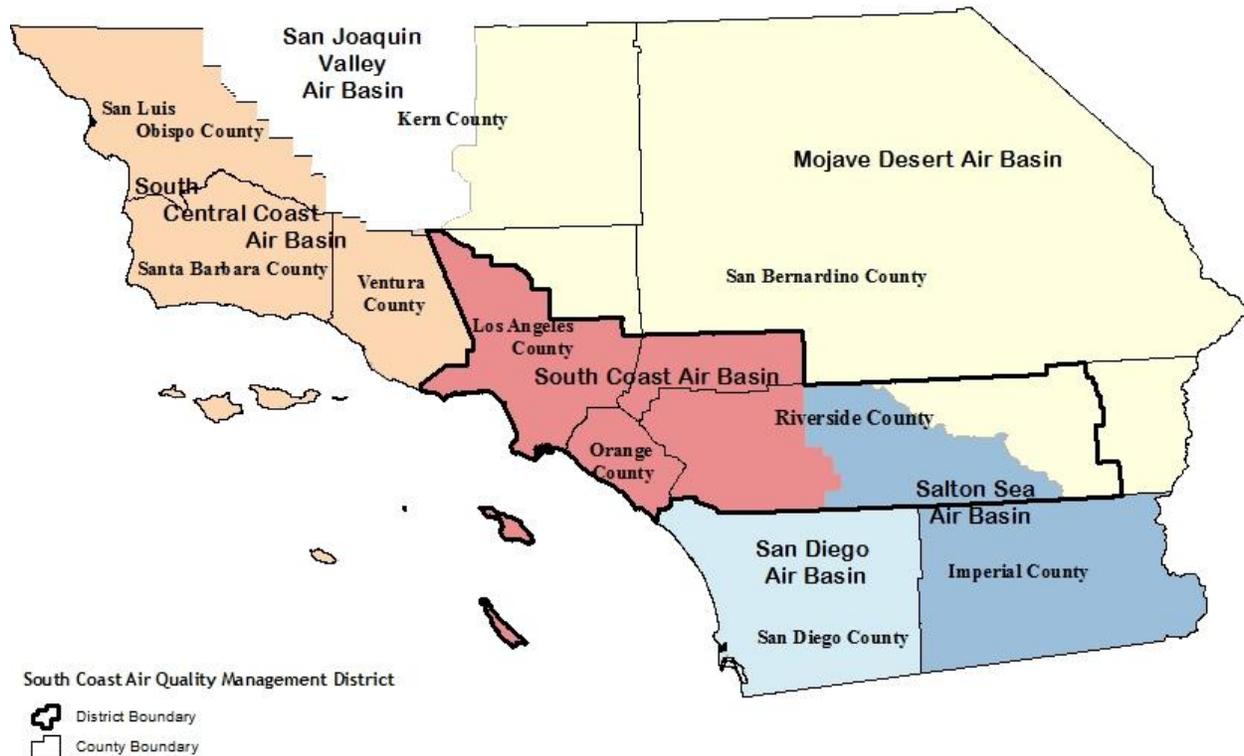


Figure 1-1: Southern California Air Basins

PROJECT BACKGROUND

The California Department of Conservation, Division of Oil, Gas and Geothermal Resources (DOGGR) oversees the maintenance of well cellars at oil and gas production operations throughout California. The Public Resources Code (PRC), Division 3, Chapters One through Four, govern the regulatory functions of DOGGR. DOGGR is responsible for supervising oil, gas and geothermal well drilling, operation, maintenance, plugging and abandonment operations to prevent the damage to life, health, property and natural resources by enforcing the requirements in Public Resources Code §§3300 - 3314 and §§3350 - 3353 which prohibit persons from willfully allowing natural gas from land containing oil or gas to escape into the atmosphere by:

- Preventing damage to underground oil, gas and geothermal deposits;
- Preventing damage to underground and surface waters suitable for irrigation or domestic use;
- Preventing other surface environmental damage, including subsidence;
- Preventing conditions that may be hazardous to life or health; and
- Encouraging the wise development of oil, gas and geothermal resources through good conservation and engineering practices.

DOGGR’s responsibilities also entail permitting and testing wells; conducting safety inspections; overseeing production and injection projects; conducting inspections of environmental leases; testing idle-wells; inspecting oilfield tanks, pipelines, and sumps; plugging hazardous and orphan-wells and overseeing abandonment contracts; and monitoring subsidence.

Rule 1148.1 was adopted in 2004 to regulate VOC emissions from wellheads, well cellars and untreated produced gas at oil and gas production operations. Rule 1148.1 currently implements all feasible control measures in accordance with the 2003 AQMP Control Measure FUG-05 – Emission Reductions from Fugitive Emission Sources and California Health and Safety Code §40920.5. Rule 1148.1 works in concert with the state regulations.

Operators of oil wells and well cellars are not required to obtain SCAQMD permits and not all oil wells utilize well cellars. However, facilities with equipment such as American Petroleum Institute (API) oil-water separators, tanks, vessels, heaters, boilers, internal combustion engines and clean-out sumps (part of the dehydration or wastewater system permit unit), and “control” equipment such as heaters, flares, gas treatment equipment, internal combustion engines and boilers are required to have SCAQMD permits. In addition, SCAQMD Rule 222 - Filing Requirements For Specific Emission Sources Not Requiring A Written Permit Pursuant To Regulation II, includes oil production well groups, applies to no more than four well pumps located at a facility subject to Rule 1148.1 at which crude petroleum production and handling are conducted, as defined in the Standard Industrial Classification Manual as Industry No. 1311, Crude Petroleum and Natural Gas. To date, there are 473 oil and gas production facilities operating within SCAQMD’s jurisdiction that are either currently subject to Rule 1148.1 or registered via Rule 222.

In addition to Rule 1148.1, there are other SCAQMD rules that may apply to oil and gas production facilities. However, there are only four SCAQMD rules that specifically regulate oil and gas production activities at these facilities, as follows:

Rule 1148 - Thermally Enhanced Oil Recovery Wells

Rule 1148 was adopted in 1982 and has not been amended since its adoption. Rule 1148 applies to thermally enhanced oil recovery wells, and limits VOC emissions to 4.5 pounds per day or less per well, regardless of whether each well is connected to a vapor control system.

Rule 1148.2 – Notification and Reporting Requirements for Oil and Gas Wells and Chemical Suppliers

Rule 1148.2 was adopted in 2013 to gather air-quality related information on oil and gas well pre-production activities, such as hydraulic fracturing and other well production stimulation operations. Rule 1148.2 contains reporting requirements for operators and chemical suppliers of onshore oil and gas wells undergoing rework or completion activities.

Rule 1173 - Control of Volatile Organic Compound Leaks and Releases from Components at Petroleum Facilities and Chemical Plants

Rule 1173 was adopted in 1989 and last amended in 2009. The purpose of the rule is to reduce VOC leaks from components such as valves, fittings, pumps, compressors, pressure relief devices, diaphragms, hatches, sight glasses and meters at refineries, chemical plants, lubricating

oil and grease re-refiners, marine terminals, oil and gas production fields, natural gas processing plants, and pipeline transfer stations.

Rule 1176 - Sumps and Wastewater Separators

Rule 1176 was adopted in November 1989 and last amended in September 1996. Rule 1176 applies to wastewater systems and associated control equipment located at petroleum refineries, onshore oil production fields, off-shore oil production platforms, chemical plants and industrial facilities. Sumps and wastewater separators are required to be covered with either a floating cover equipped with seals or a fixed cover, equipped with a closed vent system vented to an air pollution control system. Currently, Rule 1176 subparagraph (i)(5)(H) exempts well cellars used in emergencies at oil production fields provided that clean-up procedures are implemented within 24 hours after each emergency occurrence and completed within ten calendar days.

Since oil field production facilities are prevalent throughout the SCAQMD's jurisdiction and many are situated within close proximity to sensitive receptors, such as residential communities and schools with very little buffer zones between operations and receptors, SCAQMD staff has proceeded with rule amendment efforts to further protect the public from odors and nuisance from existing and future urban oil field production facilities beyond the existing regulatory setting. As part of the rule amendment efforts, SCAQMD staff assessed the current odor and complaint reporting system. The SCAQMD currently manages complaints via the 1-800-CUT-SMOG telephone hotline, via the on-line complaint system (<http://www.aqmd.gov/contact/complaints>), and through implementation of Rule 402 – Nuisance. Rule 402 prohibits any discharge of any material that may cause injury, detriment, nuisance, annoyance or discomfort to any considerable number of persons, with a large number of complaints typically associated with disagreeable odors. Currently, in order to pursue an enforcement action under Rule 402, an odor must be verified at the complainant location, that same odor traced upwind to the source, and the source identified as either the boundary of a facility or a device, equipment or unit. Once the odor is traced to either a facility or source, the complaint would become confirmed. Finally, multiple confirmed complaints called within the same timeframe would qualify for issuance of a Notice of Violation (NOV). For more frequent odor NOV's, conditions, through an Order of Abatement, may be issued to address ongoing odor issues resulting from a facility.

Figure 1-2 contains an overview of SCAQMD's complaint handling process where typically an NOV may be issued if there are six or more confirmed complaints. Where less than an NOV threshold is established or observed but odors can be traced to an activity or equipment, the inspector reviews all applicable rules and permit conditions to determine if the detected odors are attributable to potential non-compliance. In the event that a Rule 402 NOV is issued, the source would be subject to a more thorough and lengthy legal investigation and violation settlement.

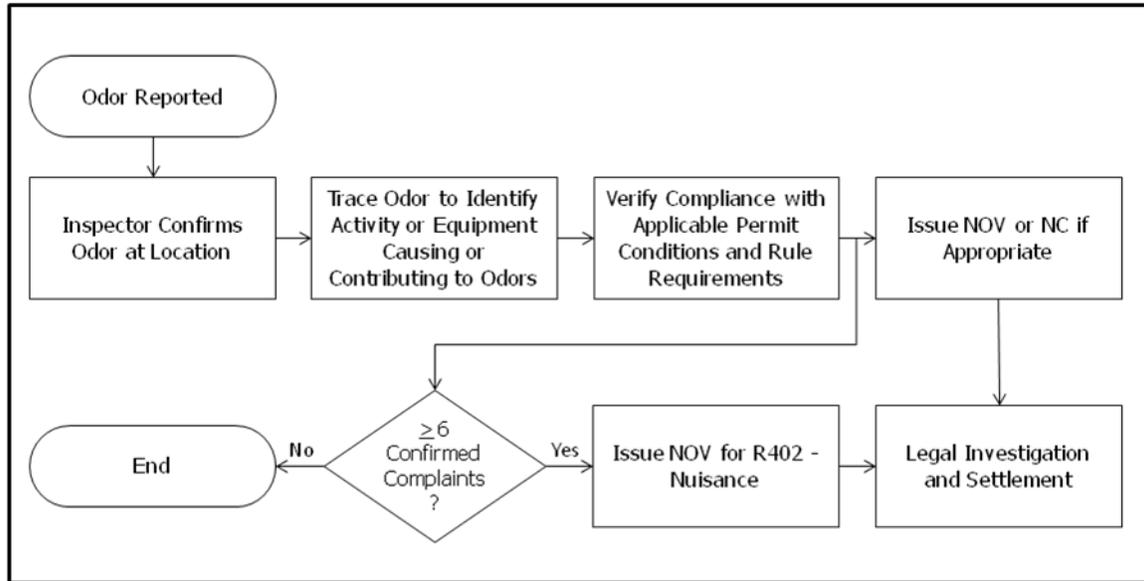


Figure 1-2: Typical SCAQMD Complaint Handling Process

It is not uncommon for complaints to be unconfirmed, or for an odor causing event to fall short of the multiple complaint threshold for issuance of a Rule 402 NOV. Odors may be caused by infrequent or brief activities and are fleeting. Although an inspector responding to a complaint typically communicates a summary of the initial field inspection, in some cases the complainant may have chosen to be anonymous, or the complaint call or email may have occurred after hours or late in the evening. In other cases, especially when the complaint or facility is not confirmed, the complainant may be left with the impression that no action has been or can be taken to address their complaint. Finally, even when an NOV is issued, the subsequent legal investigation process, as indicated in Figure 1-2, may not address the immediate informational needs of a complainant, who may continue to experience exposure to objectionable odors due to another facility that may also be causing a separate odor event. A facility that takes specific correction action to address the complaint driven odor causing activity or operation may similarly not be given credit for their actions should similar odors be detected from another facility or from a separate odor causing event.

TECHNOLOGY OVERVIEW

Oil and gas production involves bringing crude oil from the subsurface to the surface and preparing it for shipment to a refinery. The process of moving oil and gas from underground reservoirs to aboveground storage is described as a “pipeline process” since oil and gas in its natural state uses natural pressure or mechanical forces to move the oil and gas through miles of pipeline to the wellhead and is then transported by more piping to storage. In the life of an oil well, there are four main phases which dictate the type of equipment to be used and the work practices and maintenance procedures that will be implemented: 1) exploration; 2) well development; 3) production; and, 4) well abandonment. In addition, there are ancillary procedures and equipment that are used across all phases of oil and gas production, including overall facility and equipment maintenance and spill containment and spill response.

During production, sources of fugitive emissions from oil and gas operations are well cellars and wellheads, and separation and treatment activities. For example, fugitive emissions may occur at valves, flanges and threaded connections on the wellhead. Also, well cellars and wellheads are particularly susceptible to liquid leaks especially where maintenance is poor or when large valves are opened and then closed, which often produces a noticeable amount of liquids including hydrocarbons. If the liquid is allowed to stand over an extended period, VOC emissions and related odors may be released to the atmosphere, and may promote odor nuisance complaints from the local community. To reduce fugitive emissions, sources are required to have a routine program of inspection and equipment repair in order to detect and eliminate conditions that may result in a breakdown. Lastly, workover rigs used in maintenance activities rely on internal combustion engines that generate combustion emissions.

Oil and gas operations have been historically regulated and permitted by the California Division of Oil, Gas and Geothermal Resources (DOGGR). Rule 1148.1 applies principally to the production phase, whereas Rule 1148.2 - Notification and Reporting Requirements for Oil and Gas Wells and Chemical Suppliers, applies to the exploration, well development and well rework phases. DOGGR continues to regulate site abandonment activities. The emission-related aspects of ancillary activities such as maintenance and spill containment and spill response are regulated by Rule 1148.1. Figure 1-3 outlines the overall oil and gas well lifecycle and the associated regulatory applicability with respect to activities covered under Rule 1148.1 and Rule 1148.2.

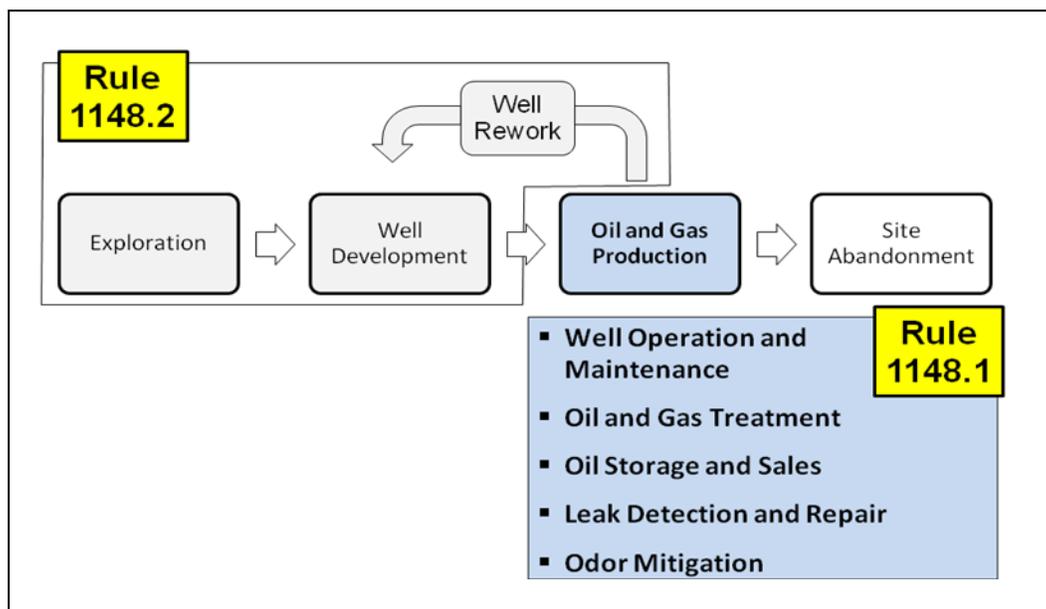


Figure 1-3: Typical Oil and Gas Production Facility Processes and SCAQMD Rule Applicability

Exploration

The drilling of exploratory wells is subject to Rule 1148.2. When oil deposits are discovered as part of drilling an exploratory well, a crude oil reservoir can contain a mixture of water, as well as oil and gas in the small pore spaces in the reservoir rock. Initially, the reservoir holds these fluids under considerable pressure, caused by the hydrostatic pressure of the groundwater. At this pressure, a large part of the gas is dissolved in the oil. These two fluids, the initial water and

the gas in solution, combine to provide the driving force for moving the oil into the well where it is pushed by the underlying pressure.

Exploratory wells are drilled into unknown geological formations in search of locating a new source of oil or natural gas. This type of well represents a risk for the company conducting the drilling due to the high cost and the uncertainty as to how much oil or natural gas the formation might contain. An exploratory well may turn out to be a profitable new source of fossil fuel, or it may contain noncommercial quantities of fuel that are not worth extracting. In the latter case, the exploratory well may be plugged and abandoned.

Well Development

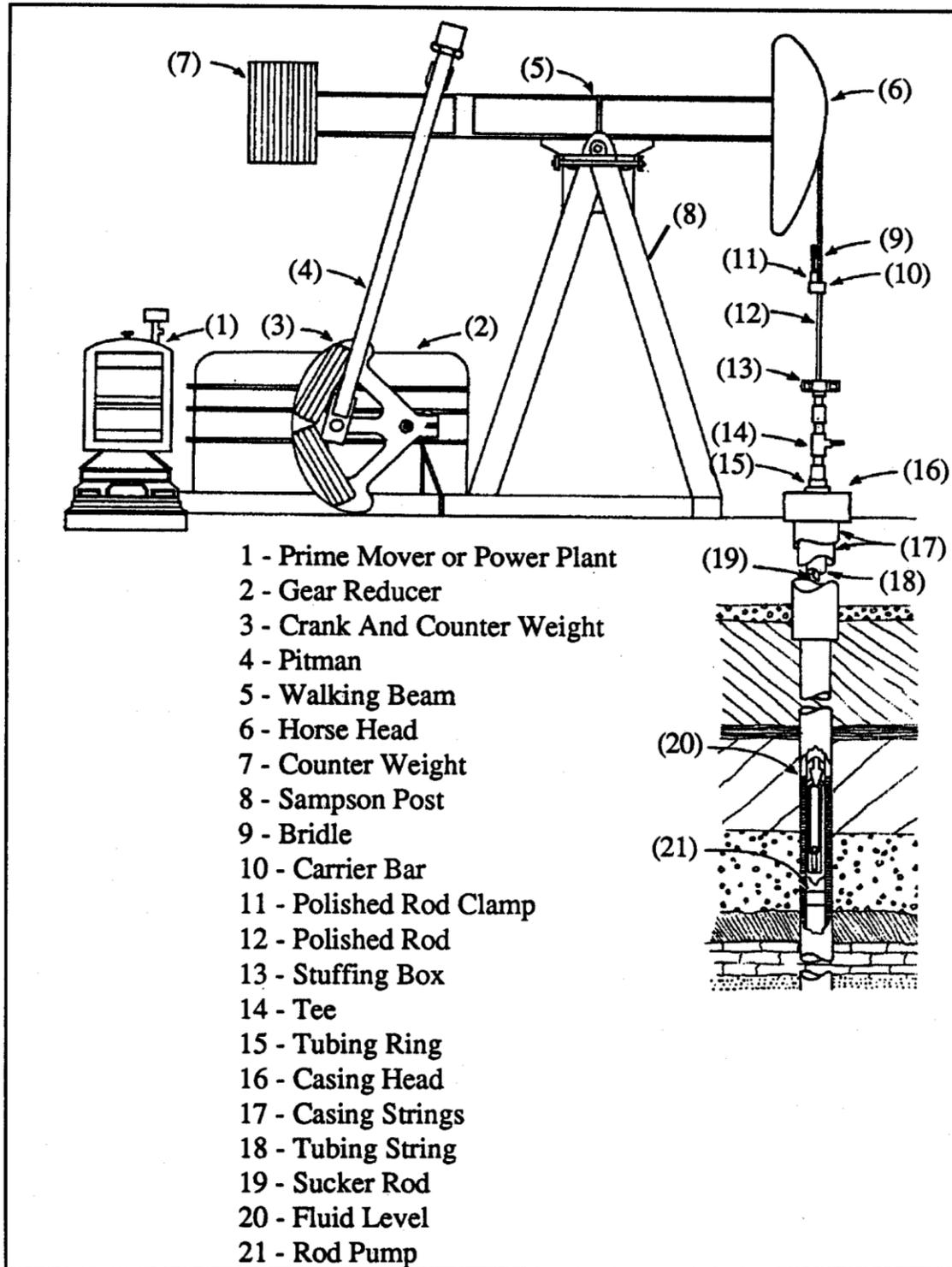
The drilling of development wells is also subject to Rule 1148.2. Development wells are typically drilled within an area that has already proven to be productive. Once oil or gas is discovered in a commercially viable quantity, development wells are drilled to continue to recover as much of the oil or gas as possible. There are also service wells which are drilled for injecting liquids or gases into an underground formation in order to increase the pressure and force the oil toward the producing wells. Service wells also include wells drilled for the underground disposal of salt water produced with the oil and gas. The drilling of service wells is considered to be part of the well development phase.

Production

After completion of the drilling phases, the process enters the production phase which is regulated by Rule 1148.1. The first step of the production phase is to construct an oil well which is essentially a pipeline that reaches from the top of the ground to the oil-producing formation underground. It is through this pipe that oil is brought to the surface. The pipeline is a series of joints of a special kind of pipe (casing) screwed together to form a continuous tube or string for the oil and gas to flow through (see Figure 1-4). Sometimes in drilling a well, more than one commercially productive formation is found. In such cases a separate tubing string is run inside the casing for each productive formation. Production from the separate formations is directed through the proper tubing strings and is isolated from the others by packing that seals the annular space between the tubing strings and casing. These are known as multiple completion wells.

The production stage is the most important stage of a well's life, when the oil and gas are produced. By this time, the rigs used to drill and complete the well have moved off of the wellbore, and the top is usually outfitted with a collection of valves called a “Christmas tree” or production tree. These valves regulate pressures, control flows, and allow access to the wellbore in case further completion work is needed. From the outlet valve of the production tree, the flow can be connected to a distribution network of pipelines and tanks to supply the product to refineries, natural gas compressor stations, or oil export terminals.

As long as the pressure in the reservoir remains high enough, the production tree is all that is required to produce the well. If the pressure depletes and it is considered economically viable, an artificial lift method can be employed to withdraw the remaining product from the reserve (see Figure 1-4). Currently there are four common methods of artificial lift used in the industry today: 1) beam pumping; 2) submersible pumping; 3) gas lift; and, 4) hydraulic pumping.



Source: Figure 301.4, Oil Field Production, Compliance Assistance Program, California Air Resources Board, Compliance Division, July 1992.

Figure 1-4: Artificial Lift Pumping Unit

The artificial lift method of beam pumping is when the pump is designed to be inserted inside the tubing of a well in order to gather fluids from beneath the surface and lift them to the surface. The most important components are the barrel, valves (traveling and fixed) and the piston. The pump is connected to the pumping unit at the surface by a string of sucker rods. Sucker rods are stroked up and down the tubing, activating the pump at the bottom. At the surface, a large mechanical device called the beam pumping unit is attached. Depending on the size of the pump, it generally produces from five to 40 liters of liquid per stroke. Often, the recovered liquid is an emulsion of crude oil and water. One of the advantages of beam pumping is high efficiency; however, it is limited to relatively low production volumes (e.g., less than 1,000 barrels per day (bpd)).

Submersible pumping is when an electrical motor is attached to a pump at the end of the tubing string. The electrical motor turns a centrifugal pump which forces oil from the bottom of the well, up through the inside of the tubing, and out at the surface. The electricity is supplied through an electric cable attached to the side of the tubing and connected to the electric motor. While submersible pumping has high volume and depth capacity and can produce over 1,000 bpd, it has poor ability to pump sand.

Another type of artificial lift is gas lift, which involve a series of devices called gas lift valves that are inserted into the sides of the tubing. The gas is injected into the well through the tubing casing annulus and enters the tubing through the gas lift mandrels and gas lift valves. The fluid in the tubing is made lighter by the gas, and as a result, the mixture is pushed to the surface by the reservoir pressure. The advantage of using gas lift equipment is that the process closely resembles the natural flow process and basically operates as an enhancement or extension of that process. The only major requirement for utilizing gas lift is the need for an available and economical supply of pressurized gas. The draw backs in using this system are high initial capital cost, high level of maintenance and complex operation.

The last artificial lift method, hydraulic pumping, is when high pressure oils are pumped into the well through the tubing string. At the bottom of the well, the pressurized oil enters a mechanical device, causing it to reciprocate. This mechanical device activates a pump which lifts the oil from the producing formation, together with expended powered oil to the surface. The system consists of a surface power fluid system, a prime mover, a surface pump, and a down hole jet or pump. Power fluid from the surface actuates the engine, which in turn drives the pump causing power fluid to return to the surface with the produced oil. The advantages of hydraulic pumping are that there are no moving parts and high volume capability. The downsides are the high initial capital cost and the difficulty of operation.

Site Abandonment

Site abandonment activities are regulated by DOGGR. Once an oil and gas reservoir at a production well is depleted, the well is abandoned and the site is cleaned up. As part of this process, the depleted reservoir hole is plugged with cement to protect all underground strata by preventing any flow or leakage at the surface and protecting the water zone, in accordance with California Code of Regulations (CCR), Subchapter 4 and section 1920.1. Any equipment that is salvageable is removed; pits used in the operation are filled in and the site is re-graded. Wherever practical, the ground is replanted with grass or other kinds of vegetation and sometimes home building sites are constructed.

Maintenance

Maintenance is necessary and required to ensure the smooth and safe operation of oil and gas operations and to minimize emissions during all phases of oil well operations. General maintenance includes the repair or replacement of pull rods or well casings using workover rigs, as well as the inspection and repair of pumps and other equipment used in production.

Spill Containment and Spill Response

Oil and gas production facilities utilize various forms of spill control and countermeasures to address the handling of hazardous materials. Primary containment consists of a permanent structure that holds the hazardous material (oil), such as tanks and piping. In many cases well cellars are used to provide secondary containment. On-shore oil and gas production facilities are also subject to federal requirements for spill control under 40 CFR part 112.

Well Cellars and Wellheads

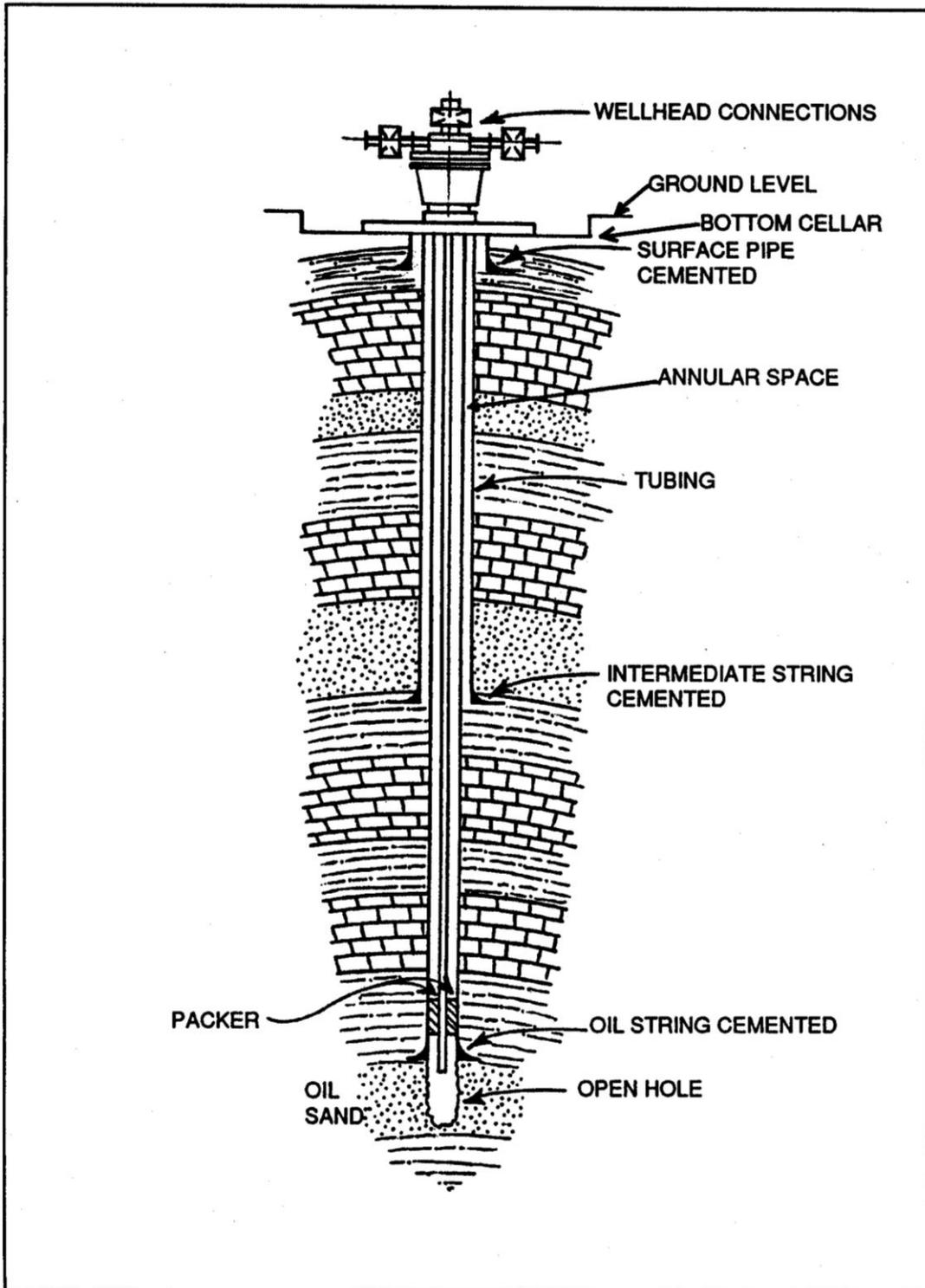
In most cases, the wellhead resides in or above the well cellar which is a small subsurface containment basin used to capture any leaking liquid from oil and gas extraction or maintenance and workover of the well or wellhead (see Figure 1-5).

Well cellars can be lined or unlined and there can be one or more wellheads allocated to a well cellar. On average, a well cellar has approximate dimensions of six feet by six feet with a depth of between five feet and eight feet. In the absence of containers used to catch discarded liquid (crude/water) produced during sampling and maintenance at the wellhead, there is an accumulation of crude oil that falls to the bottom of the well cellar. In order to provide access to wellheads for maintenance and sampling, well cellars are uncovered and become sources of VOC emissions and associated odors when crude oil is collected in this containment.

Separation and Treatment

After the well fluids and gas reach the wellhead they are transferred to a treatment plant. At the treatment plant the crude oil, natural gas, produced water and solid contaminants are separated and treated. A treatment plant may be simple or complex and can take many different forms depending on treatment needs. Typically, the treatment plant includes a well flow-line manifold in addition to separators, free water knockout vessels, heaters (if crude is heavy), heater-treaters, wash tanks, stock tanks, wastewater separators or oil/water separators, sumps, pits, ponds and a vapor recovery unit.

The well fluids (oil/water) and gas mixture flows to a well manifold that connects with each well in the field. From the manifold, the mixture is directed to either a test or a production separator, which separates and measures the three phases and is used to determine the production of each well. Under normal conditions, the mixture flows to a production separator or free water knockout where gas is separated from the mixture. From there, the oil/water stream flows to a free water knockout vessel, a heater treater, a wash tank and an oil/water separation vessel where water is removed from the oil. After it is determined that there is a sufficient reduction of water content, the oil flows to an oil storage or stock tank. Upon sale, the oil flows through Lease Automated Custody Transfer (LACT) units for metering.



Source: Figure 301.2, Oil Field Production, Compliance Assistance Program CARB Compliance Division, July 1992

Figure 1-5: A Typical Well

Gases removed from the oil during treatment may be treated and then either: 1) sold to a utility; 2) used as fuel by the operator; 3) re-injected into the reservoir for pressure maintenance; or, 4) vented to the atmosphere, a practice largely eliminated by the requirements of Rule 1148.1 which provides for the use of air pollution control devices in lieu of venting, except in the case of emergency upset conditions or certain smaller producing wells. Gas collected from separators and oil treaters, along with vapors from storage tanks, may be processed through a glycol dehydration unit to remove the water from the gas before it is put into a sales pipeline or used again in the dehydration process. A common practice to control production gas from small- and medium-sized operations is to use a gas-fired heater to burn the facility's gas and produce heat to reduce the viscosity of the crude oil product. Some facilities use the production gas to fuel micro-turbines for onsite power needs. Reducing the viscosity of crude oil facilitates the handling within the production operation or the transport via pipeline to the refineries.

The oily water collected from the separators and the oil treaters may flow directly to a sump or may flow to a water treatment facility prior to disposal. At the water treatment facility, the oil content of the water is reduced by skimming tanks, dissolved air flotation units, pits, filters or a combination of these. The water may be used on-site, discharged to the surface, or injected back into water injection wells or disposal wells. Vapor recovery is usually on all of the separation vessels and is piped back to the gas pipeline for dehydration.

Some of the separation and treatment equipment that require permits by the SCAQMD include American Petroleum Institute (API) separators, tanks, vessels, heaters, boilers, vapor recovery units, internal combustion engines and clean-out sumps, which are in most cases part of the wastewater system permit unit, oil dehydration unit or water injection facilities. Open ditches also require a permit, but there are no active permits currently in the South Coast Air Basin. Wastewater associated with the separation and treatment process is regulated by Rule 1176 – VOC Emissions from Wastewater Systems.

Workover Rig Operations

Workover rigs are mobile temporary derrick stands that allow the operator to access and replace worn out push rods and piping. These rods are between 32 feet and 46 feet long and are removed and stored vertically. The rods and the piping are pulled up through a casing which is filled with oil and other organic liquid. As a result of their removal, the rods and piping may be wet with hydrocarbon liquid and have the potential to cause odor nuisance complaints. While the amount of VOC emissions released to the atmosphere is minimal, the odor potential is great from these elevated piping, unless measures are taken to wipe excess material during removal.

Workover rigs are used primarily for maintenance on established production wells, and are typically powered by the internal combustion engine used for propulsion. Workover rigs are generally smaller units with lesser power demands than drilling rigs. However, there are occasions where extensive maintenance work would require a supplemental electrical generator to provide additional power. These generators and the portable or temporary internal combustion engines are a potential source of odors and combustion emissions.

PROJECT DESCRIPTION

To make the complaint process more effective for the complainant and to provide enhanced enforceable mechanisms to reduce odor nuisance potential while preventing public nuisance and possible detriment to public health caused by exposure to VOC, TAC, and TOC emissions from the operation and maintenance of oil and gas production facilities, PAR 1148.1 contains a proposal that would: 1) increase the minimum proximity distance to sensitive receptors (e.g., from 100 meters to 1,500 feet) that would trigger additional emission and odor preventative measures; 2) require the use of odor mitigation best practices for operation and maintenance of oil and gas production facilities; 3) require specific cause analysis and reporting for confirmed odor events and confirmed oil deposition events; 4) require Odor Mitigation Plans for facilities with continuing odor issues; and, 5) make administrative changes by removing obsolete rule language and making minor revisions to promote clarity, consistency, and enforceability throughout the rule. The following is a summary of the key components that comprise PAR 1148.1. A copy of the proposed amended rule can be found in Appendix A.

Proposed Amended Rule 1148.1 – Oil and Gas Production Wells

Purpose - subdivision (a)

This subdivision proposes clarifications that include the reduction of TAC and TOC emissions as contaminants, in addition to VOCs, that will contribute to the overall emission reduction goal. In addition, rule language has been inserted to clarify that both operation and maintenance activities of wellheads are part of the purpose. This subdivision also proposes to enhance the purpose of the rule to prevent public nuisance and possible detriment to public health caused by exposure to VOC, TAC, and TOC emissions.

Applicability - subdivision (b)

This subdivision proposes clarifications to include operation and maintenance activities as part of the types of actions that may be applicable to the requirements in the rule. This subdivision also proposes a clarification that identifies other SCAQMD rules that also apply to facilities subject to Rule 1148.1 such as Rule 463 – Organic Liquid Storage, Rule 1173 - Control of Volatile Organic Compound Leaks and Releases From Components at Petroleum Facilities, and, Rule 1176 – VOC Emissions From Wastewater Systems.

Definitions - subdivision (c)

The following definitions are proposed for inclusion in PAR 1148.1: “central processing area,” “component,” “confirmed odor event,” “confirmed odor deposition event,” “heavy liquid,” “leak,” “light liquid,” “odor,” “organic liquid,” “responsible party,” “specific cause analysis,” “toxic air contaminant (TAC),” “wastewater,” and “water injection well,” and “workover rig.” In addition, the following existing definitions are proposed for modification in PAR 1148.1: “facility,” “sensitive receptor,” and “volatile organic compound.”

Requirements - subdivision (d)

Paragraph (d)(1) proposes a clarification that would specify that the TOC well cellar concentration limit should be measured in accordance with the test method referenced in paragraph (h)(1) (e.g., USEPA Reference Method 21).

Paragraphs (d)(2), (d)(~~87~~) and (d)(~~109~~) propose to delete each obsolete effective date.

New paragraph (d)(3) proposes to require the pump out or removal of organic liquid accumulated in a well cellar within the same day if the well cellar has been verified as a source of odors.

Paragraph (d)(~~43~~) proposes to clarify that drilling activities would also be subject to the pump out/organic liquid removal requirements for well cellars.

Paragraph (d)(~~54~~) proposes to clarify the type of activities that would be exempt from having to comply with the TOC limit.

Paragraph (d)(~~76~~) proposes to extend the proximity distance requirement for triggering additional emission and odor preventative measures for sensitive receptors from 100 meters to 1,500 feet.

New paragraph (d)(~~1140~~) proposes to require the installation of a rubber grommet as part of a maintenance or drill piping, production tubing or sucker rod replacement activity that involves the use of a workover rig.

New paragraph (d)(~~1244~~) proposes to require the operation and maintenance of a centrally located alarmed monitoring system.

New paragraph (d)(~~1342~~) proposes to require the oil and gas production facility to post instructions for the public related to odor complaints.

New paragraph (d)(14) proposes requirements to conduct and report a specific cause analysis for a confirmed oil deposition event.

Operator Inspection Requirements - subdivision (e)

Paragraphs (e)(1) and (e)(3) propose to delete each obsolete effective date.

Subparagraph (e)(1)(C) proposes to extend the proximity distance that would trigger the daily visual inspections requirement of stuffing boxes or produced gas handling and control equipment for sensitive receptors from 100 meters to 1,500 feet.

New paragraph (e)(5) proposes to require monthly TOC measurements on any component identified as a potential odor nuisance and if a qualifying leak is identified, to require the repair, replacement, or removal from service the leaking component.

Odor Mitigation Requirements - subdivision (f)

Paragraph (f)(1) proposes new requirements for conducting a Specific Cause Analysis and preparing a corresponding report for the occurrence of each confirmed odor event. Specifically, for facilities located within 1,500 feet of a sensitive receptor, upon determination by an SCAQMD inspector of a Confirmed Odor Event (confirmed odor from three or more independent complainants), a Specific Cause Analysis would be required and the affected facility would be required to complete and submit a Specific Cause Analysis report within 30 calendar days following receipt of written notification from the Executive Officer. The Specific Cause Analysis would include a review of the activities and equipment at the facility identified as

contributing or causing the odor in question, in order to determine the contributing factors and ultimately the corrective actions associated with the event. In addition, any applicable SCAQMD rule or permit condition would need to be identified and reviewed for compliance with the requirements. Furthermore, the specific cause analysis should assess proper implementation of internal procedures or preventative maintenance schedules to determine if the facility properly implemented them, if the procedures should be updated to address any performance gaps, or if the operators were adequately trained on the proper adherence to them.

Paragraph (f)(2) proposes new requirements for preparing and submitting a new or modified Odor Mitigation Plan. Specifically, for facilities located within 1,500 feet of a sensitive receptor, upon determination by an SCAQMD inspector of the occurrence of three or more Confirmed Odor Events within a six month period, or the issuance of a single odor related NOV under Rule 402 – Nuisance, an Odor Mitigation Plan would be required. The affected facility would be required to complete and submit an Odor Mitigation Plan (OMP) within 90 calendar days following receipt of written notification from the Executive Officer. In addition, for any facility with an existing approved OMP, an update to the plan would be required following the occurrence of an additional three or more Confirmed Odor Events over a subsequent six month period following the last plan approval, or following the issuance of an odor related NOV under Rule 402 – Nuisance following the last plan approval.

Subparagraph (f)(2)(B) proposes new requirements for Odor Mitigation Plan (OMP) Elements. Specifically, in the event when an OMP is required, an approved OMP would need to identify all the activities and equipment that may contribute or may have contributed to a confirmed odor event, and the OMP would need to identify the internal procedures and requirements used to manage the odors. For example, OMPs would need to identify oil and gas production and wastewater generation equipment and activities, including both normal and spill or release management control operations, with corresponding identification of potential or actual sources of emissions, odors, frequency of operator inspection and history of leaks. Also, the OMP would need to identify any activity involving drilling, well completion or rework, repair, or maintenance of a well, as well as note the sources of emissions, odors, odor mitigation measures for responding to odors and odor complaints. In addition, the OMP would need to specify the procedures used for odor monitoring at the site and fence line and to identify emission points and emission or leak monitoring method used for all wastewater tanks, holding, knockout, and oil/water separation vessels, including any pressure relief devices or vacuum devices attached to the vessels, and record the releases from such devices. Finally, any equipment or activity identified as part of any previously submitted Specific Cause Analysis report would also need to be included in the OMP.

Subparagraph (f)(2)(C) proposes new requirements for odor monitoring and mitigation that would need to be included in an OMP. These requirements are summarized in Table 1-1. In accordance with this subparagraph, the owner and operator of an oil and gas production facility would be required to comply with all provisions of an approved OMP and a violation of any of the terms of the plan would be considered a violation of Rule 1148.1.

**Table 1-1
Proposed Odor Monitoring and Mitigation Requirements**

PAR 1148.1 Odor Monitoring and Mitigation Requirement	Description
Odor Surveillance	<p>Continual odor surveillance downwind at the perimeter of the property at all times during drilling, well completion, or rework, repair, or maintenance of any well, including water injection wells, recorded hourly.</p> <p>Equivalent odor monitoring equipment may be used in lieu of odor surveillance, subject to approval.</p> <p>If odors are detected from odor surveillance or odor monitoring at the perimeter of the facility, all drilling, well completion, or rework, repair, or maintenance of any well will discontinue until the source or cause of odors are determined and mitigated in accordance with measures previously approved.</p>
Alternative Fuel or Electric Powered Workover Rig⁴	Any workover rig used to conduct any drilling, well completion, rework, repair or maintenance of any well, including any production or water injection well, shall be electric powered or natural gas (LNG or CNG), propane (LPG) fired only.
Well Piping and Rod Management	Any removed drill piping, <u>production tubing</u> , and <u>drill sucker rods</u> shall be managed through written procedures that ensures that potential odor producing emissions are minimized through means such as <u>use of a tarp or similar covering</u> or by storing within an enclosed area <u>or other equivalent method</u> .
Tighter Leak Detection and Repair (LDAR)	Reduce the required repair times for components subject to Rule 1173 LDAR to the lowest schedule of one calendar day with an extended repair period of three calendar days (rather than the seven day repair time allowance and seven day extended repair period).
Facility Specific Best Practice	Any corrective action identified in a Specific Cause Analysis report previously submitted by the facility.
Feasibility Assessment	For any odor mitigation or monitoring requirement identified above is determined by the facility to not represent an appropriate best practice for inclusion in the OMP, an evaluation and documentation that states the reason why such provision is not feasible to include, subject to approval by the Executive Officer, must be included in the OMP.

Recordkeeping - subdivision (g)

Paragraph (g)(2) proposes to require records of measurements, cleaning and any activities performed in accordance with the exemption criteria in paragraph (i)(2).

⁴ Subsequent to the release of the Draft EA for public review and comment, additional revisions were made to PAR 1148.1 that resulted in the removal of the requirement for the use of an alternative fuel or electric powered workover rig as part of an OMP.

Paragraph (g)(3) proposes to clarify the records maintenance requirements to include any referenced established written company safety manual or policy.

New paragraph (g)(4) proposes to require the operator to maintain, for either three years or five years for a Title V facility, all records and other applicable documents as part of an approved OMP.

Test Methods - subdivision (h)

Subdivision (h) proposes to include an introduction that will replace old paragraph (h)(4) to explain that the allowed test methods will be used to determine compliance and that other equivalent test methods, after review and approval, may also be used.

New paragraph (h)(3) proposes to specify test methods for determining VOC content.

New paragraph (h)(4) proposes to specify the test method for determining the flash point of heavy liquids.

Exemptions - subdivision (i)

Paragraph (i)(2) proposes to exempt portable enclosed storage vessel and associated air pollution control equipment undergoing maintenance and repair from the requirements in paragraphs (d)(4), (d)(6), (d)(7), and (d)(8) if the owner or operator can demonstrate that performing maintenance and repair, drilling or abandonment operation would cause the facility to operate in violation of state or federal regulations, applicable industry safety standards, or a written company safety manual or policy developed to comply with applicable industry safety standards provided that the activities minimize emissions to the atmosphere as much as possible.

Paragraph (i)(4) proposes to not allow the small production exemption for production wells that are located within 1,500 feet of a sensitive receptor.

CHAPTER 2

ENVIRONMENTAL CHECKLIST

Introduction

General Information

Potentially Significant Impact Areas

Determination

Environmental Checklist and Discussion

INTRODUCTION

The environmental checklist provides a standard evaluation tool to identify a project's adverse environmental impacts. This checklist identifies and evaluates potential adverse environmental impacts that may be created by implementing PAR 1148.1.

GENERAL INFORMATION

Project Title:	<u>Final Environmental Assessment for</u> Proposed Amended Rule 1148.1 – Oil and Gas Production Wells
Lead Agency Name:	South Coast Air Quality Management District
Lead Agency Address:	21865 Copley Drive, Diamond Bar, CA 91765
CEQA Contact Person:	Barbara Radlein, (909) 396-2716, bradlein@aqmd.gov
PAR 1148.1 Contact Person:	Dairo Moody, (909) 396-2333, dmoody@aqmd.gov
Project Sponsor's Name:	South Coast Air Quality Management District
Project Sponsor's Address:	21865 Copley Drive, Diamond Bar, CA 91765
General Plan Designation:	Not applicable
Zoning:	Not applicable
Description of Project:	PAR 1148.1 would: 1) increase the minimum proximity distance to sensitive receptors (e.g., from 100 meters to 1,500 feet) that would trigger additional emission and odor preventative measures; 2) require the use of odor mitigation best practices for operation and maintenance of oil and gas production facilities; 3) require specific cause analysis and reporting for confirmed odor events; 4) require Odor Mitigation Plans for facilities with continuing odor issues; and, 5) make administrative changes by removing obsolete rule language and making minor revisions to promote clarity, consistency, and enforceability throughout the rule. Analysis of the proposed project in the <u>Final Draft</u> -EA did not result in the identification of any environmental topic areas that would be significantly adversely affected by the proposed project.
Surrounding Land Uses and Setting:	Residential, commercial, industrial and/or institutional
Other Public Agencies Whose Approval is Required:	Not applicable

ENVIRONMENTAL IMPACT AREAS POTENTIALLY AFFECTED

The following environmental impact areas have been assessed to determine their potential to be affected by the proposed project. Any checked items represent areas that may be adversely affected by the proposed project, but after completing the analysis, were shown to have less than significant impacts. An explanation relative to the determination of impacts can be found following the checklist for each area.

<input checked="" type="checkbox"/>	Aesthetics	<input type="checkbox"/>	Geology and Soils	<input type="checkbox"/>	Population and Housing
<input type="checkbox"/>	Agriculture and Forestry Resources	<input type="checkbox"/>	Hazards and Hazardous Materials	<input type="checkbox"/>	Public Services
<input checked="" type="checkbox"/>	Air Quality and Greenhouse Gas Emissions	<input type="checkbox"/>	Hydrology and Water Quality	<input type="checkbox"/>	Recreation
<input type="checkbox"/>	Biological Resources	<input type="checkbox"/>	Land Use and Planning	<input type="checkbox"/>	Solid and Hazardous Waste
<input type="checkbox"/>	Cultural Resources	<input type="checkbox"/>	Mineral Resources	<input checked="" type="checkbox"/>	Transportation and Traffic
<input checked="" type="checkbox"/>	Energy	<input type="checkbox"/>	Noise	<input checked="" type="checkbox"/>	Mandatory Findings <u>of Significance</u>

DETERMINATION

On the basis of this initial evaluation:

- I find the proposed project, in accordance with those findings made pursuant to CEQA Guideline §15252, COULD NOT have a significant effect on the environment, and that an ENVIRONMENTAL ASSESSMENT with no significant impacts has been prepared.
- I find that although the proposed project could have a significant effect on the environment, there will NOT be significant effects in this case because revisions in the project have been made by or agreed to by the project proponent. An ENVIRONMENTAL ASSESSMENT with no significant impacts will be prepared.
- I find that the proposed project MAY have a significant effect(s) on the environment, and an ENVIRONMENTAL ASSESSMENT will be prepared.
- I find that the proposed project MAY have a "potentially significant impact" on the environment, but at least one effect 1) has been adequately analyzed in an earlier document pursuant to applicable legal standards, and 2) has been addressed by mitigation measures based on the earlier analysis as described on attached sheets. An ENVIRONMENTAL ASSESSMENT is required, but it must analyze only the effects that remain to be addressed.
- I find that although the proposed project could have a significant effect on the environment, because all potentially significant effects: 1) have been analyzed adequately in an earlier ENVIRONMENTAL ASSESSMENT pursuant to applicable standards; and, 2) have been avoided or mitigated pursuant to that earlier ENVIRONMENTAL ASSESSMENT, including revisions or mitigation measures that are imposed upon the proposed project, nothing further is required.

Date: April 28, 2015

Signature: 
Michael Krause
Program Supervisor, CEQA Section
Planning, Rules, and Area Sources

ENVIRONMENTAL CHECKLIST AND DISCUSSION

PAR 1148.1 is undergoing amendments in order to further prevent public nuisance and possible detriment to public health caused by exposure to VOC, TAC and TOC emissions from the operation and maintenance of oil and gas production facilities. PAR 1148.1 would: 1) increase the minimum proximity distance to sensitive receptors (e.g., from 100 meters to 1,500 feet) that would trigger additional emission and odor preventative measures; 2) require the use of odor mitigation best practices for operation and maintenance of oil and gas production facilities; 3) require specific cause analysis and reporting for confirmed odor events and confirmed oil deposition events; 4) require Odor Mitigation Plans for facilities with continuing odor issues; and, 5) make administrative changes by removing obsolete rule language and making minor revisions to promote clarity, consistency, and enforceability throughout the rule.

PAR 1148.1 has been evaluated relative to the environmental topics identified in the following environmental checklist (e.g., aesthetics, agricultural and forestry resources, biological resources, etc.). The primary effect of implementing PAR 1148.1 is to enhance compliance of operations at existing oil and gas facilities. Most of the requirements in PAR 1148.1 are procedural in nature and as such, would not be expected to cause any physical changes that that could have secondary adverse environmental effects. For example, while PAR 1148.1 contains new odor monitoring and mitigation requirements that would require any removed drill piping, production tubing and drill-sucker rods to be stored in a manner that would minimize emissions, facility operators would have the option of storing covering the drill piping, production tubing and drill-sucker rods ~~with a tarp, for example, or by storing~~ within an enclosed area, or by some other equivalent method (see clause (f)(2)(C)(iv)) to serve as a wind barrier, such as a covering or freestanding wind screen, for example. Because of the available compliance options for storing removed drill piping, production tubing, and drill-sucker rods, the analysis in this Final Draft-EA assumes that facility operators would not choose to construct new storage areas or modify existing storage areas when an equivalent method and lower cost option that can serve as an effective wind barrier, such as a covering or freestanding wind screen, tarp can be used instead. Thus, the proposed project would not promote the construction of new facilities or structures nor would it cause construction activities to occur at existing facilities. Therefore, potential adverse impacts that result from construction of new structures or modification of existing structures as well as changes in existing land uses are not anticipated to occur as a result of implementing PAR 1148.1.

Of the other enhanced compliance mechanisms that could be triggered by PAR 1148.1, only the requirement in an Odor Mitigation Plan for a workover rig to be powered with electricity, or fueled by natural gas, or propane/liquefied petroleum gas, instead of diesel fuel, could potentially cause a direct physical change to existing oil and gas operations that could have secondary environmental effects. However, at the time of publication of ~~the~~ Draft EA, there ~~were~~ are no known electric or alternative fuel (non-diesel) workover rigs available. In the future, it is possible that electric or alternative fuel workover rigs may become available. Thus, answers to the following checklist items are based on the worst-case assumption that any affected oil and gas facility that becomes subject to the requirements of an Odor Mitigation Plan will be required to utilize an alternative fueled workover rig in lieu of a diesel-fueled workover rig, if available and feasible.

Subsequent to the release of the Draft EA for public review and comment, additional revisions were made to PAR 1148.1 that resulted in the removal of the requirement for the use of an alternative fuel or electric powered workover rig as part of an OMP. While the use of an alternative fuel or electric powered workover rig is no longer a requirement, the analysis relative to the use of an alternative fuel or electric powered workover rig will remain as part of the responses to the environmental checklist to represent a worst-case analysis.

In addition, subsequent to release of the Draft EA, the following modifications were made to the proposed project: 1) new paragraph (d)(3) has been added to require the pump out or removal of organic liquid accumulated in a well cellar the same day in the event the well cellar has been verified as a source of odors; 2) new paragraph (d)(14) has been added to require a facility operator to conduct and report a specific cause analysis for a confirmed oil deposition event; 3) new paragraph (e)(5) has been added to require monthly TOC measurements on any component identified as a potential odor nuisance and if a qualifying leak is identified, to require the repair, replacement, or removal from service the leaking component; and, 4) clause (f)(2)(C)(iv) has been revised to no longer specify covering as part of the new odor monitoring and mitigation requirements that would require any removed drill piping, production tubing and sucker rods to be stored in a manner that would minimize emissions, either within an enclosed area, or by some other equivalent method.

Of these four changes to PAR 1148.1, industry has provided comments relative to item 1) such that requiring the pump out or removal of organic liquid accumulated in a well cellar to occur the same day when the well cellar has been verified as a source of odors may cause an additional vacuum truck trip to the affected facility. Thus, the Draft EA has been revised to include an analysis of what the potential adverse affects of additional vacuum truck trips may cause. These additional assumptions and calculations can be found in Appendix B. The three remaining changes to PAR 1148.1 subsequent to the release of the Draft EA for public review and comment (see items 2 through 4) were determined to be procedural in nature and as such, would not be expected to cause any physical changes that that could cause secondary adverse environmental effects.

Finally, the requirement in paragraph (d)(12) for an operator of an oil and gas production facility to operate and maintain an alarmed monitoring system has been clarified to be applicable to any central processing area that is located within 1,500 feet of a sensitive receptor. This requirement will go into effect within 180 days of July 10, 2015 if the SCAQMD's Governing Board approves the project. Some oil and gas production facilities currently utilize control centers that also allow for monitoring and controlling operating parameters to support efficiency or serve as an indicator for leak related emissions. Industry submitted comments explaining that while oil and gas production facilities currently operate existing monitoring systems to safeguard for fire prevention and emergency response in central processing areas, and that these systems are considered to be centrally located monitoring systems, there are some facilities that may not have monitoring systems for their central processing areas. The SCAQMD staff estimates, based on conversations with industry representatives, that approximately five percent of the 473 facilities (e.g., 24 facilities), currently may not have monitoring systems for their central process areas and would be required to install monitoring systems to comply with this requirement in PAR 1148.1. In order for 24 facilities to install monitoring systems over a 180 day window, this EA assumes that approximately five facilities will have overlapping construction activities on a peak day. Thus, the Draft EA has been revised to include an analysis of what the potential adverse affects

of installing additional monitoring systems may cause and these additional assumptions and calculations can also be found in Appendix B.

Staff has reviewed the modifications to the proposed project and concluded that none of the modifications constitute significant new information or a substantial increase in the severity of an environmental impact, nor provide new information of substantial importance relative to the draft document. In addition, revisions to the proposed project in response to verbal or written comments would not create new, avoidable significant effects. As a result, these revisions do not require recirculation of the document pursuant to CEQA Guidelines §15073.5 and §15088.5.

	Potentially Significant Impact	Less Than Significant With Mitigation	Less Than Significant Impact	No Impact
I. AESTHETICS. Would the project:				
a) Have a substantial adverse effect on a scenic vista?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c) Substantially degrade the existing visual character or quality of the site and its surroundings?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d) Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

Significance Criteria

The proposed project impacts on aesthetics will be considered significant if:

- The project will block views from a scenic highway or corridor.
- The project will adversely affect the visual continuity of the surrounding area.
- The impacts on light and glare will be considered significant if the project adds lighting which would add glare to residential areas or sensitive receptors.

Discussion

I. a), b) & c) No Impact. PAR 1148.1 neither requires construction of new facilities nor requires physical modifications at existing facilities that would entail construction activities. Instead, PAR 1148.1 would enhance monitoring and recordkeeping requirements for facilities subject to the rule. In the event that a facility is required to prepare and obtain approval of an Odor Mitigation Plan, the facility operator would be required to utilize a workover rig that is

either electrically powered or fueled by natural gas or propane, in lieu of diesel fuel, if available and feasible.

The oil and gas industry utilizes workover rigs to conduct drilling, well completion, rework, and repair and maintenance of wells. A workover rig is a mobile, self-propelled unit that is driven directly to the well site and is frequently moved from well to well throughout an oil and gas facility. The power from the rig's engine or engines propels the rig on the road. Currently, only diesel-fueled workover rigs are available.

The length of a workover rig with mast extension can reach up to 65 feet. In addition, the height of a workover rig when the mast is extended into a vertical position can range from 50 feet to 86 feet for single-mast workover rigs and from 96 feet to 124 feet for double-mast workover rigs. The required drilling depth is what determines the type and horsepower rating of a workover rig needed for a particular well. Nonetheless, the requirement to utilize an electric or alternative fuel workover rig to comply with an Odor Mitigation Plan would not affect the choice of whether a single- or double-mast rig would be utilized and as such, the height of any replacement workover rig is not expected to change from the existing setting as a result of implementing PAR 1148.1. Thus, the visual appearance between a diesel-fueled workover rig and an electric or alternative fuel workover rig would not be expected to have physical differences that would be discernable from outside of an oil and gas facility's property, regardless of where the workover rig is located within the property at the time of observation.

Typically, oil and gas production wells facilities are located throughout the District within predominantly industrial or commercial areas while some are located adjacent to residential neighborhoods. The visual character of the areas in which the various oil and gas productions wells facilities are located can be quite varied, but would be expected to remain the same because PAR 1148.1 would not require modifications to existing structures or new construction of structures at the affected facilities. Further, in the event that an Odor Mitigation Plan is required and an electric or alternative fuel workover rig is employed at a given facility, scenic vistas, if any are located near an affected facility, would not be expected to change or be adversely affected since the height profile and overall footprint of any replacement workover rig is not expected to be discernably different from a diesel-fueled workover rig.

In addition, in response to industry's comment that an additional vacuum truck may be needed to pump out a well cellar on the same day that it has been verified as a source of odors, the analysis assumes that a peak day of three additional vacuum trucks may be needed. This assumption is based on past complaint data for Rule 1148.1 facilities which has shown that only three facilities experienced the potential equivalent of three or more confirmed odor events or received a Rule 402 NOV. Thus, in the event that three separate facilities would need to have one additional vacuum truck visit the premises to pump out a well cellar, the presence of these vacuum trucks will not be visibly different from the vacuum trucks that currently service well cellars and other equipment at the affected oil and gas facilities.

Finally, in response to industry's comment that some facilities may need to install monitoring equipment, the analysis assumes a total of 24 facilities may be affected and that five facilities on a peak day may undergo light construction activities for one day. The construction activities would involve a work crew of three to install the monitoring equipment and make the electrical connections and one delivery truck to deliver supplies for the workers. The presence of these

work crews will not be visibly different from the work crews currently employed on a day-today basis at the affected oil and gas facilities.

Thus, implementation of PAR 1148.1 would not result in any new construction of buildings or other structures or the modification to existing structures that would obstruct scenic vistas or scenic resources, or degrade the existing visual character of a site, including but not limited to, trees, rock outcroppings, or historic buildings.

I.d) No-Less Than Significant Impact. While facilities with oil and gas production wells typically operate 24 hours per day, there are no components in the proposed project that would specifically require new nighttime activities to occur beyond baseline conditions which already have existing permanent night lighting in place for safety and security reasons. Further, workover operations typically occur during daytime and PAR 1148.1 does not contain any provisions that would require facilities to conduct workover operations at night. Nonetheless, in the event that an Odor Mitigation Plan is required and an electric or alternative fuel workover rig is required and that facility operator chooses to operate the equipment at night, the nighttime lighting that would be needed to safely operate an electric or alternative fuel workover rig would not be expected to be any different from the nighttime lighting needs for operating a diesel-fueled workover rig.

However, in response to industry’s comment that an additional vacuum truck may be needed to pump out a well cellar on the same day if it has been verified as a source of odors, it is possible that the operation of a vacuum truck may occur at night, depending on what time of day the odor source is verified and the lag time that may occur to get a vacuum truck to the site. In the event that a vacuum truck is needed to operate at night, the analysis assumes that temporary portable lighting equipment may be needed, if lighting does not already exist at or near the affected well cellar, to provide sufficient lighting to safely direct the vacuum hose to the affected location. If temporary portable lighting is required, then a diesel generator set may be needed to supply the power to the lighting equipment.

As discussed earlier in Sections a), b) and c) of this topic area, past complaint data for Rule 1148.1 facilities has shown that only three facilities experienced the potential equivalent of three or more confirmed odor events or received a Rule 402 NOV. Thus, in the event that three separate facilities would each need to have one additional vacuum truck visit the premises to pump out a well cellar, and if circumstances exist that these activities would occur at night, then three additional diesel generator sets to power three portable lighting units could be needed on a peak day. While these circumstances could create a potential for additional nighttime lighting, the lighting would only be needed for as long as each vacuum truck is operating. Vacuum trucks have pumps that can suction up to 4,000 cubic feet per minute of material, so depending on the volume of material needed to be pumped out, the vacuum truck and any needed lighting would likely be needed from five minutes to one hour. However, to be conservative, the analysis assumes that three vacuum trucks and three generator sets to support lighting equipment would each operate for two hours on a peak day.

In the event that nighttime operations of vacuum truck are needed, the nighttime lighting that would be needed to safely operate the vacuum truck would need to be directed downward towards the well cellar. Once the vacuum truck has completed its task, the lighting and associated generator would be shut off.

Finally, in response to industry’s comment that some facilities may need to install monitoring equipment, the analysis assumes a total of 24 facilities may be affected and that five facilities on a peak day may undergo light construction activities for one day per facility. The construction activities would involve a work crew of three to install the monitoring equipment and make the electrical connections and one delivery truck to deliver supplies for the workers and these activities are expected to occur during daylight hours. As such, no new nighttime lighting, either temporary or permanent would be needed to install or operate the monitoring equipment.

Thus, even if temporary lighting may be needed under limited circumstances, additional light or glare would not be created which would significantly adversely affect day or nighttime views in the area ~~since no new light generating equipment would be required to comply with the requirements in PAR 1148.1.~~

Based upon these considerations, significant adverse aesthetics impacts are not expected from implementing PAR 1148.1, and thus, this topic will not be further analyzed. Since no significant aesthetics impacts were identified, no mitigation measures are necessary or required.

	Potentially Significant Impact	Less Than Significant With Mitigation	Less Than Significant Impact	No Impact
II. AGRICULTURE AND FORESTRY RESOURCES. Would the project:				
a) Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland mapping and Monitoring Program of the California Resources Agency, to non- agricultural use?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Conflict with existing zoning for agricultural use, or a Williamson Act contract?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c) Conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code §12220(g)), timberland (as defined by Public Resources Code §4526), or timberland zoned Timberland Production (as defined by Government Code §51104 (g))?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d) Result in the loss of forest land or conversion of forest land to non-forest use?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Significance Criteria

Project-related impacts on agriculture and forest resources will be considered significant if any of the following conditions are met:

- The proposed project conflicts with existing zoning or agricultural use or Williamson Act contracts.
- The proposed project will convert prime farmland, unique farmland or farmland of statewide importance as shown on the maps prepared pursuant to the farmland mapping and monitoring program of the California Resources Agency, to non-agricultural use.
- The proposed project conflicts with existing zoning for, or causes rezoning of, forest land (as defined in Public Resources Code §12220 (g)), timberland (as defined in Public Resources Code §4526), or timberland zoned Timberland Production (as defined by Government Code § 51104 (g)).
- The proposed project would involve changes in the existing environment, which due to their location or nature, could result in conversion of farmland to non-agricultural use or conversion of forest land to non-forest use.

Discussion

II. a), b), c), & d) No Impact. Implementation of PAR 1148.1 would not result in any new construction or modification of buildings or other structures. Similarly, the proposed project would not require affected facility operators to acquire additional land. All compliance activities that would occur as a result of implementing the proposed project are expected to occur within the confines of each existing affected facility. The proposed project would be consistent with the zoning requirements for the existing facilities and there are no agriculture or forest resources or operations on or near the affected facilities. No agricultural resources including Williamson Act contracts are located within or would be impacted by operation activities at the affected facilities. Therefore, the proposed project would not result in any new construction of buildings or other structures that would convert farmland to non-agricultural use or conflict with zoning for agricultural use or a Williamson Act contract. Since the proposed project would not alter any facility or process, there are no provisions in the proposed project that would affect land use plans, policies, or regulations. Land use and other planning considerations are determined by local governments and no land use or planning requirements relative to agricultural resources will be altered by the proposed project. For these same reasons, PAR 1148.1 would not result in the loss of forest land or conversion of forest land to non-forest use.

Based upon these considerations, significant agricultural and forest resources impacts are not expected from implementing PAR 1148.1, and thus, this topic will not be further analyzed. Since no significant agriculture and forest resources impacts were identified, no mitigation measures are necessary or required.

	Potentially Significant Impact	Less Than Significant With Mitigation	Less Than Significant Impact	No Impact
III. AIR QUALITY AND GREENHOUSE GAS EMISSIONS.				
Would the project:				
a) Conflict with or obstruct implementation of the applicable air quality plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Violate any air quality standard or contribute to an existing or projected air quality violation?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
c) Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard (including releasing emissions that exceed quantitative thresholds for ozone precursors)?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
d) Expose sensitive receptors to substantial pollutant concentrations?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
e) Create objectionable odors affecting a substantial number of people?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
f) Diminish an existing air quality rule or future compliance requirement resulting in a significant increase in air pollutant(s)?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
g) Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
h) Conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

Air Quality Significance Criteria

To determine whether or not air quality impacts from implementing PAR 1148.1 are significant, impacts will be evaluated and compared to the criteria in Table 2-1. The project will be considered to have significant adverse air quality impacts if any one of the thresholds in Table 2-1 are equaled or exceeded.

Table 2-1
SCAQMD Air Quality Significance Thresholds

Mass Daily Thresholds ^a		
Pollutant	Construction ^b	Operation ^c
NO_x	100 lbs/day	55 lbs/day
VOC	75 lbs/day	55 lbs/day
PM₁₀	150 lbs/day	150 lbs/day
PM_{2.5}	55 lbs/day	55 lbs/day
SO_x	150 lbs/day	150 lbs/day
CO	550 lbs/day	550 lbs/day
Lead	3 lbs/day	3 lbs/day
Toxic Air Contaminants (TACs), Odor, and GHG Thresholds		
TACs (including carcinogens and non-carcinogens)	Maximum Incremental Cancer Risk \geq 10 in 1 million Cancer Burden $>$ 0.5 excess cancer cases (in areas \geq 1 in 1 million) Chronic & Acute Hazard Index \geq 1.0 (project increment)	
Odor	Project creates an odor nuisance pursuant to SCAQMD Rule 402	
GHG	10,000 MT/yr CO ₂ eq for industrial facilities	
Ambient Air Quality Standards for Criteria Pollutants ^d		
NO₂ 1-hour average annual arithmetic mean	SCAQMD is in attainment; project is significant if it causes or contributes to an exceedance of the following attainment standards: 0.18 ppm (state) 0.03 ppm (state) and 0.0534 ppm (federal)	
PM₁₀ 24-hour average annual average	10.4 $\mu\text{g}/\text{m}^3$ (construction) ^e & 2.5 $\mu\text{g}/\text{m}^3$ (operation) 1.0 $\mu\text{g}/\text{m}^3$	
PM_{2.5} 24-hour average	10.4 $\mu\text{g}/\text{m}^3$ (construction) ^e & 2.5 $\mu\text{g}/\text{m}^3$ (operation)	
SO₂ 1-hour average 24-hour average	0.25 ppm (state) & 0.075 ppm (federal – 99 th percentile) 0.04 ppm (state)	
Sulfate 24-hour average	25 $\mu\text{g}/\text{m}^3$ (state)	
CO 1-hour average 8-hour average	SCAQMD is in attainment; project is significant if it causes or contributes to an exceedance of the following attainment standards: 20 ppm (state) and 35 ppm (federal) 9.0 ppm (state/federal)	
Lead 30-day Average Rolling 3-month average	1.5 $\mu\text{g}/\text{m}^3$ (state) 0.15 $\mu\text{g}/\text{m}^3$ (federal)	

^a Source: SCAQMD CEQA Handbook (SCAQMD, 1993)

^b Construction thresholds apply to both the South Coast Air Basin and Coachella Valley (Salton Sea and Mojave Desert Air Basins).

^c For Coachella Valley, the mass daily thresholds for operation are the same as the construction thresholds.

^d Ambient air quality thresholds for criteria pollutants based on SCAQMD Rule 1303, Table A-2 unless otherwise stated.

^e Ambient air quality threshold based on SCAQMD Rule 403.

KEY: lbs/day = pounds per day ppm = parts per million $\mu\text{g}/\text{m}^3$ = microgram per cubic meter \geq = greater than or equal to
MT/yr CO₂eq = metric tons per year of CO₂ equivalents $>$ = greater than

Discussion

III. a) No Impact. Rule 1148.1 was adopted in 2004 to implement portions of the 2003 AQMP Control Measure FUG-05 – Emission Reductions from Fugitive Emission Sources, to reduce VOC emissions from well cellars and sources of untreated process gas located at oil and gas production facilities. PAR 1148.1 would not change any of the current VOC reduction aspects in the rule but instead would improve upon compliance activities in order to minimize the potential for nuisance and odor impacts to local residents and sensitive receptors that are often located nearby from ongoing operations that do not include drilling. As with Rule 1148.1, the proposed project will continue to assist the SCAQMD’s progress in attaining and maintaining the ambient air quality standards for ozone. Further, because the 2012 AQMP demonstrates that the effects of all existing rules, in combination with implementing all AQMP control measures (including “black box” measures not specifically described in the 2012 AQMP) would bring the district into attainment with all applicable national and state ambient air quality standards, implementing PAR 1148.1 is not expected to conflict with or obstruct implementation of the applicable air quality control plan. Since no significant impacts were identified for this issue, no mitigation measures are necessary or required.

III. b) Less Than Significant Impact. For a discussion of these items, refer to the following analysis.

PAR 1148.1 neither requires the construction of new facilities nor requires physical modifications at existing facilities that would entail construction activities. Instead, PAR 1148.1 would enhance compliance activities by making monitoring and recordkeeping requirements more stringent for facilities subject to the rule. Thus, since there would be no construction activities that would utilize construction equipment or would require worker trips, equipment delivery trips and other haul trips, no construction emissions would be generated. Thus, there would be no significant construction air quality and GHG impacts from implementing PAR 1148.1.

However, in the event that a facility is required to prepare and obtain approval of an Odor Mitigation Plan, the facility operator would be required to utilize a workover rig that is either electrically powered or fueled by natural gas or propane, in lieu of diesel fuel, if available and feasible. At the time of publication of this ~~Final Draft~~-EA, there are no known electric or alternative fuel workover rigs in existence but it is possible that electric or alternative fuel workover rigs may be developed and become available in the future. Even though CEQA does not require speculation of the unknown, CEQA Guidelines §15144 recognizes that some degree of forecasting is needed in order to prepare a CEQA document. While foreseeing the unforeseeable is not possible, SCAQMD staff is required to use its best efforts to find out and disclose all that it reasonably can. For this reason, this ~~Final Draft~~-EA examines the possibility that electric or alternative fuel workover rigs may become available in the future and makes some assumptions in order to attempt to disclose any potential secondary adverse air quality impacts that may be associated with the reliance on the future use of electricity and/or alternative fuels for implementing an Odor Mitigation Plan.

As explained in Chapter 1, workover rigs are regularly utilized at oil and gas production facilities to conduct well maintenance such as the repair or replacement of pull rods or well casings on an oil or gas well. Workover rigs are equipped with diesel engines that range from 150 horsepower

(hp) to 1,000 hp but on average, workover rigs are rated at 475 hp. In addition, workover rigs have a drilling/casing access capability that can range from 8,000 to 30,000 feet in depth. Fuel usage is dependent on the type and rating of the workover rig and the depth to which the workover rig can access the well casings.

According to the California Air Resources Board (CARB), in 2000, there were 256 workover rigs operating throughout California and these rigs consumed 3,222,000 gallons of diesel fuel⁵. Of this amount, the amount of diesel fuel consumed by workover rigs in Los Angeles, Orange, Riverside and San Bernardino counties combined was 387,748 gallons⁶. On average, each workover rig consumed approximately 12,600 gallons of diesel per year. CARB's CEIDARS database estimates that one workover rig will typically operate up to 3,000 hours per year which translates to consuming an average of approximately 4.2 gallons of diesel fuel per hour per workover rig.

CARB's off-road simulation model projected from the 2010 population of workover rigs in California to be approximately 638⁷, with approximately 68 projected to operate in Los Angeles, Orange, Riverside and San Bernardino counties in 2015⁸. If all 68 workover rigs operate for 3,000 hours in 2015, the estimated diesel fuel consumption would be approximately 856,800 gallons in 2015. By applying diesel emission factors, the projected baseline emissions from diesel fuel consumption from 68 workover rigs operating in 2015 in Los Angeles, Orange, Riverside and San Bernardino counties can be calculated. Similarly, based on the amount of fuel consumption, the baseline amount of diesel fuel trucks utilized and the associated emissions can also be calculated. Table 2-2 contains a summary of the baseline emissions of diesel fuel consumption from the operation of workover rigs and the fuel truck deliveries.

Table 2-2
Baseline Emissions from Diesel-Fueled Workover Rigs Operated
in Los Angeles, Orange, Riverside, and San Bernardino Counties

Activity	VOC (lb/day)	CO (lb/day)	NOx (lb/day)	SOx (lb/day)	PM10 (lb/day)	PM2.5 (lb/day)	CO ₂ eq ¹ (MT/yr)
Operation of 68 Workover Rigs (Baseline)	25.47	273.35	1,029.10	16.24	18.43	16.95	4,033.08
Transport emissions from Delivering Diesel Fuel (387,748 gallons = Baseline)	0.36	1.53	4.25	0.01	0.21	0.18	4.36
TOTAL	25.83	271.82	1,033.35	16.25	18.64	17.13	4,037.44

¹ 1 metric ton = 2,205 pounds

⁵ CARB, Central California Ozone Study II, Emission Inventory Project, Attachment L, January 15, 2003. http://www.arb.ca.gov/ei/areasrc/ccosmeth/att_1_fuel_combustion_for_petroleum_production.doc&sa=U&ei=mHUoVeGYJo7aoATo3YD4CA&ved=0CAUQFjAC&client=internal-uds-cse&usg=AFQjCNHh2Bt0d7LDdY4Y3s8JrTVwWud-Hg

⁶ CARB, Central California Ozone Study II, Emission Inventory Project, Attachment L spreadsheet calculations, December 10, 2002. <http://www.arb.ca.gov/ei/areasrc/ccosmethods.htm>

⁷ CARB, Staff Report: Initial Statement of Reasons for Proposed Rulemaking, Proposed Amendments to the Regulation for In-Use Off-Road Diesel-Fueled Fleets and the Off-Road Large Spark-Ignition Fleet Requirements, Appendix D, Table D-5, page D-7, October 2010.

⁸ CARB's Almanac Emission Projection Data by EIC (published in 2009).

PAR 1148.1 contains a requirement for an owner/operator of a facility that is located within 1,500 feet of a sensitive receptor to prepare and submit for approval an Odor Mitigation Plan in the event that the facility either receives one Rule 402 NOV or three confirmed odor events within six consecutive months. An element of the Odor Mitigation Plan requires the use of a workover rig that is either powered by electricity or by an alternative fuel (e.g., natural gas or propane). Past compliance complaint data for Rule 1148.1 facilities has shown that only three facilities experienced the potential equivalent of more than three or more confirmed odor events or received a Rule 402 NOV. Thus, if PAR 1148.1 is implemented, it is possible that there could be as many as three Odor Mitigation Plans that would require the use of three electric or alternative fuel workover rigs in lieu of diesel-fueled workover rigs. By applying this potential reduction in use of three diesel workover rigs, the 2015 baseline for diesel-fueled workover rigs would be slightly reduced. Thus, a small reduction in diesel-based combustion emissions would be expected from the replacement of three diesel-fueled workover rigs with non-diesel workover rigs at the three facilities that would be subject to an Odor Mitigation Plan. Further, the baseline amount of diesel fuel needed to operate the remaining workover rigs would be reduced by 37,800 gallons per year. Tanker trucks carrying diesel fuel typically carry about 8,500 gallons per load. Thus, an annual reduction of diesel fuel used for workover rigs of 37,800 gallons would mean that there would be five less trucks per year delivering diesel fuel in the region which in turn would reduce the amount of diesel fuel to operate the truck and the associated combustion emissions. However, depending on the source of fuel obtained for the alternative fuel workover rigs, these reductions in delivery trips and the associated combustion emissions could be offset by delivery trips of alternative fuels to supply the non-diesel workover rigs. Table 2-3 contains a summary of what the adjusted baseline emissions could be after PAR 1148.1 is implemented (e.g., three less diesel-fueled workover rigs) and Table 2-4 contains a summary of the net emissions reductions between the current baseline and the adjusted baseline after PAR 1148.1 is implemented. Appendix B contains the spreadsheets for the proposed project with the results based on the assumptions used by the SCAQMD staff for this analysis.

Table 2-3
Emissions from Diesel-Fueled Workover Rigs Operated in Los Angeles, Orange, Riverside, and San Bernardino Counties After Implementing PAR 1148.1

Activity	VOC (lbs/day)	CO (lbs/day)	NOx (lbs/day)	SOx (lbs/day)	PM10 (lbs/day)	PM2.5 (lbs/day)	CO ₂ eq ¹ (MT/yr)
Operation of 65 Workover Rigs (Reduction due to PAR 1148.1)	24.35	261.29	983.70	15.52	17.61	16.21	3,855.15
Transport emissions from Reduced Deliveries of Diesel Fuel (349,948 gallons due to PAR 1148.1)	0.36	1.53	4.25	0.01	0.21	0.18	3.93
TOTAL	24.71	262.82	987.95	15.53	17.82	16.39	3,859.08

¹ 1 metric ton = 2,205 pounds

Table 2-4
Net Difference Between Baseline and PAR 1148.1 Emissions from Diesel-Fueled Workover Rigs Operated in Los Angeles, Orange, Riverside, and San Bernardino Counties

Activity	VOC (lbs/day)	CO (lbs/day)	NO _x (lbs/day)	SO _x (lbs/day)	PM10 (lbs/day)	PM2.5 (lbs/day)	CO ₂ eq ¹ (MT/yr)
Baseline	25.83	271.82	1,033.35	16.25	18.64	17.13	4,037.44
PAR 1148.1	24.71	262.82	987.95	15.53	17.82	16.39	3,859.08
NET DIFFERENCE²	(1.12)	(9.00)	(45.40)	(0.72)	(0.82)	(0.74)	(178.36)
SIGNIFICANCE THRESHOLD	55	550	55	150	150	55	10,000
SIGNIFICANT?	NO	NO	NO	NO	NO	NO	NO

¹ 1 metric ton = 2,205 pounds

² () means a reduction

While there currently are no known electrically powered or alternative fuel workover rigs available at the time of publication of this document, if they become available, additional infrastructure to support electric and alternative fuel workover rigs may be needed for any facility that becomes subject to an Odor Mitigation Plan. Secondary impacts to air quality could occur from increased electricity usage for electric workover rigs and from increased production and use of alternative fuels (e.g., source of natural gas or propane) for non-diesel workover rigs.

For example, an increase in the use of electric workover rigs would require the generation of additional electricity at each affected oil and gas facility or at the grid. Many oil and gas facilities produce their own electricity using generators, fuel cells, cogeneration units, or combined heat and power units by burning their own source of fuel onsite (e.g., field gas or treated natural gas). If an electric workover rig is developed and becomes commercially available, some facilities may be able to tie into their existing electricity supply to provide power to an electric workover rig. However, since workover rigs move around within an oil and gas facility from well to well, electricity may not be available near every well location, so it may not be practical or feasible to employ an electric workover rig in all cases since the availability of electricity generated by an oil and gas facility and its proximity from wells will vary from facility to facility. For this reason, facility operators will need to determine on a case-by-case basis whether an electric workover rig could be tied-in to existing electricity supplies.

If existing electricity supplies are insufficient, then facility operators could choose to install electricity generating equipment in order to support the operation of an electric workover rig. However, electricity generation within the district is subject to applicable SCAQMD rules and permitting requirements such as Rule 1134 – Emissions of Oxides of Nitrogen from Stationary Gas Turbines, Rule 1135 – Emissions of Oxides of Nitrogen from Stationary Gas Turbines, and Regulation XX – RECLAIM. These rules and regulations focus on regulating NO_x emissions (the primary pollutant of concern from natural gas combustion to generate electricity) from existing power generating equipment. Although emissions from electric utilities in the district are capped under the RECLAIM program (and under Rule 1135), any new power generating facilities in the district to accommodate increased electricity demand would be subject to SCAQMD Regulation XIII – New Source Review, or Rule 2005 which requires installation of BACT, air quality modeling would be required to demonstrate that new emissions would not result in significant ambient air quality impacts (so there would be no localized impacts), and emission offsets (through either emission reduction credits or RECLAIM trading credits) before

permits could be issued. Emission offsets for NO_x emissions, for example, would be at a ratio of 1.2 to 1.0, or 1.2 pounds of emission reduction credits required for every new pound of NO_x emitted from the power generating source (or a ratio of 1.0 to 1.0 for RECLAIM sources). A separate CEQA evaluation would be required to evaluate the effects of any proposal to install new electricity generating equipment. Further, emissions from the combustion of diesel fuel are generally the emissions that would be reduced when electrification is proposed and replaced with emissions from the combustion of natural gas (as would generally occur from electricity generating equipment and facilities in the district). Emissions from diesel combustion are an order of magnitude higher than emissions from the combustion of natural gas. So overall, criteria pollutant and GHG emissions would be expected to decrease.

While there could be an increase in emissions from generators that may be used to charge batteries in remote locations within an oil and gas facility where no grounded power source is available, generators are also regulated sources in the district. Existing SCAQMD regulations that apply to generators and emergency generators would apply to generators used to charge batteries. New generators would be subject to Regulation XIII or Rule 2005. Existing generators are subject to SCAQMD Rule 1110.2 – Emissions from Gaseous and Liquid Fueled Internal Combustion Engines. Rule 1110.2 does not establish a facility emission cap, but establishes a stringent NO_x emission rate. Truly portable equipment may also be regulated under the state registration program, which establishes emission limitations on NO_x, VOCs, and CO.

The SCAQMD does not regulate electricity generating facilities outside of the district so the rules and regulations discussed above do not apply to electricity generating facilities outside of the district. In 2010, about 71 percent of the electricity used in California was generated in-state and about 29 percent was imported (see Section 3.2.3). While these electricity generating facilities would not be subject to SCAQMD rules and regulations, they would be subject to the rules and regulations of the state or local air pollution control district in which they are located and the U.S. EPA. These agencies also have established New Source Review regulations for new and modified facilities that generally require compliance with BACT or lowest achievable emission reduction technology. Most in-state electricity generating plants use natural gas, which provides a relatively clean source of fuel (as compared to coal- or diesel-fueled plants). The emissions from these power plants would also be controlled by local, state, and federal rules and regulations, minimizing overall air emissions.

Power plants in California provided approximately 71 percent of the total in-state electricity demand in 2010 of which 15 percent came from renewable sources such as biomass, geothermal, small hydro, solar, and wind, which are clean sources of energy. These sources of electricity generate little, if any, air emissions. Increased use of these and other clean technologies will continue to minimize emissions from the generation of electricity. State law requires increasing the use of renewable energy to 20 percent by 2017 and to 33 percent by 2020.

One gallon of diesel is equivalent to 0.027 kWh of electricity, so utilizing 12,600 gallons of diesel to operate one 1,000 hp workover rig for 3,000 hours per year would be equivalent to using approximately 340 kilowatt-hours (kWh) of electricity⁹ in one electric workover rig. Thus, if three diesel-fueled workover rigs are replaced with three electric workover rigs, the total

⁹ California Energy Commission, Energy Almanac, Gasoline Gallon Equivalents (GGE) for Alternative Fuels, accessed April 24, 2015. <http://www.energyalmanac.ca.gov/transportation/gge.html>

electricity demand would be approximately 1,021 kWh. Electricity impacts from energy demand are analyzed and found in the energy section of this chapter.

Although the secondary air quality impacts from construction of infrastructure projects cannot be quantified at this time due to speculation, construction to install an electrical distribution network within an oil and gas facility could potentially require an intensive effort and substantial expense that may also incur short-term significant air quality impacts depending on the extent of construction and the location(s) where the electric workover rigs would be needed. If this ends up being the case, an affected facility operator may explore utilizing alternative fuel workover rigs in lieu of an electric workover rig if it is more economical and convenient. As such, this incremental increase in electricity demand is not expected to create significant adverse air quality impacts compared to emission reductions that would occur from utilizing non-diesel workover rigs.

If an electric tie-in is not feasible, then facility operators may explore utilizing alternative fuel workover rigs, if available. To estimate what the fuel use may be for one alternative fueled workover rig, one gallon of diesel fuel is equivalent to using approximately 0.558 gallons of liquefied natural gas (LNG), 0.729 therm of compressed natural gas (CNG), and 0.653 gallons of liquefied petroleum gas/propane (LPG)⁸. Thus, replacing one diesel workover rig with an alternative fuel workover rig, would utilize approximately 7,031 gallons per year of LNG, or 9,185 therms per year of CNG, or 8,228 gallons per year of LPG. Similarly, if three diesel-fueled workover rigs are replaced with three alternative fuel workover rigs, the total demand would be approximately 21,092 gallons per year of LNG, or 27,556 therms per year of CNG, or 24,683 gallons per year of LPG.

To understand what the air quality and GHG impacts would be from burning these alternative fuels in workover rigs, the peak daily emissions from operating three workover rigs for each alternative fuel was estimated, the alternative fuel with the highest values were compared to the reduction in peak daily emissions due to reducing diesel fuel use. These values are summarized in Table 2-5.

Table 2-5
Estimated Emissions from Alternative Fuel Workover Rigs
Based on Diesel Fuel Usage Equivalency

Activity	VOC (lbs/day)	CO (lbs/day)	NO _x (lbs/day)	SO _x (lbs/day)	PM10 (lbs/day)	PM2.5 (lbs/day)	CO ₂ eq ¹ (MT/yr)
Operation of 3 LNG Workover Rigs	0.44	N/A	1.38	N/A	0.07	0.06	0.15
Operation of 3 CNG Workover Rigs	4.25	N/A	13.45	N/A	0.67	0.62	1.5
Operation of 3 LPG Workover Rigs	0.51	N/A	1.61	N/A	0.08	0.07	0.18
PEAK DAILY INCREASE FROM ALTERNATIVE FUEL (CNG)	4.25	N/A	13.45	N/A	0.67	0.62	1.5
PEAK DAILY DECREASE FROM REDUCING DIESEL FUEL²	(1.12)	(9.00)	(45.40)	(0.72)	(0.82)	(0.74)	(178.36)
NET DIFFERENCE²	3.13	(9.00)	(31.95)	(0.72)	(0.15)	(0.12)	(176.86)
SIGNIFICANCE THRESHOLD	55	550	55	150	150	55	10,000
SIGNIFICANT?	NO	NO	NO	NO	NO	NO	NO

N/A = Not calculated due to lack of available emission factors

¹ 1 metric ton = 2,205 pounds

² () means a reduction

Subsequent to the release of the Draft EA, industry commented that an additional vacuum truck may be needed to pump out a well cellar on the same day if it has been verified as a source of odors. In addition, if the operation of a vacuum truck occurs at night, temporary portable lighting equipment may be needed, if lighting does not already exist at or near the affected well cellar, to provide sufficient lighting to safely direct the vacuum hose to the affected location. If temporary portable lighting is required, then a diesel generator set may be needed to supply the power to the lighting equipment.

As explained in Section I - Aesthetics, past complaint data for Rule 1148.1 facilities has shown that only three facilities experienced the potential equivalent of three or more confirmed odor events or received a Rule 402 NOV. Thus, in the event that three separate facilities would each need to have one additional vacuum truck visit the premises to pump out a well cellar, and if circumstances exist that these activities would occur at night, then three additional diesel generator sets to power three portable lighting units could be needed on a peak day. While these circumstances could create a potential for additional nighttime lighting, the lighting would only be needed for as long as each vacuum truck is operating. Vacuum trucks have pumps that can suction up to 4,000 cubic feet per minute of material, so depending on the volume of material needed to be pumped out of a well cellar, the vacuum truck and any needed lighting would likely be needed from five minutes to one hour. However, to be conservative, the analysis assumes that three vacuum trucks and three generator sets to support lighting equipment would each operate for two hours on a peak day.

Table 2-6 contains a summary of what the emissions could be in the event three vacuum trucks and three generator sets operate on a peak day. Appendix B contains the spreadsheets for the proposed project with the results based on the assumptions used by the SCAQMD staff for this analysis.

Table 2-6
Estimated Emissions from Vacuum Trucks and Generator Sets

<u>Activity</u>	<u>VOC (lbs/day)</u>	<u>CO (lbs/day)</u>	<u>NO_x (lbs/day)</u>	<u>SO_x (lbs/day)</u>	<u>PM10 (lbs/day)</u>	<u>PM2.5 (lbs/day)</u>	<u>CO₂eq¹ (MT/yr)</u>
<u>Operation of 3 Vacuum Trucks</u>	<u>0.27</u>	<u>1.15</u>	<u>3.18</u>	<u>0.01</u>	<u>0.16</u>	<u>0.13</u>	<u>0.29</u>
<u>Operation of 3 Generator Sets</u>	<u>0.01</u>	<u>0.05</u>	<u>0.13</u>	<u>0.00</u>	<u>0.01</u>	<u>0.01</u>	<u>0.01</u>
<u>PEAK DAILY INCREASE</u>	<u>0.28</u>	<u>1.20</u>	<u>3.31</u>	<u>0.01</u>	<u>0.17</u>	<u>0.14</u>	<u>0.30</u>
<u>SIGNIFICANCE THRESHOLD</u>	<u>55</u>	<u>550</u>	<u>55</u>	<u>150</u>	<u>150</u>	<u>55</u>	<u>10,000</u>
<u>SIGNIFICANT?</u>	<u>NO</u>	<u>NO</u>	<u>NO</u>	<u>NO</u>	<u>NO</u>	<u>NO</u>	<u>NO</u>

¹ 1 metric ton = 2,205 pounds

Finally, in response to industry's comment that some facilities may need to install monitoring equipment, the analysis assumes a total of 24 facilities may be affected and that five facilities on a peak day may undergo light construction activities for one day per facility. For each affected facility, the construction activities would be expected to involve a work crew of three to install the monitoring equipment and make the electrical connections and one delivery truck to deliver supplies for the workers. Table 2-7 contains a summary of what the construction emissions would be in the event that five facilities install five monitoring systems on a peak day. Table 2-8 contains a summary of what the GHG construction emissions would be in the event that all 24 facilities have 24 monitoring systems installed. Appendix B contains the spreadsheets for the proposed project with the results based on the assumptions used by the SCAQMD staff for this analysis.

Table 2-7
Estimated Construction Emissions from Installing Monitoring Systems on a Peak Day

<u>Activity</u>	<u>VOC (lbs/day)</u>	<u>CO (lbs/day)</u>	<u>NO_x (lbs/day)</u>	<u>SO_x (lbs/day)</u>	<u>PM10 (lbs/day)</u>	<u>PM2.5 (lbs/day)</u>
<u>5 facilities each with 3 Construction Worker Vehicles</u>	<u>0.30</u>	<u>2.75</u>	<u>0.25</u>	<u>0.00</u>	<u>0.04</u>	<u>0.03</u>
<u>5 facilities each with 1 delivery truck</u>	<u>0.45</u>	<u>2.90</u>	<u>3.20</u>	<u>0.00</u>	<u>0.13</u>	<u>0.10</u>
<u>PEAK DAILY INCREASE</u>	<u>0.75</u>	<u>5.65</u>	<u>3.45</u>	<u>0.00</u>	<u>0.17</u>	<u>0.13</u>
<u>SIGNIFICANCE THRESHOLD</u>	<u>75</u>	<u>550</u>	<u>100</u>	<u>150</u>	<u>150</u>	<u>55</u>
<u>SIGNIFICANT?</u>	<u>NO</u>	<u>NO</u>	<u>NO</u>	<u>NO</u>	<u>NO</u>	<u>NO</u>

¹ 1 metric ton = 2,205 pounds

Table 2-8
Estimated GHG Construction Emissions from Installing Monitoring Systems
at 24 Facilities

<u>Activity</u>	<u>CO₂eq^{1,2}</u> <u>(MT/yr)</u>
<u>24 facilities each with 3 Construction Worker Vehicles</u>	<u>0.04</u>
<u>24 facilities each with 1 delivery truck</u>	<u>0.05</u>
<u>TOTAL PROJECT INCREASE</u>	<u>0.09</u>
<u>SIGNIFICANCE THRESHOLD</u>	<u>10,000</u>
<u>SIGNIFICANT?</u>	<u>NO</u>

1 1 metric ton = 2,205 pounds

2 GHGs from temporary construction activities are amortized over 30 years

In conclusion, less than significant adverse operational impacts to air quality and GHGs are expected from a slight increased demand for electricity to operate three electric workover rigs or from a slight increased demand in the use of alternative fuels to operate three alternative fuel workover rigs. In addition, less than significant adverse operational impacts to air quality and GHGs are also expected from operating vacuum trucks and generator sets on a peak day. Finally, less than significant adverse construction impacts to air quality and GHGs are also expected from constructing five monitoring systems on a peak day. Further, since no significant impacts were identified for this issue, no mitigation measures are necessary or required.

III. c) Less Than Significant Impact. As the Lead Agency under CEQA, the SCAQMD uses the same significance thresholds for project-specific and cumulative impacts for all environmental topics analyzed. Projects that exceed the project-specific significance thresholds are considered by the SCAQMD to be cumulatively considerable; conversely, projects that do not exceed the project-specific thresholds are generally not considered to be cumulatively significant¹⁰.

With respect to air quality, no cumulative impacts are anticipated from the proposed project. Emissions resulting with implementation of the proposed project will be below the SCAQMD's thresholds for all criteria air pollutants. Although the proposed project may contribute additional air pollutants to an existing nonattainment area, these increases are below the SCAQMD air quality significance criteria. Therefore, the proposed project will not cause a significant environmental effect, nor result in an unavoidable cumulatively considerable contribution to an air quality impact¹¹.

Emissions relative to GHG emissions from the proposed project will also be below the SCAQMD's cumulatively considerable significance threshold for GHGs. Thus, no significant adverse impacts are expected, either individually or cumulatively.

¹⁰ SCAQMD Cumulative Impacts Working Group White Paper on Potential Control Strategies to Address Cumulative Impacts From Air Pollution, August 2003, Appendix D, Cumulative Impact Analysis Requirements Pursuant to CEQA, at D-3. <http://www.aqmd.gov/hb/2003/030929a.html>

¹¹ Refer also to *Citizens for Responsible Equitable Environmental Development v. City of Chula Vista* (2011) 197 Cal. App. 4th 327, 334 and *Rialto Citizens for Responsible Growth v. City of Rialto* (2102) 208 Cal. App. 4th 899 pertaining to the determination of significant impacts and whether a project is considered to be cumulatively considerable.

Consistent with CEQA Guidelines §15064.7, a “lead agency may rely on a threshold of significance standard to determine whether a project will cause a significant environmental effect.” Further, CEQA Guidelines §15064 (h)(1) requires that a “lead agency consider whether the cumulative impact is significant and whether the effects of the project are cumulatively considerable.” Where a lead agency is examining a project with an incremental effect that is not cumulatively considerable, a lead agency need not consider the effect significant, but must briefly describe the basis for concluding that the incremental effect is not cumulatively considerable. As stated above, projects that exceed the project-specific significance thresholds are considered by the SCAQMD to be cumulatively considerable; projects that do not exceed the project-specific significance thresholds are not considered to be cumulatively considerable. Therefore the proposed project’s contribution to air quality and GHGs are not cumulatively considerable, and thus not significant. This conclusion is consistent with CEQA Guidelines §15064 (h)(4), which states, “The mere existence of cumulative impacts caused by other projects alone shall not constitute substantial evidence that the proposed project’s incremental effects are cumulatively considerable.”

III. d) No-Less Than Significant Impact. Affected facilities are not expected to increase exposure to sensitive receptors with substantial pollutant concentrations from the implementation of PAR 1148.1 for the following reasons: 1) PAR 1148.1 would not change any of the VOC/TOC/TAC reduction aspects ~~in~~ currently in the rule but instead would improve upon compliance activities in order to minimize the potential for nuisance and odor impacts to local residents and sensitive receptors that are often located nearby from ongoing operations that do not include drilling; 2) the use of non-diesel workover rigs will be required for any facility that is located within 1,500 feet of a sensitive receptor and that is required to prepare and submit for approval an Odor Mitigation Plan in the event that the facility either receives one Rule 402 NOV or three confirmed odor events within six consecutive months; and, 3) the use of non-diesel workover rigs would actually reduce the amount of emissions of criteria pollutants, diesel PM (a TAC) and GHGs for facilities located the closest to sensitive receptors when compared to current baseline emissions from workover rig activities (see Table 2-4). In addition, while the potential increase in the use of vacuum trucks and generator sets rely on diesel fuel for operation, the emission calculations for a peak day as summarized in Table 2-6 show less than significant increases in operational emissions. Similarly, while there may be a need for some facilities to install monitoring equipment, the emission calculations as summarized in Tables 2-7 and 2-8 show less than significant increases in construction emissions.

Therefore, no significant adverse air quality impacts to sensitive receptors are expected from implementing PAR 1148.1. Since no significant impacts were identified for this issue, no mitigation measures are necessary or required.

III. e) No Impact. Historically, the SCAQMD has enforced odor nuisance complaints through SCAQMD Rule 402 - Nuisance. Sulfur compounds such as hydrogen sulfide (H₂S) and mercaptans are the primary sources of odors from existing oil and gas operations. PAR 1148.1 would further assist in minimizing emissions to the atmosphere by improving upon compliance and monitoring requirements to minimize the potential for odors. For example, the use of non-diesel workover rigs will be required for any facility that is located within 1,500 feet of a sensitive receptor and that is required to prepare and submit for approval an Odor Mitigation Plan in the event that the facility either receives one Rule 402 NOV or three confirmed odor events within six consecutive months. Currently, workover rigs operate with diesel fuel which is

required to have a low sulfur content (e.g., 15 ppm by weight or less) in accordance with SCAQMD Rule 431.2 – Sulfur Content of Liquid Fuels. Because the operation of workover rigs, vacuum trucks, and generator sets will occur within the confines of existing affected facilities, sufficient dispersion of diesel emissions over distance generally occurs such that odors associated with diesel emissions may be discernable to offsite receptors, depending on the location of the equipment workover rig and its distance relative to the nearest offsite receptor. Further, the use of construction worker vehicles and delivery trucks as part of construction activities associated with installing monitoring equipment will not be idling at the affected facilities once onsite, so odors from these vehicles would not be expected. However, in the event that an Odor Mitigation Plan is required, implementation of PAR 1148.1 may cause a limited replacement of diesel workover rigs with non-diesel workover rigs, when they become available, such that odors associated with diesel combustion will be reduced from baseline conditions whenever and wherever a non-diesel workover rig is employed. Further, the operation of non-diesel workover rigs is not expected to be a substantial source of odors because non-diesel workover rigs would either rely on electricity or be directly fueled by cleaner, less odorous fuels such as natural gas or propane, when compared to diesel. Finally, in the event that a vacuum truck is required to pump out a well cellar and even if these operations require nighttime lighting necessitating the use of a generator set at an affected facility, an overall improvement in odors would be expected because the need for the pumping out of a well cellar would be triggered because it has been verified as a source of odors. Thus, the proposed project is not expected to create significant adverse objectionable odors. Since no significant impacts were identified for this issue, no mitigation measures are necessary or required.

III. f) No Impact. Upon implementation, the proposed project would be required to comply with all applicable SCAQMD, CARB, and USEPA rules and regulations. Thus, the proposed project would not be expected to diminish an existing air quality rule or future compliance requirements. Further, by amending Rule 1148.1 as proposed, the proposed project would enhance existing air pollution control rules that assist the SCAQMD in its efforts to attain and maintain with a margin of safety the state and federal ambient air quality standards for ozone and PM_{2.5} because VOCs are considered to be precursor pollutants that contribute to the formation of ozone and PM_{2.5}. Accordingly, the proposed project would not diminish any air quality rules or regulations. Since no significant impacts were identified for this issue, no mitigation measures are necessary or required.

III. g) & h) Less Than Significant Impact. Changes in global climate patterns have been associated with global warming, an average increase in the temperature of the atmosphere near the Earth's surface, recently attributed to accumulation of GHG emissions in the atmosphere. GHGs trap heat in the atmosphere, which in turn heats the surface of the Earth. Some GHGs occur naturally and are emitted to the atmosphere through natural processes, while others are created and emitted solely through human activities. The emission of GHGs through the combustion of fossil fuels (i.e., fuels containing carbon) in conjunction with other human activities, appears to be closely associated with global warming¹². State law defines GHG to include the following: carbon dioxide (CO₂), methane (CH₄), nitrous oxide (N₂O), hydrofluorocarbons (HFCs), perfluorocarbons (PFCs), and sulfur hexafluoride (SF₆) (HSC

¹² Solomon, S., D. Qin, M. Manning, Z. Chen, M. Marquis, K.B. Averyt, M. Tignor and H.L. Miller (eds.). 2007. Contribution of Working Group I to the Fourth Assessment Report of the Intergovernmental Panel on Climate Change, 2007. Cambridge University Press. http://www.ipcc.ch/publications_and_data/ar4/wg1/en/contents.html

§38505(g)). The most common GHG that results from human activity is CO₂, followed by CH₄ and N₂O.

GHGs and other global warming pollutants are perceived as solely global in their impacts in that that increasing emissions anywhere in the world contributes to climate change anywhere in the world. However, this perception may not be completely correct. A study conducted on the health impacts of CO₂ “domes” that form over urban areas concluded that they cause increases in local temperatures and local criteria pollutants, which have adverse health effects¹³.

The analysis of GHGs is a different analysis than the analysis of criteria pollutants for the following reasons. For criteria pollutants, the significance thresholds are based on daily emissions because attainment or non-attainment is primarily based on daily exceedances of applicable ambient air quality standards. Further, several ambient air quality standards are based on relatively short-term exposure effects on human health (e.g., one-hour and eight-hour standards). Since the half-life of CO₂ is approximately 100 years, for example, the effects of GHGs occur over a longer term which means they affect the global climate over a relatively long time frame. As a result, the SCAQMD’s current position is to evaluate the effects of GHGs over a longer timeframe than a single day (e.g., annual emissions). GHG emissions are typically considered to be cumulative impacts because they contribute to global climate effects. GHG emission impacts from implementing the proposed project were calculated at the project-specific level. For example, installation and subsequent operation of compressor and steam ejector technology has the potential to increase the electricity, fuel, and water use which will in turn increase CO₂ emissions.

On December 5, 2008, the SCAQMD adopted an interim CEQA GHG Significance Threshold for projects where SCAQMD is the lead agency (SCAQMD, 2008). This interim threshold is set at 10,000 metric tons (MT) of CO₂ equivalent emissions (CO₂eq) per year. Projects with incremental increases below this threshold will not be cumulatively considerable.

As discussed earlier in Sections b) and c) of this topic area, the analysis shows that there may be a slight reduction in GHG emissions from the combustion of diesel fuel in workover rig engines in the event that an Odor Mitigation Plan requiring the use of a non-diesel workover rig occurs. However, the combustion of natural gas or propane in workover rigs will generate GHG emissions but the GHG emissions generated will be lower because the CO₂eq emission factors for natural gas and propane are much lower than the CO₂eq emission factors for diesel. Nonetheless, with a reduction in diesel-fueled workover rigs, a slight, overall reduction in GHG emissions would be expected at any facility that would be required to have an Odor Mitigation Plan and to utilize a non-diesel workover rig as part of plan implementation.

Specifically, as summarized in Table 2-4, the utilization of up to three non-diesel workover rigs would reduce GHGs generated from diesel combustion by approximately 178 MT/yr of CO₂eq emissions when compared to the existing setting. As shown in Table 2-5, this decrease would be offset by slight increases in GHGs from utilizing alternative fuels in three workover rigs by the following amounts: 0.15 MT/yr CO₂eq for LNG fuel; 0.50 MT/yr CO₂eq for CNG fuel; and, 0.18 MT/yr CO₂eq for LPG fuel. Thus, despite these slight increases, overall a net reduction in

¹³ Jacobsen, Mark Z. “Enhancement of Local Air Pollution by Urban CO₂ Domes,” Environmental Science and Technology, as describe in Stanford University press release on March 16, 2010 available at: <http://news.stanford.edu/news/2010/march/urban-carbon-domes-031610.html>.

GHG emissions would be expected from utilizing alternative fuel workover rigs in lieu of diesel fuel workover rigs.

The analysis mainly focuses on directly emitted CO₂ because this is the primary GHG pollutant emitted during the combustion process and is the GHG pollutant for which emission factors are most readily available. CO₂eq data derived from CO₂ emissions reported specific to workover rigs was provided by CARB. In addition, CH₄ and N₂O emissions were also estimated and included in the overall GHG calculations. No other GHGs are expected to be emitted because the proposed project does not affect equipment or operations that have the potential to emit other non-fuel combustion generated GHGs such as SF₆, HFCs or PFCs. Appendix B contains the spreadsheets for the proposed project with the results based on the assumptions used by the SCAQMD staff for this analysis.

While implementing the proposed project could potentially achieve a reduction in GHG emissions for any facility that becomes subject to an Odor Mitigation Plan, in the event that more than three non-diesel workover rigs are employed due to multiple Odor Mitigation Plans, there potentially could be more GHG reductions. In the event that vacuum trucks and generator sets are needed to pump out well cellars that have been verified as a source of odors, the GHG emission calculations during operation, as summarized in Table 2-6, show a very slight, less than significant increase of 0.30 MT/year of GHGs. Further, as summarized in Table 2-8, if 24 facilities have monitoring systems installed, the amortized GHG emission calculations for construction show a less than significant increase of 0.09 MT/year of GHGs. Lastly, PAR 1148.1 is not subject to a GHG reduction plan. Thus, implementation of PAR 1148.1 would not conflict with an applicable plan, policy or regulation adopted for the purpose of reducing GHG emissions.

Thus, as shown in Tables 2-5, 2-6, and 2-8 the SCAQMD's GHG significance threshold for industrial sources will not be exceeded. For this reason, implementing the proposed project is not expected to generate significant adverse cumulative GHG air quality impacts.

Conclusion

Based upon these considerations, significant air quality and GHG emissions impacts are not expected from implementing PAR 1148.1. Since no significant air quality and GHG emissions impacts were identified, no mitigation measures are necessary or required.

	Potentially Significant Impact	Less Than Significant With Mitigation	Less Than Significant Impact	No Impact
IV. BIOLOGICAL RESOURCES.				
Would the project:				
a) Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c) Have a substantial adverse effect on federally protected wetlands as defined by §404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d) Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
e) Conflicting with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
f) Conflict with the provisions of an adopted Habitat Conservation plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Significance Criteria

Impacts on biological resources will be considered significant if any of the following criteria apply:

- The project results in a loss of plant communities or animal habitat considered to be rare, threatened or endangered by federal, state or local agencies.
- The project interferes substantially with the movement of any resident or migratory wildlife species.
- The project adversely affects aquatic communities through construction or operation of the project.

Discussion

IV. a), b), c), & d) No Impact. PAR 1148.1 would only affect compliance activities at existing oil and gas production facilities which have already been greatly disturbed. In general, these areas currently do not typically support riparian habitat, federally protected wetlands, or migratory corridors. Additionally, special status plants, animals, or natural communities are not expected to be found in close proximity to the affected facilities. Areas immediately around the oil and gas production wells subject to PAR 1148.1 are expected to be devoid of all biological activity for safety and fire prevention reasons. Therefore, the proposed project would have no direct or indirect impacts that could adversely affect plant or animal species or the habitats on which they rely in the SCAQMD's jurisdiction. The current and expected future land use development to accommodate population growth is primarily due to economic considerations or local government planning decisions. A conclusion in the Program Environmental Impact Report (EIR) for the 2012 AQMP was that population growth in the region would have greater adverse effects on plant species and wildlife dispersal or migration corridors in the basin than SCAQMD regulatory activities, (e.g., air quality control measures or regulations). The current and expected future land use development to accommodate population growth is primarily due to economic considerations or local government planning decisions.

IV. e) & f) No Impact. The proposed project is not envisioned to conflict with local policies or ordinances protecting biological resources or local, regional, or state conservation plans. Land use and other planning considerations are determined by local governments and no land use or planning requirements would be altered by the proposed project. Additionally, the proposed project would not conflict with any adopted Habitat Conservation Plan, Natural Community Conservation Plan, or any other relevant habitat conservation plan, and would not create divisions in any existing communities because all activities associated with complying with the proposed project would occur at existing facilities in previously disturbed areas which are not typically subject to Habitat or Natural Community Conservation Plans.

The SCAQMD, as the Lead Agency for the proposed project, has found that, when considering the record as a whole, there is no evidence that the proposed project would have potential for any new adverse effects on wildlife resources or the habitat upon which wildlife depends. Accordingly, based upon the preceding information, the SCAQMD has, on the basis of substantial evidence, rebutted the presumption of adverse effect contained in §753.5 (d), Title 14 of the California Code of Regulations.

Based upon these considerations, significant biological resource impacts are not expected from implementing PAR 1148.1, and thus, this topic will not be further analyzed. Since no significant biological resource impacts were identified, no mitigation measures are necessary or required.

	Potentially Significant Impact	Less Than Significant With Mitigation	Less Than Significant Impact	No Impact
V. CULTURAL RESOURCES. Would the project:				
a) Cause a substantial adverse change in the significance of a historical resource as defined in §15064.5?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Cause a substantial adverse change in the significance of an archaeological resource as defined in §15064.5?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c) Directly or indirectly destroy a unique paleontological resource, site, or feature?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d) Disturb any human remains, including those interred outside formal cemeteries?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Significance Criteria

Impacts to cultural resources will be considered significant if:

- The project results in the disturbance of a significant prehistoric or historic archaeological site or a property of historic or cultural significance to a community or ethnic or social group.
- Unique paleontological resources are present that could be disturbed by construction of the proposed project.
- The project would disturb human remains.

Discussion

V. a) No Impact. There are existing laws in place that are designed to protect and mitigate potential impacts to cultural resources. For example, CEQA Guidelines state that generally, a resource shall be considered "historically significant" if the resource meets the criteria for listing in the California Register of Historical Resources, which include the following:

- Is associated with events that have made a significant contribution to the broad patterns of California's history and cultural heritage;
- Is associated with the lives of persons important in our past;
- Embodies the distinctive characteristics of a type, period, region, or method of construction, or represents the work of an important creative individual, or possesses high artistic values;

- Has yielded or may be likely to yield information important in prehistory or history (CEQA Guidelines §15064.5).

Buildings, structures, and other potential culturally significant resources that are less than 50 years old are generally excluded from listing in the National Register of Historic Places, unless they are shown to be exceptionally important. Even if there are any oil and gas wells that are older than 50 years, they would not be considered historically significant since they would not have any of the distinctive characteristics of a type, period, region, or method of construction, or represents the work of an important creative individual, or possesses high artistic values. Further, since PAR 1148.1 is focused mainly on improving compliance to minimize odors at oil and gas production facilities, the proposed project would not require any facility modifications that would adversely impact any existing structures that would be considered historically significant, that have contributed to California history, or that pose high artistic values. Therefore, the proposed project is not expected to cause any impacts to significant historic cultural resources.

V. b), c), & d) No Impact. PAR 1148.1 would only affect compliance activities at existing oil and gas production facilities which have already been greatly disturbed due to existing oil and gas drilling activities at each affected facility. As such, PAR 1148.1 would not require the construction of new buildings or structures, increasing the floor space of existing buildings or structures, or any other construction activities that would require disturbing soil that may contain cultural resources. Further, because the compliance activities are expected to be confined within the existing footprint of these affected facilities, the proposed project is not expected to require physical changes to the environment which may disturb paleontological or archaeological resources. Furthermore, it is envisioned that these areas are already either devoid of significant cultural resources or whose cultural resources have been previously disturbed. Therefore, the proposed project has no potential to cause a substantial adverse change to a historical or archaeological resource, directly or indirectly destroy a unique paleontological resource or site or unique geologic feature, or disturb any human remains, including those interred outside a formal cemeteries. The proposed project is, therefore, not anticipated to result in any activities or promote any programs that could have a significant adverse impact on cultural resources in the district.

Based upon these considerations, significant adverse cultural resources impacts are not expected from implementing PAR 1148.1, and thus, this topic will not be further analyzed. Since no significant cultural resources impacts were identified, no mitigation measures are necessary or required.

	Potentially Significant Impact	Less Than Significant With Mitigation	Less Than Significant Impact	No Impact
VI. ENERGY. Would the project:				
a) Conflict with adopted energy conservation plans?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

	Potentially Significant Impact	Less Than Significant With Mitigation	Less Than Significant Impact	No Impact
b) Result in the need for new or substantially altered power or natural gas utility systems?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
c) Create any significant effects on local or regional energy supplies and on requirements for additional energy?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
d) Create any significant effects on peak and base period demands for electricity and other forms of energy?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
e) Comply with existing energy standards?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Significance Criteria

Impacts to energy ~~and mineral~~ resources will be considered significant if any of the following criteria are met:

- The project conflicts with adopted energy conservation plans or standards.
- The project results in substantial depletion of existing energy resource supplies.
- An increase in demand for utilities impacts the current capacities of the electric and natural gas utilities.
- The project uses non-renewable resources in a wasteful and/or inefficient manner.

Discussion

VI. a) & e) No Impact. The proposed project is not subject to any existing energy conservation plans. For any facility that is subject to PAR 1148.1 and is also subject to an energy conservation plan, it is not expected that the proposed project would affect in any way or interfere with a facility’s ability to comply with its energy conservation plan or energy standards. In addition, energy information, as it relates to the replacement of diesel workover rigs with non-diesel workover rigs operating at any facility that would be required to have an Odor Mitigation Plan, was derived as part of the air quality analysis in this chapter and is summarized in the following discussion in sections b), c) and d). The following sections conclude that the amount of energy that may be needed to accommodate non-diesel workover rig operations as part of an Odor Mitigation Plan, to operate vacuum trucks and generator sets, and to install monitoring systems at affected facilities would be less than significant. Further, since non-diesel workover rig technology does not currently exist, it is expected that when this technology is developed and becomes commercially available, the technology would be designed to comply with all applicable existing energy standards. Thus, the proposed project would not utilize non-renewable energy resources in a wasteful or inefficient manner.

VI. b), c) & d) Less Than Significant Impact. As previously explained in Section III. b) & c), in the event that a facility is required to prepare and obtain approval of an Odor Mitigation Plan, the facility operator would be required to utilize a workover rig that is either electrically powered or fueled by LNG, CNG or LPG, in lieu of diesel fuel, if available and feasible. According to CARB’s database, each workover rig consumes approximately 12,600 gallons of diesel per year for 3,000 hours of operation. Thus, if three diesel-fueled workover rigs are replaced with three non-diesel workover rigs at the three facilities that would be subject to an Odor Mitigation Plan, then a small reduction in the amount of diesel fuel needed (e.g., approximately 37,800 gallons per year) to operate these workover rigs would be expected. In addition, a slight reduction in the demand for diesel fuel will reduce the number of trucks per year delivering diesel fuel by five truck trips. Five diesel delivery trucks per year would utilize approximately 1,087 gallons of diesel fuel. Thus, the total amount of diesel fuel that would no longer be utilized if three diesel workover rigs are replaced with non-diesel workover rigs is approximately 38,897 gallons per year. Since there would be no increase in the amount of diesel fuel consumed, a reduction in the amount of diesel fuel would not be considered a significant adverse energy impact. In addition, if three electric workover rigs replace three diesel-fueled workover rigs, a slight increase in electricity would be needed but the increase would not exceed the significance threshold of one percent of electricity supply. Table 2-96 summarizes the estimated electricity usage in the event that three electric workover rigs replace three diesel-fueled workover rigs.

Table 2-96
Electricity Usage Summary

No. of Electric Workover Rigs	Instantaneous Electricity Usage (MW)	Significance Threshold: 1% of supply (MW)	Percent Increase (%)	Significant?
3	0.0003	8,362	0%	NO

The decrease in the amount of diesel fuel demand would be offset by an increase in the use of LNG, CNG or LPG depending on the type of non-diesel workover rig employed. As previously analyzed in Section III b) and c), if three diesel-fueled workover rigs are replaced with three alternative fuel workover rigs, the total demand would be approximately 21,092 gallons per year of LNG, or 27,556 therms per year of CNG, or 24,683 gallons per year of LPG as compared to a reduction in the use of diesel fuel by 37,600 gallons. In order to determine peak impacts for a worst-case analysis, Table 2-107 summarizes the estimated alternative fuel usage in the event that three diesel workover rigs are replaced by three workover rigs fueled by 100 percent of either LNG, CNG or LPG. None of the increased use of alternative fuels individually or cumulatively would exceed the significance threshold of one percent of supply. The energy calculations are shown in Appendix B of this [Final Draft EA](#).

Table 2-107
Total Projected Alternative Fuel Use

Fuel Type	Total Energy Usage per Type of Alternative Fuel		
	LNG	CNG	LPG
Projected Annual Use	21,092 gallons = 0.003 MMcf ^a	27,556 therms = 2.76 MMcf ^b	24,683 gallons
Threshold Fuel Supply	9,330 MMcf ^c	9,330 MMcf ^c	25 MMgallons ^d
% of Fuel Supply	0 %	0.03%	0.1%
Significant (Yes/No) ^e	NO	NO	NO

^a 1 cubic foot (cf) = 0.000001 million cubic feet (MMcf) = 7.481 gallons

^b 1 therm = 100 cubic feet (cf) = 0.0001 million cubic feet (MMcf)

^c Natural Gas Infrastructure Draft Staff Paper, California Energy Commission, May 2009 (CEC-200-2009-004-SD). <http://www.energy.ca.gov/2009publications/CEC-200-2009-004/CEC-200-2009-004-SD.PDF>

^d Retail Fuel Report and Data for California, California Energy Commission, August 2014.

http://energyalmanac.ca.gov/gasoline/piira_retail_survey.html

^e SCAQMD's Energy Threshold for both Fuel Use is 1% of Supply.

In the event that vacuum trucks and generator sets are needed to pump out well cellars that have been verified as a source of odors, the additional diesel fuel needed to operate this equipment is approximately 47 gallons per year. Further, if affected facilities install monitoring systems, approximately 200 gallons of diesel fuel and 108 gallons of gasoline would be needed to operate delivery haul trucks and construction worker vehicles during construction. Table 2-11 summarizes the estimated increase in diesel fuel and gasoline usage from these activities.

Table 2-11
Total Projected Fuel Use From Vacuum Trucks, Generator Sets, Delivery Trucks, and Construction Worker Vehicles

Fuel Type	Diesel	Gasoline
<u>Projected Use</u>	<u>47 gallons/year plus 200 gallons/project</u>	<u>108 gallons/project</u>
<u>Threshold Fuel Supply^a</u>	<u>1,587,000,000 gallons</u>	<u>6,579,000,000 gallons</u>
<u>% of Fuel Supply</u>	<u>0 %</u>	<u>0 %</u>
<u>Significant (Yes/No)^b</u>	<u>NO</u>	<u>NO</u>

^a 2012 California Retail Sales by County; California Energy Commission

http://energyalmanac.ca.gov/gasoline/retail_fuel_outlet_survey/retail_diesel_sales_by_county.html

http://energyalmanac.ca.gov/gasoline/retail_fuel_outlet_survey/retail_gasoline_sales_by_county.html

^b SCAQMD's Energy Threshold for both Fuel Use is 1% of Supply.

As shown in Table 2-11, the increased use of diesel fuel and gasoline would not exceed the significance threshold of one percent of supply. Since the proposed project would not exceed the SCAQMD's energy threshold of one percent of supply for electricity, ~~and~~ alternative fuel, diesel fuel and gasoline usage, implementation of PAR 1148.1 is expected to have less than significant energy impacts.

Based upon these considerations, significant energy impacts are not expected from implementing PAR 1148.1. Since no significant energy impacts were identified, no mitigation measures are necessary or required.

	Potentially Significant Impact	Less Than Significant With Mitigation	Less Than Significant Impact	No Impact
VII. GEOLOGY AND SOILS. Would the project:				
a) Expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving:	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
• Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
• Strong seismic ground shaking?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
• Seismic-related ground failure, including liquefaction?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Result in substantial soil erosion or the loss of topsoil?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c) Be located on a geologic unit or soil that is unstable or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction or collapse?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d) Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial risks to life or property?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
e) Have soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems where sewers are not available for the disposal of wastewater?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Significance Criteria

Impacts on the geological environment will be considered significant if any of the following criteria apply:

- Topographic alterations would result in significant changes, disruptions, displacement, excavation, compaction or over covering of large amounts of soil.
- Unique geological resources (paleontological resources or unique outcrops) are present that could be disturbed by the construction of the proposed project.
- Exposure of people or structures to major geologic hazards such as earthquake surface rupture, ground shaking, liquefaction or landslides.
- Secondary seismic effects could occur which could damage facility structures, e.g., liquefaction.
- Other geological hazards exist which could adversely affect the facility, e.g., landslides, mudslides.

Discussion

VII. a) No Impact. Other than the possible replacement of three diesel-fueled workover rigs with three non-diesel workover rigs, the use of vacuum trucks and generator sets for well cellar clean out, or the operation of construction worker vehicles and delivery trucks during monitoring equipment installation, no substantial physical modifications to buildings or structures are expected to occur as a result of implementing PAR 1148.1. Since workover rigs, vacuum trucks, construction worker vehicles, and delivery trucks are mobile sources that can be driven on-road and generator sets are off-road equipment, any replacement of diesel-fueled workover rigs with non-diesel workover rigs, the use of vacuum trucks and generator sets, the use of construction worker vehicles and delivery trucks would be a matter of logistics to either schedule the switch out, use the equipment, or schedule the installation of monitoring equipment at an affected facility. Thus, no heavy-duty diesel-fueled construction equipment would be required and no soils would be disturbed. Therefore, the replacement of diesel-fueled workover rigs with non-diesel workover rigs, the use of vacuum trucks and generator sets, or the use of construction worker vehicles and delivery trucks is not expected to affect geology or soils, or existing geophysical conditions at the affected facilities.

Southern California is an area of known seismic activity. Structures must be designed to comply with the Uniform Building Code Zone 4 requirements if they are located in a seismically active area. The local city or county is responsible for assuring that the existing affected facilities comply with the Uniform Building Code as part of the issuance of the building permits and can conduct inspections to ensure compliance. The Uniform Building Code is considered to be a standard safeguard against major structural failures and loss of life. The goal of the code is to provide structures that will: 1) resist minor earthquakes without damage; 2) resist moderate earthquakes without structural damage but with some non-structural damage; and, 3) resist major earthquakes without collapse but with some structural and non-structural damage.

The Uniform Building Code is considered to be a standard safeguard against major structural failures and loss of life. The Uniform Building Code bases seismic design on minimum lateral seismic forces (“ground shaking”). The Uniform Building Code requirements operate on the

principle that providing appropriate foundations, among other aspects, helps to protect buildings from failure during earthquakes. The basic formulas used for the Uniform Building Code seismic design require determination of the seismic zone and site coefficient, which represent the foundation conditions at the site. The Uniform Building Code requirements also consider liquefaction potential and establish stringent requirements for building foundations in areas potentially subject to liquefaction.

Accordingly, existing buildings and equipment at existing affected facilities are likely to conform to the Uniform Building Code and all other applicable state codes in effect at the time they were constructed. Further, as with the current use of diesel workover rigs, the use of non-diesel workover rigs at existing affected facilities to comply with the proposed project would also be expected to conform to the Uniform Building Code and all other applicable state and local building codes.

Thus, since implementation of PAR 1148.1 would be expected to affect operations at existing facilities and would not involve any additional drilling, digging or construction, the proposed project would not alter the exposure of people or property to geological hazards such as earthquakes, landslides, mudslides, ground failure, or other natural hazards. As a result, substantial exposure of people or structures to the risk of loss, injury, or death involving the rupture of an earthquake fault, seismic ground shaking, ground failure or landslides is not anticipated and will not be further analyzed.

VII. b) No Impact. Other than the possible replacement of three diesel-fueled workover rigs with three-non-diesel workover rigs, the use of vacuum trucks and generator sets, or the use of construction worker vehicles and delivery trucks as part of installing monitoring equipment, no physical modifications to buildings or structures are expected to occur as a result of implementing PAR 1148.1. Since workover rigs, vacuum trucks, construction worker vehicles, and delivery trucks are mobile sources that can be driven on-road and generator sets are off-road equipment, any replacement of diesel-fueled workover rigs with non-diesel workover rigs would be a matter of logistics to schedule the switch out, the use of vacuum trucks and generator sets during well cellar pump out, or the installation of monitoring equipment at an affected facility. Since the existing facilities are generally flat and have previously been graded and paved, no excavating or grading activities would be needed and no temporary erosion would be expected as part of implementing PAR 1148.1.

Further, wind erosion is not expected to occur to any appreciable extent, because operators of the affected facilities would be required to comply with the best available control measure (BACM) requirements of SCAQMD Rule 403 – Fugitive Dust. In general, operators must control fugitive dust through a number of soil stabilizing measures such as watering the site, using chemical soil stabilizers, revegetating inactive sites, et cetera. The proposed project would not change how operators currently comply with these requirements. Thus, since implementation of PAR 1148.1 would be expected to affect operations at existing facilities and would not involve any additional drilling, digging or construction, no unstable earth conditions or changes in geologic substructures are expected to result from implementing the proposed project.

VII. c) No Impact. As explained in Section VII. b), since no excavation, grading, or filling activities would occur at affected facilities, PAR 1148.1 would not be expected to affect the soil types present at the affected facilities in a way that would cause them to be further susceptible to

expansion or liquefaction. For the same reasons, subsidence is also not anticipated to be a problem. Further, the proposed project would not cause any new drilling or the removal of underground products (e.g., water, crude oil, et cetera) that could produce subsidence effects. While the affected facilities engage in drilling, the proposed project (e.g., amending Rule 1148.1) will not increase drilling. Additionally, the affected areas are not envisioned to be prone to landslides or have unique geologic features since the affected industrial facilities are located in areas that have been previously disturbed and where such features have already been altered or removed.

Finally, since implementation of PAR 1148.1 would be expected to affect operations at existing facilities and would not involve any additional drilling, digging or construction, the proposed project would not be expected to alter or make worse any existing potential for subsidence, liquefaction, et cetera.

VII. d) & e) No Impact. Since the proposed project would affect compliance activities at existing oil and gas facilities, it is expected that people or property would not be exposed to new impacts related to expansive soils or soils incapable of supporting water disposal. Further, typically each affected facility has some degree of existing wastewater treatment systems that would continue to be used and would be expected to be unaffected by the proposed project. Sewer systems are available to handle wastewater produced and treated by each affected facility. Each existing facility affected by the proposed project would not require installation of septic tanks or alternative wastewater disposal systems. As a result, the proposed project would not require facility operators to utilize or install new or modify existing septic systems or alternative wastewater disposal systems. Thus, since implementation of PAR 1148.1 would be expected to affect operations at existing facilities and would not involve any additional drilling, digging or construction, implementation of the proposed project would not adversely affect soils associated with a septic system or alternative wastewater disposal system.

Based upon these considerations, significant geology and soils impacts are not expected from implementing PAR 1148.1, and thus, this topic will not be further analyzed. Since no significant geology and soils impacts were identified, no mitigation measures are necessary or required.

	Potentially Significant Impact	Less Than Significant With Mitigation	Less Than Significant Impact	No Impact
VIII. HAZARDS AND HAZARDOUS MATERIALS. Would the project:				
a) Create a significant hazard to the public or the environment through the routine transport, use, and disposal of hazardous materials?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

	Potentially Significant Impact	Less Than Significant With Mitigation	Less Than Significant Impact	No Impact
b) Create a significant hazard to the public or the environment through reasonably foreseeable upset conditions involving the release of hazardous materials into the environment?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
c) Emit hazardous emissions, or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d) Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code §65962.5 and, as a result, would create a significant hazard to the public or the environment?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
e) For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public use airport or a private airstrip, would the project result in a safety hazard for people residing or working in the project area?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
f) Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
g) Expose people or structures to a significant risk of loss, injury or death involving wildland fires, including where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
h) Significantly increased fire hazard in areas with flammable materials?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

Significance Criteria

Impacts associated with hazards will be considered significant if any of the following occur:

- Non-compliance with any applicable design code or regulation.

- Non-conformance to National Fire Protection Association standards.
- Non-conformance to regulations or generally accepted industry practices related to operating policy and procedures concerning the design, construction, security, leak detection, spill containment or fire protection.
- Exposure to hazardous chemicals in concentrations equal to or greater than the Emergency Response Planning Guideline (ERPG) 2 levels.

Discussion

VIII. a), & b) Less Than Significant Impact. PAR 1148.1 would not introduce, require, or change the amount of hazardous materials: 1) routinely transported to or from the oil and gas facilities; 2) processed by the oil and gas facilities; and, 3) disposed of as hazardous waste by the oil and gas facilities. However, PAR 1148.1 may have the effect of reducing odorous emissions vented to the atmosphere, which include HAPs such as H₂S, via the enhanced compliance requirements. While the reduction of H₂S vented to the atmosphere would be beneficial for air quality and odor, because H₂S is also explosive, a reduction in H₂S emissions would lessen the current explosion hazards associated with operation activities at oil and gas facilities.

VIII. c) & e) No Impact. Compliance activities from implementing the proposed project are expected to occur within the existing confines of the affected facilities. However, some of these facilities may be located within one-quarter mile of a sensitive receptor (e.g., a school) or in close proximity to a public/private airport and are located within an airport land use plan. Nonetheless, the replacement of diesel-fueled workover rigs with non-diesel workover rigs at facilities that would be subject to an Odor Mitigation Plan, would not cause the height of the required workover rig to change since the height of the workover rig is dependent on the depth of the oil or gas well to be serviced. Similarly, oil and gas facilities currently use vacuum trucks and generator sets with low heights, so the slight increase in use of these equipment, would not alter the height profiles of these equipment. Further, the height of construction worker vehicles and delivery trucks needed for the purpose of installing monitoring equipment at affected facilities is not expected to be any taller than vehicles currently in use throughout the district. Thus, implementation of PAR 1148.1 would not interfere with plane flight paths consistent with Federal Aviation Regulation, Part 77. Such codes are designed to protect the public from hazards associated with normal operation.

Further, operation of workover rigs, vacuum trucks and generator sets at oil and gas facilities would be required to comply with all appropriate building, land use and fire codes. Finally, the implementation of PAR 1148.1 is not expected to generate significant adverse new hazardous emissions in general (see the discussions under Section III) or increase the manufacture or use of hazardous materials (see discussion VIII. a) & b) above).

Since PAR 1148.1 would not create any new hazards or increase existing hazards above the existing baseline, no significant impacts from use and potential accidental release of acutely hazardous materials, substances and wastes near sensitive receptors and public/private airports are expected to occur. Therefore, the proposed project would not be expected to result in a safety hazard for people residing or working in the area of the affected facilities even within the vicinity of a sensitive receptor or airport. Thus, PAR 1148.1 is not expected to increase or create

any new safety hazards to people working or residing in the vicinity of public/private airports or within one-quarter mile of an existing or proposed school.

VIII. d) No Impact. Government Code §65962.5 typically refers to a list of facilities that may be subject to Resource Conservation and Recovery Act (RCRA) permits. Since PAR 1148.1 would improve compliance activities applies to oil and gas activities, PAR 1148.1 is not expected to have direct impacts on facilities affected by Government Code §65962.5. However, if affected facilities are subject to Government Code §65962.5, they would still need to comply with any regulations relating to that code section. The replacement of diesel-fueled worker rigs with non-diesel workover rigs is not expected to generate increased hazardous waste above the existing baseline or interfere with existing hazardous waste management programs. Further, because the use of additional vacuum trucks and generator sets would merely expedite the removal of odorous materials from any well cellar identified as a verified odor source, no increases in the amount of hazardous waste collected and disposed of would be expected to occur. Accordingly, PAR 1148.1 is not expected to result in a new significant impact to the public or environment from sites on lists compiled pursuant to Government Code §65962.5.

Lastly, if any of the affected facilities are designated pursuant to Government Code §65962.5 as a large quantity generator of hazardous waste, complying with PAR 1148.1 would not alter in any way how the affected facilities manage their hazardous wastes. Further, they would be expected to continue to manage any and all hazardous materials and hazardous waste in accordance with all applicable federal, state, and local rules and regulations.

VIII. f) No Impact. Health and Safety Code §25506 specifically requires all businesses handling hazardous materials to submit a business emergency response plan to assist local administering agencies in the emergency release or threatened release of a hazardous material. Business emergency response plans generally require the following:

- Identification of individuals who are responsible for various actions, including reporting, assisting emergency response personnel and establishing an emergency response team;
- Procedures to notify the administering agency, the appropriate local emergency rescue personnel, and the California Office of Emergency Services;
- Procedures to mitigate a release or threatened release to minimize any potential harm or damage to persons, property or the environment;
- Procedures to notify the necessary persons who can respond to an emergency within the facility;
- Details of evacuation plans and procedures;
- Descriptions of the emergency equipment available in the facility;
- Identification of local emergency medical assistance; and,
- Training (initial and refresher) programs for employees in:
 1. The safe handling of hazardous materials used by the business;
 2. Methods of working with the local public emergency response agencies;

3. The use of emergency response resources under control of the handler;
4. Other procedures and resources that will increase public safety and prevent or mitigate a release of hazardous materials.

In general, every county or city and all facilities using a minimum amount of hazardous materials are required to formulate detailed contingency plans to eliminate, or at least minimize, the possibility and effect of fires, explosion, or spills. In conjunction with the California Office of Emergency Services, local jurisdictions have enacted ordinances that set standards for area and business emergency response plans. These requirements include immediate notification, mitigation of an actual or threatened release of a hazardous material, and evacuation of the emergency area.

Emergency response plans are typically prepared in coordination with the local city or county emergency plans to ensure the safety of not only the public (surrounding local communities), but the facility employees as well. The proposed project would not impair implementation of, or physically interfere with any adopted emergency response plan or emergency evacuation plan. The existing facilities affected by the proposed project would typically already have their own emergency response plans in place and implementation of PAR 1148.1 would not be expected to require an update to any affected facility's emergency response plan. Thus, the proposed project is not expected to impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan. As such, this impact issue will not be further analyzed.

VIII. g) No Impact. The proposed project is not expected to increase the existing risk of fire hazards in areas with flammable brush, grass, or trees since the affected oil and gas facilities are located at on existing industrial sites in urban areas where wildlands are not prevalent. In addition, no substantial or native vegetation typically exists on or near the affected facilities (specifically because they could be a fire hazard) so the proposed project is not expected to expose people or structures to wild fires. Thus, risk of loss or injury associated with wildland fires is not expected.

VIII. h) Less Than Significant Impact. The Uniform Fire Code and California Building Code set standards intended to minimize risks from flammable or otherwise hazardous materials. Local jurisdictions are required to adopt the uniform codes or comparable regulations. Local fire agencies require permits for the use or storage of hazardous materials and permit modifications for proposed increases in their use. Permit conditions depend on the type and quantity of the hazardous materials at the facility. Permit conditions may include, but are not limited to, specifications for sprinkler systems, electrical systems, ventilation, and containment. The fire departments make annual business inspections to ensure compliance with permit conditions and other appropriate regulations.

Further, because businesses are required to report increases in the storage or use of flammable and otherwise hazardous materials, including any increased storage of alternative fuels such as LNG, CNG or LPG as part of utilizing alternative fuel workover rigs, to local fire departments. Local fire departments ensure that adequate permit conditions are in place to protect against potential risk of upset. Also, because the projected increase in diesel fuel needed to supply the vacuum trucks, generator sets, and delivery trucks is so small (e.g., 47 gallons per year for the vacuum trucks plus 200 gallons per project for the delivery trucks), increased on-site storage of

diesel fuel will not be needed as existing storage capacities should be sufficient. Similarly, because the projected increase in gasoline that will be needed to operate construction worker vehicles as part of installing monitoring equipment at affected facilities is also small (e.g., 108 gallons per project), increased on-site storage of gasoline will not be needed as this supply can be provided by existing gasoline fueling facilities.

As mentioned in the earlier discussion for section VIII a) & b), PAR 1148.1 may have the effect of reducing the amount of H₂S vented to the atmosphere. Because H₂S is explosive, a reduction in H₂S emissions would lessen the current explosion hazards associated with the operation activities at oil and gas facilities. Thus, PAR 1148.1 may improve the existing fire risk of existing oil and gas operations.

Based upon the above considerations, significant hazards and hazardous materials impacts are not expected from implementing PAR 1148.1. Since no significant hazards and hazardous materials impacts were identified, no mitigation measures are necessary or required.

	Potentially Significant Impact	Less Than Significant With Mitigation	Less Than Significant Impact	No Impact
IX. HYDROLOGY AND WATER QUALITY. Would the project:				
a) Violate any water quality standards, waste discharge requirements, exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board, or otherwise substantially degrade water quality?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level (e.g. the production rate of pre-existing nearby wells would drop to a level which would not support existing land uses or planned uses for which permits have been granted)?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

	Potentially Significant Impact	Less Than Significant With Mitigation	Less Than Significant Impact	No Impact
c) Substantially alter the existing drainage pattern of the site or area, including through alteration of the course of a stream or river, or substantially increase the rate or amount of surface runoff in a manner that would result in substantial erosion or siltation on- or off-site or flooding on- or off-site?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d) Create or contribute runoff water which would exceed the capacity of existing or planned storm water drainage systems or provide substantial additional sources of polluted runoff?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
e) Place housing or other structures within a 100-year flood hazard area as mapped on a federal Flood Hazard Boundary or Flood Insurance Rate Map or other flood hazard delineation map, which would impede or redirect flood flows?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
f) Expose people or structures to a significant risk of loss, injury or death involving flooding, including flooding as a result of the failure of a levee or dam, or inundation by seiche, tsunami, or mudflow?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
g) Require or result in the construction of new water or wastewater treatment facilities or new storm water drainage facilities, or expansion of existing facilities, the construction of which could cause significant environmental effects?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
h) Have sufficient water supplies available to serve the project from existing entitlements and resources, or are new or expanded entitlements needed?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

	Potentially Significant Impact	Less Than Significant With Mitigation	Less Than Significant Impact	No Impact
i) Result in a determination by the wastewater treatment provider which serves or may serve the project that it has adequate capacity to serve the project’s projected demand in addition to the provider’s existing commitments?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Significance Criteria

Potential impacts on water resources will be considered significant if any of the following criteria apply:

Water Demand:

- The existing water supply does not have the capacity to meet the increased demands of the project, or the project would use more than 262,820 gallons per day of potable water.
- The project increases demand for total water by more than five million gallons per day.

Water Quality:

- The project will cause degradation or depletion of ground water resources substantially affecting current or future uses.
- The project will cause the degradation of surface water substantially affecting current or future uses.
- The project will result in a violation of National Pollutant Discharge Elimination System (NPDES) permit requirements.
- The capacities of existing or proposed wastewater treatment facilities and the sanitary sewer system are not sufficient to meet the needs of the project.
- The project results in substantial increases in the area of impervious surfaces, such that interference with groundwater recharge efforts occurs.
- The project results in alterations to the course or flow of floodwaters.

Discussion

IX. a), b), c), d), g), h) & i) No Impact. PAR 1148.1 neither requires construction of new facilities nor requires physical modifications at existing facilities that would entail construction activities that would require water for dust mitigation. Instead, PAR 1148.1 would enhance monitoring and recordkeeping requirements for facilities subject to the rule. In the event that a facility is required to prepare and obtain approval of an Odor Mitigation Plan, the facility operator would be required to utilize a non-diesel workover rig, in lieu of a diesel-fueled

workover rig, if available and feasible. In addition, in the event of a well cellar that has been identified as a verified odor source that requires same day pump out, the facility operator would also be required to utilize a vacuum truck and if pump out is required during nighttime, a generator set to supply electricity to lights, if existing lighting is insufficient.

Since diesel-fueled workover rigs do not utilize water, non-diesel workover rigs would also be expected to not need water for their operation. Similarly, vacuum trucks and generator sets also do not need water for their operation. Thus, swapping out a diesel-fueled workover rig with a non-diesel workover rig at an affected facility subject to an Odor Mitigation Plan or utilizing a vacuum truck and generator set would not create an additional water demand and would not generate wastewater from simply complying with PAR 1148.1. Because PAR 1148.1 has no provision that would increase demand for water or increase the generation of wastewater, the proposed project would not require the construction of additional water resource facilities, increase the need for new or expanded water entitlements, or alter existing drainage patterns. For these same reasons the proposed project would not substantially deplete groundwater supplies. Consequently, the proposed project is not expected to interfere substantially with groundwater recharge. Therefore, no water demand impacts are expected as the result of implementing PAR 1148.1.

Further, PAR 1148.1 would not create or contribute runoff water that would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff. Since compliance with PAR 1148.1 does not involve water that would generate wastewater processes, there would be no change in the composition or volume of existing wastewater streams from the affected facilities. Thus, PAR 1148.1 is not expected to require additional wastewater disposal capacity, violate any water quality standard or wastewater discharge requirements, or otherwise substantially degrade water quality.

Since PAR 1148.1 project is not expected to generate significant adverse water quality impacts, no changes to existing wastewater treatment permits, for those facilities that have them, are expected to be necessary. As a result, it is expected that operators of affected facilities would continue to comply with existing wastewater treatment requirements of the applicable Regional Water Quality Control Boards or sanitation districts.

IX. e) No Impact. Once implemented, PAR 1148.1 is not expected to require additional workers at affected facilities. Further, the proposed project is not expected to involve construction activities and does not include the construction of any new housing so it would not place new housing in 100-year flood areas as mapped on a federal Flood Hazard Boundary or Flood Insurance Rate Map or other flood delineation map. It is likely that most affected facilities are not located within a 100-year flood hazard area. Any affected facilities that may be located in a 100-year flood area could impede or redirect 100-year flood flows, but this would be considered part of the existing setting and not an effect of the proposed project. Since the proposed project would not require locating new facilities within a flood zone, it is not expected that implementation of the proposed project would expose people or property to any new known water-related flood hazards. As a result, PAR 1148.1 is not expected to expose people or structures to significant flooding risks. Accordingly, this impact issue will not be further evaluated in this Final Draft EA.

IX. f) No Impact. The proposed project does not require construction of new facilities in areas that could be affected by tsunamis. Of the oil and gas facilities affected by the proposed project, some are located near the Ports of Long Beach, Los Angeles, and San Pedro. The port areas are protected from tsunamis by the construction of breakwaters. Construction of breakwaters combined with the distance of each facility from the water is expected to minimize the potential impacts of a tsunami or seiche so that no significant impacts are expected. The proposed project does not require construction of facilities in areas that are susceptible to mudflows (e.g., hillside or slope areas). Existing affected facilities that are currently located on hillsides or slope areas may be susceptible to mudflow, but this would be considered part of the existing setting. As a result, the proposed project is not expected to generate significant adverse mudflow impacts. Finally, PAR 1148.1 will not affect in any way any potential flood hazards inundation by seiche, tsunami, or mud flow that may already exist relative to existing facilities. Accordingly, this impact issue will not be further evaluated in this ~~Final Draft~~ EA.

Based upon the aforementioned considerations, significant hydrology and water quality impacts are not expected from implementing PAR 1148.1. Since no significant hydrology and water quality impacts were identified, no mitigation measures are necessary or required.

	Potentially Significant Impact	Less Than Significant With Mitigation	Less Than Significant Impact	No Impact
X. LAND USE AND PLANNING.				
Would the project:				
a) Physically divide an established community?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the project (including, but not limited to the general plan, specific plan, local coastal program or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Significance Criteria

Land use and planning impacts will be considered significant if the project conflicts with the land use and zoning designations established by local jurisdictions.

Discussion

X. a) No Impact. The proposed project would not require the construction of new facilities at new locations, but any physical effects (e.g., the swapping of some diesel-fueled workover rigs with non-diesel workover rigs) that will result from the proposed project, would occur at existing oil and gas facilities and would not be expected to go beyond existing boundaries. Thus,

implementing the proposed project would not result in physically dividing any established communities.

X. b) No Impact. There are no provisions in the proposed project that would affect land use plans, policies, or regulations. Land use and other planning considerations are determined by local governments and no land use or planning requirements will be altered by the proposed project. Further, the proposed project would be consistent with the typical industrial setting of the affected facilities. The swapping of some diesel-fueled workover rigs with non-diesel workover rigs and the use of vacuum trucks and generator sets are expected to occur within the confines of the existing facilities. Further, the use of construction worker vehicles and delivery trucks will occur on established roadways. The proposed project would not affect in any way habitat conservation or natural community conservation plans, agricultural resources or operations, and would not create divisions in any existing communities. Further, no new development or alterations to existing land designations will occur as a result of the implementation of the proposed project. Therefore, present or planned land uses in the region will not be affected as a result of implementing the proposed project.

Based upon these considerations, significant land use and planning impacts are not expected from implementing PAR 1148.1. Since no significant land use and planning impacts were identified, no mitigation measures are necessary or required.

	Potentially Significant Impact	Less Than Significant With Mitigation	Less Than Significant Impact	No Impact
XI. MINERAL RESOURCES. Would the project:				
a) Result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Result in the loss of availability of a locally-important mineral resource recovery site delineated on a local general plan, specific plan or other land use plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Significance Criteria

Project-related impacts on mineral resources will be considered significant if any of the following conditions are met:

- The project would result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state.
- The proposed project results in the loss of availability of a locally-important mineral resource recovery site delineated on a local general plan, specific plan or other land use plan.

Discussion

XI. a) & b) No Impact. There are no provisions in PAR 1148.1 that would result in the loss of availability of a known mineral resource of value to the region and the residents of the state such as aggregate, coal, clay, shale, et cetera, or of a locally-important mineral resource recovery site delineated on a local general plan, specific plan or other land use plan.

Based upon these considerations, significant mineral resource impacts are not expected from implementing PAR 1148.1 and, thus, will not be further analyzed. Since no significant mineral resource impacts were identified, no mitigation measures are necessary or required.

	Potentially Significant Impact	Less Than Significant With Mitigation	Less Than Significant Impact	No Impact
XII. NOISE. Would the project result in:				
a) Exposure of persons to or generation of permanent noise levels in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Exposure of persons to or generation of excessive groundborne vibration or groundborne noise levels?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c) A substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d) For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public use airport or private airstrip, would the project expose people residing or working in the project area to excessive noise levels?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Significance Criteria

Noise impact will be considered significant if:

- Construction noise levels exceed the local noise ordinances or, if the noise threshold is currently exceeded, project noise sources increase ambient noise levels by more than three decibels (dBA) at the site boundary. Construction noise levels will be considered significant if they exceed federal Occupational Safety and Health Administration (OSHA) noise standards for workers.

- The proposed project operational noise levels exceed any of the local noise ordinances at the site boundary or, if the noise threshold is currently exceeded, project noise sources increase ambient noise levels by more than three dBA at the site boundary.

Discussion

XII. a), b), c), & d) No Impact. The proposed project would not require the construction of new facilities at new locations, but any physical effects (e.g., the swapping of some diesel-fueled workover rigs with non-diesel workover rigs or the increased use of vacuum trucks and generator sets) that will result from the proposed project, would occur at existing oil and gas facilities and would not be expected to go beyond existing boundaries. The existing noise environment at each of the affected oil and gas facilities is typically dominated by noise from existing equipment onsite, vehicular traffic around the facilities, and trucks entering and exiting facility premises.

Operation of workover rigs generates some noise, but the noise profile would not be expected to be substantially different for diesel-fueled workover rigs than for non-diesel fueled workover rigs. Similarly, since the operation of vacuum trucks and generator sets at oil and gas facilities is part of current day-to-day activities that generate some noise, the noise profile of these equipment, will not change as a result of implementing the proposed project. Thus, noise from the proposed project is not expected to produce noise in excess of current operations at each of the existing facilities. In addition, any operator of an oil and gas facility that becomes subject to the requirements in an Odor Mitigation Plan and is subsequently required to utilize a non-diesel workover rig in lieu of a diesel-fired workover rig in accordance with PAR 1148.1 or is required to utilize a vacuum truck and generator set to pump out materials collected in a well cellar on an expedited basis would be expected to continue to comply with all existing noise control laws or ordinances. In particular, Occupational Safety and Health Administration (OSHA) and California-OSHA (Cal/OSHA) have established noise standards to protect worker health when noise levels exceed specified noise levels (see for example 29 CFR Part 1910). In addition, noise generating activities are required to be within the allowable noise levels established by the local noise ordinances, and thus are expected to be less than significant.

Even if some of the facilities affected by the proposed project are located at sites within an airport land use plan or within two miles of a public airport, the operation of non-diesel workover rigs in lieu of diesel-fueled workover rigs would not expose people residing or working in the project area to any increased excessive noise levels associated with airplanes.

Based upon these considerations, significant noise impacts are not expected from implementing PAR 1148.1, and thus, this topic will not be further analyzed. Since no significant noise impacts were identified, no mitigation measures are necessary or required.

	Potentially Significant Impact	Less Than Significant With Mitigation	Less Than Significant Impact	No Impact
XIII. POPULATION AND HOUSING.				
Would the project:				
a) Induce substantial growth in an area either directly (for example, by proposing new homes and businesses) or indirectly (e.g. through extension of roads or other infrastructure)?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Displace substantial numbers of people or existing housing, necessitating the construction of replacement housing elsewhere?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Significance Criteria

Impacts of the proposed project on population and housing will be considered significant if the following criteria are exceeded:

- The demand for temporary or permanent housing exceeds the existing supply.
- The proposed project produces additional population, housing or employment inconsistent with adopted plans either in terms of overall amount or location.

Discussion

XIII. a) & b) No Impact. PAR 1148.1 neither requires construction of new facilities nor requires physical modifications at existing facilities that would entail construction activities. Instead, PAR 1148.1 would enhance monitoring and recordkeeping requirements for facilities subject to the rule. In the event that a facility is required to prepare and obtain approval of an Odor Mitigation Plan, the facility operator would be required to utilize a non-diesel workover rig, in lieu of a diesel-fueled workover rig, if available and feasible. The act of swapping a workover rig (from diesel to non-diesel) would not change the number of employees needed to operate the workover rig. Similarly, in the event that a vacuum truck and generator set is needed to pump out materials collected in a well cellar on an expedited basis, no additional employees would be needed to operate the equipment. However, in order to install monitoring equipment at the affected facilities, three temporary workers per facility may be needed to handle the install process but these workers are expected to be available from the local labor force. Thus, any compliance actions taken by an operator of an affected facility would not be expected to involve the relocation of individuals, require new housing or commercial facilities, or change the distribution of the population. Human population within the jurisdiction of the SCAQMD is anticipated to grow regardless of implementing the proposed project. As a result, the proposed project is not anticipated to generate any significant adverse effects, either direct or indirect, on population growth in the district or population distribution.

Further, the proposed project is not expected to result in the creation of any industry that would affect population growth, directly or indirectly induce the construction of single- or multiple-family units, or require the displacement of people or housing elsewhere in the district.

Based upon these considerations, significant population and housing impacts are not expected from implementing PAR 1148.1, and thus, this topic will not be further analyzed. Since no significant population and housing impacts were identified, no mitigation measures are necessary or required.

	Potentially Significant Impact	Less Than Significant With Mitigation	Less Than Significant Impact	No Impact
XIV. PUBLIC SERVICES. Would the proposal result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered government facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for any of the following public services:				
a) Fire protection?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Police protection?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c) Schools?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d) Other public facilities?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Significance Criteria

Impacts on public services will be considered significant if the project results in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, or the need for new or physically altered government facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response time or other performance objectives.

Discussion

XIV. a) & b) No Impact. PAR 1148.1 neither requires construction of new facilities nor requires physical modifications at existing facilities that would entail construction. Instead, PAR 1148.1 would enhance monitoring and recordkeeping requirements for facilities subject to the rule. In the event that a facility is required to prepare and obtain approval of an Odor Mitigation Plan, the facility operator would be required to utilize a non-diesel workover rig, in lieu of a diesel-fueled workover rig, if available and feasible. The act of swapping a workover rig (from

diesel to non-diesel), the increased use of vacuum trucks and generator sets, or the temporary use of construction worker vehicles and delivery trucks would not be expected to alter or increase the need or demand for additional public services (e.g., fire and police departments and related emergency services, et cetera) above current levels, so no impact to these existing services is anticipated.

XIV. c) & d) No Impact. As noted in the previous “Population and Housing” discussion, the proposed project is not expected to induce population growth in any way because the local labor pool (e.g., workforce) is expected to be sufficient to accommodate any swaps of diesel workover rigs for non-diesel workover rigs, the increased use of vacuum trucks and generator sets and operation of these equipment non-diesel workover rigs is not expected to require additional employees. However, as previously explained in Section XIII – Population and Housing, in order to install monitoring equipment at the affected facilities, three temporary workers per facility may be needed to handle the install process but these workers are expected to be available from the local labor pool. Therefore, there would be no increase in local population and thus, no impacts would be expected to local schools or other public facilities.

The proposed project could result in some facilities becoming subject to an Odor Mitigation Plan in the event of compliance problems. Besides SCAQMD’s review and approval process associated with an Odor Mitigation Plan, there would be no need for other types of government services. Further, the proposed project would not result in the need for new or physically altered government facilities in order to maintain acceptable service ratios, response times, or other performance objectives. There would be no increase in population and, therefore, there would be no need for physically altered government facilities.

Based upon these considerations, significant public services impacts are not expected from implementing PAR 1148.1, and thus, this topic will not be further analyzed. Since no significant public services impacts were identified, no mitigation measures are necessary or required.

	Potentially Significant Impact	Less Than Significant With Mitigation	Less Than Significant Impact	No Impact
XV. RECREATION.				
a) Would the project increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Does the project include recreational facilities or require the construction or expansion of recreational facilities that might have an adverse physical effect on the environment or recreational services?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Significance Criteria

Impacts to recreation will be considered significant if:

- The project results in an increased demand for neighborhood or regional parks or other recreational facilities.
- The project adversely affects existing recreational opportunities.

Discussion

XV. a) & b) No Impact. As discussed earlier under the topic of “Land Use and Planning,” there are no provisions in the PAR 1148.1 that would affect land use plans, policies, or regulations. Land use and other planning considerations are determined by local governments and no land use or planning requirements will be altered by the proposed requirements in PAR 1148.1. The proposed project would not increase the demand for or use of existing neighborhood and regional parks or other recreational facilities or require the construction of new or expansion of existing recreational facilities that might have an adverse physical effect on the environment because it would not directly or indirectly increase or redistribute population.

Based upon these considerations, significant recreation impacts are not expected from implementing PAR 1148.1, and thus, this topic will not be further analyzed. Since no significant recreation impacts were identified, no mitigation measures are necessary or required.

	Potentially Significant Impact	Less Than Significant With Mitigation	Less Than Significant Impact	No Impact
XVI. SOLID AND HAZARDOUS WASTE. Would the project:				
a) Be served by a landfill with sufficient permitted capacity to accommodate the project’s solid waste disposal needs?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Comply with federal, state, and local statutes and regulations related to solid and hazardous waste?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Significance Criteria

The proposed project impacts on solid and hazardous waste will be considered significant if the following occurs:

- The generation and disposal of hazardous and non-hazardous waste exceeds the capacity of designated landfills.

Discussion

XVI. a) & b) No Impact. PAR 1148.1 neither requires construction of new facilities nor requires physical modifications at existing facilities that would entail construction. Instead, PAR

1148.1 would enhance monitoring and recordkeeping requirements for facilities subject to the rule. In the event that a facility is required to prepare and obtain approval of an Odor Mitigation Plan, the facility operator would be required to utilize a non-diesel workover rig, in lieu of a diesel-fueled workover rig, if available and feasible. The act of swapping a workover rig (from diesel to non-diesel) would not be expected to alter or increase existing waste or generate new waste, either solid or hazardous. Similarly, because the use of additional vacuum trucks and generator sets would merely expedite the removal of odorous materials from any well cellar identified as a verified odor source, no increases in the amount or type of hazardous waste collected and disposed of would be expected to occur.

Operators of affected facilities subject to PAR 1148.1 would be expected to handle their existing waste in the same manner as the currently do, which depends on the classification of the waste and the type of landfill (e.g., Class II landfill for industrial waste or Class III landfill for municipal waste). A Class II landfill can handle wastes that exhibit a level of contamination not considered hazardous, but that are required by the State of California to be managed for disposal to a permitted Class II landfill. For this reason, Class II landfills are specially designed with liners to reduce the risks of groundwater contamination from industrial wastes, also known as California-regulated waste. Similarly, a Class III landfill can handle non-hazardous or municipal waste. Municipal waste is typically generated through day-to-day activities and does not present the hazardous characteristics of hazardous, industrial, or radioactive wastes. There are 32 active Class III landfills within the SCAQMD's jurisdiction, many of which have liners that can handle both Class II and Class III wastes. According to the Final Program EIR for the 2012 AQMP (SCAQMD, 2012), total Class III landfill waste disposal capacity in the district is approximately 116,796 tons per day.

Thus, implementation of PAR 1148.1 is not expected to require additional waste disposal capacity or interfere or undermine an oil and gas facility's ability to comply with existing federal, state, and local regulations for solid and hazardous waste handling and disposal.

Based upon these considerations, significant solid and hazardous waste impacts are not expected from implementing PAR 1148.1, and thus, this topic will not be further analyzed. Since no significant solid and hazardous waste impacts were identified, no mitigation measures are necessary or required.

	Potentially Significant Impact	Less Than Significant With Mitigation	Less Than Significant Impact	No Impact
XVII. TRANSPORTATION AND TRAFFIC.				
Would the project:				
a) Conflict with an applicable plan, ordinance or policy establishing measures of effectiveness for the performance of the circulation system, taking into account all modes of transportation including mass transit and non-motorized travel and relevant components of the circulation system, including but not limited to intersections, streets, highways and freeways, pedestrian and bicycle paths, and mass transit?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b) Conflict with an applicable congestion management program, including but not limited to level of service standards and travel demand measures, or other standards established by the county congestion management agency for designated roads or highways?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
c) Result in a change in air traffic patterns, including either an increase in traffic levels or a change in location that results in substantial safety risks?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d) Substantially increase hazards due to a design feature (e.g. sharp curves or dangerous intersections) or incompatible uses (e.g. farm equipment)?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
e) Result in inadequate emergency access?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
f) Conflict with adopted policies, plans, or programs regarding public transit, bicycle, or pedestrian facilities, or otherwise decrease the performance or safety of such facilities?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Significance Criteria

Impacts on transportation and traffic will be considered significant if any of the following criteria apply:

- Peak period levels on major arterials are disrupted to a point where level of service (LOS) is reduced to D, E or F for more than one month.
- An intersection's volume to capacity ratio increase by 0.02 (two percent) or more when the LOS is already D, E or F.
- A major roadway is closed to all through traffic, and no alternate route is available.
- The project conflicts with applicable policies, plans or programs establishing measures of effectiveness, thereby decreasing the performance or safety of any mode of transportation.
- There is an increase in traffic that is substantial in relation to the existing traffic load and capacity of the street system.
- The demand for parking facilities is substantially increased.
- Water borne, rail car or air traffic is substantially altered.
- Traffic hazards to motor vehicles, bicyclists or pedestrians are substantially increased.
- The need for more than 350 employees
- An increase in heavy-duty transport truck traffic to and/or from the facility by more than 350 truck round trips per day
- Increase customer traffic by more than 700 visits per day.

Discussion

XVII. a) & b) Less Than Significant Impact. PAR 1148.1 neither requires construction of new facilities nor requires physical modifications at existing facilities that would entail construction. Instead, PAR 1148.1 would enhance monitoring and recordkeeping requirements for facilities subject to the rule. In the event that a facility is required to prepare and obtain approval of an Odor Mitigation Plan, the facility operator would be required to utilize a non-diesel workover rig, in lieu of a diesel-fueled workover rig, if available and feasible. As explained in the following paragraphs, the act of swapping three diesel workover rigs to three non-diesel workover rigs would not be expected to cause a significant increase in traffic relative to the existing traffic load and capacity of the street systems surrounding the affected facilities. Similarly, a peak daily operational increase of three vacuum trucks would not be expected to cause a significant increase in traffic relative to the existing traffic load and capacity of the street systems surrounding the affected facilities. Further, a temporary increase of three construction worker vehicles and one delivery trip as part of installing monitoring systems at five facilities on a peak day or at 24 facilities within one six-month period would also not be expected to cause a significant increase in traffic relative to the existing traffic load and capacity of the street systems surrounding the affected facilities. Also, the proposed project is not expected to exceed, either individually or cumulatively, the current LOS of the areas surrounding the affected facilities as explained in the following paragraphs.

For a worst-case analysis, three non-diesel workover rigs with three drivers were assumed to replace three diesel workover rigs with three drivers. Even if it is assumed that all six workover rigs are being moved on the same day (which represents an average vehicle ridership equal to 1.0) not all of the workers would be driving to/from the same facility. In addition, if three additional vacuum trucks drive to and from three separate facilities on the same day and another three construction worker vehicles with one delivery truck drives to and from five separate facilities on the same (which also represents an average vehicle ridership equal to 1.0) not all of the workers would be driving to/from the same facility. For these reasons, it is unlikely that these vehicle trips would substantially affect the LOS at any intersection because the trips would be dispersed over a large area and the workers would not all arrive at the site at the exact same time. Therefore, the construction work force at each affected facility is not expected to significantly increase as a result of the proposed project.

Further, since new, permanent additional employees would not be needed to operate and maintain the replacement workover rigs, drive the vacuum trucks, construction worker vehicles, or delivery trucks, the work force at each affected facility is not expected to significantly increase as a result of implementing PAR 1148.1. As a result, no significant increases in traffic are expected.

XVII. c) No Impact. Workover rigs, vacuum trucks and generator sets are all currently in use by the oil and gas industry. As explained in Section I., the height profile and overall footprint of any non-diesel workover rig is not expected to be discernably different from a diesel-fueled workover rig because the height of the workover rig is dependent on the depth of the oil or gas well to be serviced. Similarly, oil and gas facilities currently use vacuum trucks and generator sets with low heights, so the slight increase in use of these equipment, would not alter the height profiles of these equipment. In addition, as explained in Section VIII c), the height of workover rigs, vacuum trucks and generator sets currently in operation does not interfere with plane flight paths consistent with Federal Aviation Regulation, Part 77. Thus, even if some facilities are located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, actions that would be taken to comply with the proposed project (e.g., the act of swapping a workover rig from diesel to non-diesel unit or using a vacuum truck and generator set) would not be expected to significantly influence or affect air traffic patterns or navigable air space. Thus, the proposed project would not result in a change in air traffic patterns including an increase in air traffic levels or a change in location that results in substantial safety risks. As such, this specific topic will not be further evaluated in the Final Draft-EA.

XVII. d) & e) No Impact. The siting of each affected facility is consistent with surrounding land uses and traffic/circulation in the surrounding areas of the affected facilities. Thus, the proposed project is not expected to substantially increase traffic hazards, create incompatible uses at or adjacent to the affected facilities. Further, PAR 1148.1 is not expected to require a modification to circulation, thus, no long-term impacts on the traffic circulation system are expected to occur. The proposed project is not expected to involve the construction of any roadways, so there would be no increase in roadway design feature that could increase traffic hazards. Emergency access at each affected facility is not expected to be impacted by the proposed project because each affected facility is expected to continue to maintain their existing emergency access gates. Thus, these impacts will not be evaluated further in this Final Draft-EA.

XVII. f) No Impact. Because the compliance activities that may occur in response to an Odor Mitigation Plan or the identification of a well cellar as a verified odor source will occur at existing industrial facilities, implementation of the proposed project (e.g., requiring the use of non-diesel workover rigs or requiring the expedited pump out of a well cellar) is not expected to conflict with policies supporting alternative transportation since the proposed project does not involve or affect alternative transportation modes (e.g., bicycles or buses).

Based upon these considerations, significant transportation and traffic impacts are not expected from implementing PAR 1148.1. Since no significant transportation and traffic impacts were identified, no mitigation measures are necessary or required.

	Potentially Significant Impact	Less Than Significant With Mitigation	Less Than Significant Impact	No Impact
XVIII. MANDATORY FINDINGS OF SIGNIFICANCE.				
a) Does the project have the potential to degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, reduce the number or restrict the range of a rare or endangered plant or animal or eliminate important examples of the major periods of California history or prehistory?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Does the project have impacts that are individually limited, but cumulatively considerable? ("Cumulatively considerable" means that the incremental effects of a project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
c) Does the project have environmental effects that will cause substantial adverse effects on human beings, either directly or indirectly?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

Discussion

XVIII. a) No Impact. As discussed in the “Biological Resources” section, PAR 1148.1 is not expected to adversely affect plant or animal species or the habitat on which they rely because the workover rigs are operated at existing oil and gas facilities on industrial sites which have already been greatly disturbed and that currently do not support such habitats. Furthermore, the oil and gas facilities are located on industrial sites that are already either devoid of significant biological resources or whose biological resources have been previously disturbed. Lastly, special status plants, animals, or natural communities are not expected to be found within oil and gas facilities that would be subject to PAR 1148.1 because the affected sites are generally devoid of plants and natural communities that could support animals for fire safety reasons.

Further, as explained in Section X, the proposed project would not require the acquisition of land to comply with the provisions of PAR 1148.1. Also, while implementation of PAR 1148.1 may require some facilities to comply with an Odor Mitigation Plan and utilize a non-diesel workover rig in lieu of a diesel workover rig, the placement and movement of workover rigs are expected to occur entirely within the boundaries of existing oil and gas facilities. In addition, implementation of PAR 1148.1 may require some facilities to expedite the pump out of any well cellar identified as a verified odor source but this work will also occur entirely within the boundaries of existing oil and gas facilities. Similarly, implementing PAR 1148.1 would not require compliance activities to occur in areas where special status plants, animals, or natural communities and important examples of the major periods of California history or prehistory exist. As a result, implementing PAR 1148.1 is not expected to adversely affect in any way habitats that support riparian habitat, are federally protected wetlands, or are migratory corridors. Therefore, these areas would not be expected to be adversely affected by the proposed project.

XVIII. b) Less Than Significant Impact. As the Lead Agency under CEQA, the SCAQMD uses the same significance thresholds for project-specific and cumulative impacts for all environmental topics analyzed. Projects that exceed the project-specific significance thresholds are considered by the SCAQMD to be cumulatively considerable; conversely, projects that do not exceed the project-specific thresholds are generally not considered to be cumulatively significant¹⁴.

Based on the preceding analyses in discussion topics I. through XVII., PAR 1148.1 is not expected to generate any project-specific significant adverse environmental impacts for the following reasons. None of the 17 environmental topics analyzed were checked as areas potentially affected by the proposed project (e.g., aesthetics, agriculture and forestry resources, air quality and GHG emissions, biological resources, cultural resources, energy, geology and soils, hazards and hazardous materials, hydrology and water quality, land use and planning, mineral resources, noise, population and housing, public services, recreation, solid and hazardous waste, and, transportation and traffic). All 17 environmental topic areas were found to have ‘No Impact’ or ‘Less Than Significant Impact’ and would not be expected to make any contribution to potential cumulative impacts whatsoever. For the environmental topics checked as areas having a ‘Less Than Significant Impact,’ the analysis indicated that the proposed project impacts

¹⁴ SCAQMD Cumulative Impacts Working Group White Paper on Potential Control Strategies to Address Cumulative Impacts From Air Pollution, August 2003, Appendix D, Cumulative Impact Analysis Requirements Pursuant to CEQA, at D-3. <http://www.aqmd.gov/hb/2003/030929a.html>

would be less than significant because they would not exceed any project-specific significance thresholds.

With respect to air quality, no cumulative impacts are anticipated from the proposed project. Emissions resulting with implementation of the proposed project will be below the SCAQMD's thresholds for all criteria air pollutants. Although the proposed project may contribute additional air pollutants to an existing nonattainment area, these increases are below the SCAQMD air quality significance criteria. Therefore, the proposed project will not cause a significant environmental effect, nor result in an unavoidable cumulatively considerable contribution to an air quality impact¹⁵.

Emissions relative to GHG emissions from the proposed project will also be below the SCAQMD's cumulatively considerable significance threshold for GHGs. Thus, no significant adverse impacts are expected, either individually or cumulatively.

With respect to energy, no cumulative energy impacts are expected because the potential increase in electricity demand and alternative fuels from the proposed project is well within available supplies. Therefore, the amount of electricity, diesel fuel, gasoline, and alternative fuel demand will not cause a significant adverse impact to existing energy generation and supplies. Therefore, no significant increase in energy is expected at the affected sites, and no cumulative energy impacts are expected.

Consistent with CEQA Guidelines §15064.7, a “lead agency may rely on a threshold of significance standard to determine whether a project will cause a significant environmental effect.” Further, CEQA Guidelines §15064 (h)(1) requires that a “lead agency consider whether the cumulative impact is significant and whether the effects of the project are cumulatively considerable.” Where a lead agency is examining a project with an incremental effect that is not cumulatively considerable, a lead agency need not consider the effect significant, but must briefly describe the basis for concluding that the incremental effect is not cumulatively considerable. As stated above, projects that exceed the project-specific significance thresholds are considered by the SCAQMD to be cumulatively considerable; projects that do not exceed the project-specific significance thresholds are not considered to be cumulatively considerable. Therefore the proposed project's contribution to air quality and GHGs are not cumulatively considerable, and thus not significant. This conclusion is consistent with CEQA Guidelines §15064 (h)(4), which states, “The mere existence of cumulative impacts caused by other projects alone shall not constitute substantial evidence that the proposed project's incremental effects are cumulatively considerable.”

Based on these conclusions, incremental effects of the proposed project would be minor and, therefore, are not considered to be cumulatively considerable as defined by CEQA Guidelines §15064 (h)(1). Since impacts from the proposed project are not considered to be cumulatively considerable, the proposed project has no potential for generating significant adverse cumulative impacts.

¹⁵ Refer also to *Citizens for Responsible Equitable Environmental Development c. City of Chula Vista* (2011) 197 Cal. App. 4th 327, 334 and *Rialto Citizens for Responsible Growth v. City of Rialto* (2102) 208 Cal. App. 4th 899 pertaining to the determination of significant impacts and whether a project is considered to be cumulatively considerable.

XVIII. c) Less Than Significant Impact. Based on the preceding analyses, PAR 1148.1 is not expected to cause adverse effects on human beings, either directly or indirectly. For the environmental topics of aesthetics, air quality and GHG emissions, energy, and, transportation and traffic, less than significant impacts from implementing PAR 1148.1 were identified.

The net effect of implementing PAR 1148.1 is to further prevent public nuisance and possible detriment to public health caused by exposure to VOC, TAC and TOC emissions from the operation and maintenance of oil and gas production facilities by enhancing compliance at these facilities. While the potential air quality benefits of enhancing compliance of oil and gas facilities in accordance with PAR 1148.1 cannot be quantified, for every diesel workover rig that is replaced with a non-diesel workover rig, the analysis in Table 2-5 demonstrates that an overall direct air quality and GHG benefit would be expected. In the event that a vacuum truck and generator set is needed to pump out materials collected in a well cellar on an expedited basis, Table 2-6 shows that while there may be slight increases in criteria pollutant and GHG emissions, the potential increases are well below the significance thresholds. Similarly, while there may be a need for some facilities to install monitoring equipment, the emission calculations as summarized in Tables 2-7 and 2-8 show less than significant increases in construction emissions. Further, the prevention of future releases of VOC, TAC and TOC emissions via the enhanced compliance requirements in PAR 1148.1, less VOC, TAC and TOC emission release will not only reduce odors but assist the SCAQMD's progress in attaining and maintaining the ambient air quality standards for ozone.

Based on the discussion in items I through XVIII, the proposed project is not expected to have the potential to cause significant adverse environmental effects to any environmental topic.

APPENDIX A

**PROPOSED AMENDED RULE 1148.1 – OIL AND GAS
PRODUCTION WELLS**

In order to save space and avoid repetition, please refer to the latest version of Proposed Amended Rule 1148.1 located elsewhere in the Governing Board Package. The version of Proposed Amended Rule 1148.1 that was circulated with the Draft EA and released on April 29, 2015 for a 30-day public review and comment period ending May 28, 2015 was identified as “par1148-1-pw.docx.”

Original hard copies of the Draft EA, which include the draft version of the proposed amended rule listed above, can be obtained through the SCAQMD Public Information Center at the Diamond Bar headquarters or by calling (909) 396-2039.

APPENDIX B

ASSUMPTIONS AND CALCULATIONS

Appendix B

Worksheet B-1: Diesel Fuel Use

Emission Factors for Diesel Fuel Consumed (lb/thousand gallons except for CO2eq)

Diesel Burned (gal/hr)	Operating Schedule per Rig (hr/yr)	NOx (lb/1,000 gallons)	VOC (lb/1,000 gallons)	CO (lb/1,000 gallons)	SOx* (lb/1,000 gallons)	PM10 (lb/1,000 gallons)	CO2eq^ (metric tons/yr/rig)
4.2	3,000	438.4	10.8504	116.45	6.9185	7.8501	59.31

* Corrected for 0.05% sulfur.

^CARB, 2007 Oil and Gas Industry Survey Results, Final Report (Revised), Table 7-3, October 2013.

No. of Workover Rigs in LA, OR, RV, & SB Counties in 2015	Workover Rig Emissions	NOx (lb/day)	VOC (lb/day)	CO (lb/day)	SOx (lb/day)	PM10 (lb/day)	PM2.5# (lb/day)	CO2eq (metric tons/yr)
68	for 68 rigs	1,029.10	25.47	273.35	16.24	18.43	16.95	4,033.08
	for 1 rig	15.13	0.37	4.02	0.24	0.27	0.25	59.31
	for 3 rigs	45.40	1.12	12.06	0.72	0.81	0.75	177.93
	for 65 rigs (after 3 rigs are replaced with electric or alt fuel (lb/day))	983.70	24.35	261.29	15.52	17.61	16.21	3,855.15

SCAQMD, Final –Methodology to Calculate Particulate Matter (PM) 2.5and PM 2.5 Significance Thresholds, October 2006.

Table A, PM2.5 Fraction of PM10 for off-road diesel-fueled equipment.

Appendix B

Worksheet B-2: Diesel Delivery Trips

Baseline Diesel Fuel Deliveries to Los Angeles, Orange, Riverside and San Bernardino Counties for fueling 68 rigs 387,748 gallons per year 8,500 gallons hauled per truck 46 trucks/year

On-Road Equipment Type	Fuel	Number Needed per year	Number Needed per day	Round- trip Distance (miles/ delivery)	Mileage Rate (miles/ gallon)	2015 Mobile Source Emission Factors							
						VOC (lb/mile)	CO (lb/mile)	NOx (lb/mile)	SOx (lb/mile)	PM10 (lb/mile)	PM2.5 (lb/mile)	CO2 (lb/mile)	CH4 (lb/mile)
Offsite (Heavy-Heavy Duty Fuel Delivery Truck)	diesel	46	4	50	4.89	0.0018	0.0077	0.0212	0.00004	0.0010	0.0009	4.2090	0.0001

Baseline Combustion Emissions from Diesel Fuel Delivery Trucks	VOC (lb/day)	CO (lb/day)	NOx (lb/day)	SOx (lb/day)	PM10 (lb/day)	PM2.5 (lb/day)	CO2 (lb/yr)	CH4 (lb/yr)	CO2eq* (lb/yr)	CO2eq* (MT/yr)
Offsite (Heavy-Heavy Duty Fuel Delivery Truck)	0.36	1.53	4.25	0.01	0.21	0.18	9,600	0.19	9,604	4.36
TOTAL	0	2	4	0	0	0	9,600	0	9,604	4

Equation: No. of Vehicles x Emission Factor (lb/mile) x No. of Round-Trips/Day x Round-Trip length (mile) = Offsite Construction Emissions (lb/day)

*1 metric ton (MT) = 2,205 pounds

Diesel Fuel to operate Fuel Delivery Trucks (Baseline)	Equipment Type	Total Miles Driven (miles/year)	Mileage Rate (miles/gal)	Total Diesel Fuel Usage (gal/year)
Offsite (Heavy-Heavy Duty Fuel Delivery Truck)	Fuel Delivery Truck (HHD)	2,281	4.89	11,153
TOTAL Diesel Fuel needed to operate 46 Diesel Tanker Trucks				11,153

Appendix B

Worksheet B-2: Diesel Delivery Trips

Reduction in Diesel Fuel Deliveries 349,948 gallons per year 8,500 gallons hauled per truck 41 trucks/year
 to Los Angeles, Orange, Riverside and San Bernardino Counties
 for fueling 65 rigs
 (Reduction of 37,800 gallons per year - 5 trucks per year less)

Construction On-Road Equipment Type	Fuel	Number Needed per year	Number Needed per day	Round- trip Distance (miles/ delivery)	Mileage Rate (miles/ gallon)	2015 Mobile Source Emission Factors							
						VOC (lb/mile)	CO (lb/mile)	NOx (lb/mile)	SOx (lb/mile)	PM10 (lb/mile)	PM2.5 (lb/mile)	CO2 (lb/mile)	CH4 (lb/mile)
Offsite (Heavy-Heavy Duty Fuel Delivery Truck)	diesel	41	4	50	4.89	0.0018	0.0077	0.0212	0.00004	0.0010	0.0009	4.2090	0.0001

PAR 1148.1 Combustion Emissions from Diesel Fuel Delivery Trucks	VOC (lb/day)	CO (lb/day)	NOx (lb/day)	SOx (lb/day)	PM10 (lb/day)	PM2.5 (lb/day)	CO2 (lb/yr)	CH4 (lb/yr)	CO2eq* (lb/yr)	CO2eq* (MT/yr)
Offsite (Heavy-Heavy Duty Fuel Delivery Truck)	0.36	1.53	4.25	0.01	0.21	0.18	8,664	0.17	8,668	3.93
TOTAL	0	2	4	0	0	0	8,664	0	8,668	4

Equation: No. of Vehicles x Emission Factor (lb/mile) x No. of Round-Trips/Day x Round-Trip length (mile) = Offsite Construction Emissions (lb/day)
 *1 metric ton (MT) = 2,205 pounds

Diesel Fuel to operate Fuel Delivery Trucks (after PAR 1148.1)	Equipment Type	Total Miles Driven (miles/year)	Mileage Rate (miles/gal)	Total Diesel Fuel Usage (gal/year)
Workers' Vehicles - Offsite Delivery/Haul	Fuel Delivery Truck (HHD)	2,059	4.89	10,066
TOTAL Diesel Fuel needed to operate 41 Diesel Tanker Trucks				10,066

Sources:

On-Road Mobile Emission Factors (EMFAC 2007 v2.3), Scenario Year 2015

http://www.aqmd.gov/ceqa/handbook/onroad/onroad.html/onroadEF07_26.xls

http://www.aqmd.gov/ceqa/handbook/onroad/onroad.html/onroadEFHHD07_26.xls

Net Difference Between Baseline and PAR 1148.1 Combustion Emissions from Diesel Fuel Delivery Trucks - Peak Day	VOC (lb/day)	CO (lb/day)	NOx (lb/day)	SOx (lb/day)	PM10 (lb/day)	PM2.5 (lb/day)
Baseline - 4 trucks/day peak	0.36	1.53	4.25	0.01	0.21	0.18
PAR 1148.1 - 4 trucks per day peak	0.36	1.53	4.25	0.01	0.21	0.18
NET DIFFERENCE	0	0	0	0	0	0

Appendix B

Worksheet B-2: Diesel Delivery Trips

Net Difference Between Baseline and PAR 1148.1 Combustion Emissions from Diesel Fuel Delivery Trucks - Annual	VOC (lb/yr)	CO (lb/yr)	NOx (lb/yr)	SOx (lb/yr)	PM10 (lb/yr)	PM2.5 (lb/yr)	CO2 (lb/yr)	CH4 (lb/yr)	CO2eq* (lb/yr)	CO2eq* (MT/yr)
Baseline - 46 trucks per year	4.07	17.49	48.42	0.09	2.39	2.01	9,600.24	0.19	9,604.24	4.36
PAR 1148.1 - 41 trucks per year	3.68	15.79	43.70	0.08	2.16	1.81	8,664.35	0.17	8,667.96	3.93
NET DIFFERENCE	0.40	1.71	4.72	0.01	0.23	0.20	935.89	0.02	936.28	0.42

Net Difference Between Baseline and PAR 1148.1 Diesel Fuel Needed to Operate Delivery Trucks - Annual	Total Miles Driven (miles/year)	Total Diesel Fuel Usage (gal/year)
TOTAL Diesel Fuel needed to operate 46 Diesel Tanker Trucks	2,281	11,153
TOTAL Diesel Fuel needed to operate 41 Diesel Tanker Trucks	2,059	10,066
NET DIFFERENCE	222	1,087

Electricity demand if 3 diesel workover rigs are replaced with 3 electric workover rigs

Number of Electric Workover Rigs	Max Rating (hp)	Max Rating (kw)	Load Factor	Peak Daily Operating Schedule (hr/day)	Peak Annual Operating Schedule (hr/yr)	Diesel Use (gal/yr)^	Electricity Use (kWh/yr)	CO2eq (MT/yr)	Peak Electricity Use (kWh/day)	Electricity Use (MWh/day)	Instantaneous Electricity Peak Day (MW)
1	1,000	746	0.75	24	3,000	12,600	340.2	0.17	3	0.0027	0.0001
3	1,000	746	0.75	24	3,000	37,800	1020.6	0.51	8	0.0082	0.0003

Note: Instantaneous Electricity Equation: 40 MWh/day x 1 work day/24 hr = 1.68 MW

^CARB, 2007 Oil and Gas Industry Survey Results, Final Report (Revised), Table 7-3, October 2013.

1 gallon diesel - 0.027 kwh electricity

California Energy Commission, Energy Almanac, Gasoline Gallon Equivalents (GGE) for Alternative Fuels, accessed April 24, 2015

<http://www.energyalmanac.ca.gov/transportation/gge.html>

GHG Emission Factors:

1 metric ton (MT) = 2,205 pounds

1,110 lb CO2eq/MWh for electricity when source of power is not identified

(CEC, September 6, 2007 - Reporting and Verification of Greenhouse Gas Emissions in the Electricity Sector)

Alternate Fuel Demand: If 3 diesel workover rigs are replaced with 3 alternate fuel workover rigs

Number of Workover Rigs	Max Rating (hp)	Max Rating (kw)	Load Factor	Peak Daily Operating Schedule (hr/day)	Peak Annual Operating Schedule (hr/yr)	Diesel Use (gal/yr)^	LNG Use (gal/yr)	CNG Use (therm/yr)	CNG Use (gal/yr)	LPG Use (gal/yr)
1	1,000	746	0.75	24	3,000	12,600	7,031	9,185	68,716	8,228
3	1,000	746	0.75	24	3,000	37,800	21,092	27,556	206,148	24,683

1 therm = 7.481 gallons = 1 cf

1 gallon diesel = 0.558 gallons LNG = 0.729 therms CNG = 0.653 gallons LPG

California Energy Commission, Energy Almanac, Gasoline Gallon Equivalents (GGE) for Alternative Fuels, accessed April 24, 2015

<http://www.energyalmanac.ca.gov/transportation/gge.html>

Emission Factors for Alternative Fuel Consumed (g/gal except for CO₂, N₂O, CH₄ & CO₂eq)*

Type of Alternative Fuel Burned	Amount of Alternative Fuel Burned per day per rig (gallons)	NO _x (g/gal)	VOC (g/gal)	PM ₁₀ (g/gal)	CO ₂ (lb/MMscf)	CH ₄ (lb/MMscf)	N ₂ O (lb/MMscf)	CO ₂ eq (lb/MMscf)
LNG	56.25	3.7	1.17	0.185	120,000	2.3	0.64	120246.7
CNG	549.73	3.7	1.17	0.185	120,000	2.3	0.64	120246.7
LPG	65.82	3.7	1.17	0.185	120,000	2.3	0.64	120246.7

*Carl Moyer Guidance, Emission Factors for Alternative Fuel Heavy-Duty Engines, Appendix D, Table D-2, July 2014.

<http://www.arb.ca.gov/msprog/moyer/guidelines/current.htm>

GHG Emission Factors:

120,000 lb CO₂/MMscf fuel burned

0.64 lb N₂O/MMscf fuel burned

2.3 lb CH₄/MMscf fuel burned

CO₂eq = CO₂ + 21*CH₄ + 310*N₂O

LNG Workover Rig Emissions	NOx (lb/day)	VOC (lb/day)	PM10 (lb/day)	PM2.5# (lb/day)	CO2eq (MT/yr)
for 1 rig	0.46	0.15	0.02	0.02	0.05
for 3 rigs	1.38	0.44	0.07	0.06	0.15

1 g= 453.6 lb

1 metric ton (MT) = 2,205 pounds

CNG Workover Rig Emissions	NOx (lb/day)	VOC (lb/day)	PM10 (lb/day)	PM2.5# (lb/day)	CO2eq (MT/yr)
for 1 rig	4.48	1.42	0.22	0.21	0.50
for 3 rigs	13.45	4.25	0.67	0.62	1.50

LPG Workover Rig Emissions	NOx (lb/day)	VOC (lb/day)	PM10 (lb/day)	PM2.5# (lb/day)	CO2eq (MT/yr)
for 1 rig	0.54	0.17	0.03	0.02	0.06
for 3 rigs	1.61	0.51	0.08	0.07	0.18

SCAQMD, Final –Methodology to Calculate Particulate Matter (PM) 2.5and PM 2.5 Significance Thresholds, October 2006.

Table A, PM2.5 Fraction of PM10 for off-road diesel-fueled equipment.

Appendix B

Worksheet B-5: Vacuum Trucks and Temporary Lighting

Additional vacuum trucks needed **3 trucks/year** **Peak Day: 3 trucks/day**
to conduct same day well cellar pump out
if verified odor source

On-Road Equipment Type	Fuel	Number Needed per year	Number Needed per peak day	Round-trip Distance (miles/delivery)	Mileage Rate (miles/gallon)	2015 Mobile Source Emission Factors							
						VOC (lb/mile)	CO (lb/mile)	NOx (lb/mile)	SOx (lb/mile)	PM10 (lb/mile)	PM2.5 (lb/mile)	CO2 (lb/mile)	CH4 (lb/mile)
Offsite (Heavy-Heavy Duty Vacuum Truck)	diesel	3	3	50	4.89	0.0018	0.0077	0.0212	0.00004	0.0010	0.0009	4.2090	0.0001

Peak Combustion Emissions from Additional Vacuum Trucks	VOC (lb/day)	CO (lb/day)	NOx (lb/day)	SOx (lb/day)	PM10 (lb/day)	PM2.5 (lb/day)	CO2 (lb/vr)	CH4 (lb/vr)	CO2eq* (lb/vr)	CO2eq* (MT/vr)
Offsite (Heavy-Heavy Duty Vacuum Truck)	0.27	1.15	3.18	0.01	0.16	0.13	631	0.01	632	0.29
TOTAL	0	1	3	0	0	0	631	0	632	0

Equation: No. of Vehicles x Emission Factor (lb/mile) x No. of Round-Trips/Day x Round-Trip length (mile) = Offsite Construction Emissions (lb/day)

*1 metric ton (MT) = 2,205 pounds

	Equipment Type	Total Miles Driven (miles/day)	Total Miles Driven (miles/year)	Mileage Rate (miles/gal)	Total Diesel Fuel Usage (gal/day)	Total Diesel Fuel Usage (gal/year)
Offsite (Heavy-Heavy Duty Fuel Delivery Truck)	Vacuum Truck (HHD)	150	150	4.89	30.67	30.67
TOTAL Diesel Fuel needed to operate 3 additional vacuum trucks					31	31

Additional temporary lighting for potential nighttime operations of vacuum trucks

Off-Road Equipment Type	Fuel	Number Needed per year	Number Needed per peak day	Operating Schedule (hours/day)	2015 Mobile Source Emission Factors							
					VOC (lb/hr)	CO (lb/hr)	NOx (lb/hr)	SOx (lb/hr)	PM10 (lb/hr)	PM2.5 (lb/hr)	CO2 (lb/hr)	CH4 (lb/hr)
Generator Set to support portable lighting equipment (composite)	diesel	3	3	2	0.0018	0.0077	0.0212	0.00004	0.0010	0.0009	4.2090	0.0001

Peak Combustion Emissions from Operating generator sets	VOC (lb/day)	CO (lb/day)	NOx (lb/day)	SOx (lb/day)	PM10 (lb/day)	PM2.5 (lb/day)	CO2 (lb/vr)	CH4 (lb/vr)	CO2eq* (lb/vr)	CO2eq* (MT/vr)
Generator Set to support portable lighting equipment (composite)	0.0107	0.0460	0.1274	0.0002	0.0063	0.0053	25.2541	0.0005	25.2647	0.0115
TOTAL	0.01	0.05	0.13	0.00	0.01	0.01	25.25	0.00	25.26	0.01

Equation: No. of Vehicles x Emission Factor (lb/mile) x No. of Round-Trips/Day x Round-Trip length (mile) = Offsite Construction Emissions (lb/day)

*1 metric ton (MT) = 2,205 pounds

Incremental Increase in Diesel Fuel Usage From Operating Generator Sets to support portable lighting equipment	Total Operating Hours/day (peak)	Total Operating Hours/year	Diesel Fuel Usage (gal/hr)	Total Diesel Fuel Usage - Peak Day (gal/day)	Total Diesel Fuel Usage (gal/vr)
Operation of Generator Sets	6	6	2.68	16.08	16.08
TOTAL Diesel Fuel needed to operate 3 additional generator sets				16	16

Appendix B

Worksheet B-6: Installation of Monitoring Equipment

Monitoring System Installation in last six months of Year 2015

Activity	No. of Facilities affected	No. of Facilities under construction on a peak day	Days of construction per system installation	Total Days of Construction per facility	Crew Size per installation
Construction	24	5	1.0	1.00	3
Total			1.00		

Construction On-Road Equipment Type	Fuel	Number Needed	Round-trip Distance (miles/day)	Mileage Rate (miles/gallon)	2015 Mobile Source Emission Factors							
					VOC (lb/mile)	CO (lb/mile)	NOx (lb/mile)	SOx (lb/mile)	PM10 (lb/mile)	PM2.5 (lb/mile)	CO2 (lb/mile)	CH4 (lb/mile)
Offsite (Construction Worker Vehicle)	gasoline	3	30	20	0.0007	0.0061	0.0006	0.00001	0.0001	0.0001	1.1019	0.0001
Offsite (Delivery Truck - Medium Duty)	diesel	1	50	6	0.0017	0.0117	0.0129	0.00003	0.0005	0.0004	2.8125	0.0001

Incremental Increase in Combustion Emissions from On-Road Construction Vehicles	VOC (lb/day)	CO (lb/day)	NOx (lb/day)	SOx (lb/day)	PM10 (lb/day)	PM2.5 (lb/day)	CO2 (lb/day)	CH4 (lb/day)	CO2eq* (lb/day)	CO2eq* (MT/project)
Offsite (Construction Worker Vehicle)	0.06	0.55	0.05	0.0010	0.0083	0.0054	99.17	0.01	99.29	0.0015
Offsite (Delivery Truck)	0.09	0.58	0.64	0.0014	0.0252	0.0206	140.62	0.00	140.71	0.0021
SUBTOTAL	0.15	1.14	0.70	0.0023	0.0335	0.0260	239.80	0.01	239.99	0.0036

Equation: No. of Vehicles x Emission Factor (lb/mile) x No. of Round-Trips/Day x Round-Trip length (mile) = Offsite Construction Emissions (lb/day)

*SCAQMD Regulation XXVII - Climate Change, Rule 2700 - General, Table 1 - Global Warming Potentials, CO2 = 1 and CH4 = 21

*1 metric ton (MT) = 2,205 pounds; GHGs from temporary construction activities are amortized over 30 years

Construction Emissions Summary	VOC (lb/day)	CO (lb/day)	NOx (lb/day)	SOx (lb/day)	PM10 (lb/day)	PM2.5 (lb/day)	CO2 (lb/day)	CH4 (lb/day)	CO2eq (lb/day)	CO2eq (MT/project*)
Combustion Emissions from On-Road Construction Vehicles	0.15	1.14	0.70	0.00	0.0335	0.0260	239.80	0.01	239.99	0.0036
TOTAL for 1 Facility	0	1	1	0	0	0	240	0	240	0
Significance Threshold	75	550	100	150	150	55	n/a	n/a	n/a	n/a
Exceed Significance?	NO	NO	NO	NO	NO	NO	n/a	n/a	n/a	n/a

*1 metric ton (MT) = 2,205 pounds; GHGs from temporary construction activities are amortized over 30 years

	VOC (lb/day)	CO (lb/day)	NOx (lb/day)	SOx (lb/day)	PM10 (lb/day)	PM2.5 (lb/day)	CO2 (lb/day)	CH4 (lb/day)	CO2eq (lb/day)	CO2eq (MT/project*)	CO2eq (MT/for 24 facilities*)
TOTAL for 5 Facilities Overlapping Construction in 2015 on a peak day	0.73	5.69	3.48	0.01	0.17	0.13	1198.99	0.05	1199.97	0.02	0.09
Significance Threshold	75	550	100	150	150	55	n/a	n/a	n/a	n/a	10,000
Exceed Significance?	NO	NO	NO	NO	NO	NO	n/a	n/a	n/a	n/a	NO

*1 metric ton (MT) = 2,205 pounds; GHGs from temporary construction activities are amortized over 30 years

Incremental Increase in Fuel Usage From Construction Equipment and Workers' Vehicles	Total Construction Hours for Project	Equipment Type	Total Diesel Fuel Usage (gal/day)	Total Gasoline Fuel Usage (gal/day)
Workers' Vehicles - Commuting	N/A	Light-Duty Vehicles	N/A	4.50
Workers' Vehicles - Offsite Delivery/Haul	N/A	Delivery Truck	8.33	N/A
TOTAL for 1 Facility			8	5
TOTAL for 5 Facilities Overlapping Construction in 2015			42	23

	Total Diesel Fuel Usage (gal/project)	Total Gasoline Fuel Usage (gal/project)
TOTAL for all 24 Facilities	200	108

Source:

On-Road Mobile Emission Factors (EMFAC 2011), Scenario Year 2015

[http://www.aqmd.gov/home/regulations/ceqa/air-quality-analysis-handbook/emfac-2007-\(v2-3\)-emission-factors-\(on-road\)](http://www.aqmd.gov/home/regulations/ceqa/air-quality-analysis-handbook/emfac-2007-(v2-3)-emission-factors-(on-road))

APPENDIX C

**COMMENT LETTERS RECEIVED ON THE DRAFT EA AND
RESPONSES TO COMMENTS**

INTRODUCTION

The Draft EA was released for a 30-day public review and comment period from April 29, 2015 to May 28, 2015 which identified the topics of air quality and greenhouse gases, and energy as environmental topic areas that may be adversely affected by the proposed project, but after completing the analysis, were shown to have less than significant impacts. The SCAQMD received two comment letters from the public regarding the analysis in the Draft EA during the public comment period.

The comment letters have been numbered (see Table C-1 below) and individual comments within each letter have been bracketed and numbered. Following each comment letter is SCAQMD's responses to the individual comments.

Table C-1
List of Comment Letters Received Relative to the Draft EA

Comment Letter	Commentator
#1	Western States Petroleum Association
#2	Joyce Dillard



Western States Petroleum Association
Credible Solutions • Responsive Service • Since 1907

Sandra Burkhart
Senior Coastal Coordinator

Comment Letter 1

May 28, 2015

Ms. Barbara Radlein
c/o Office of Planning, Rule Development and Area Sources
South Coast Air Quality Management District
21865 Copley Drive
Diamond Bar, CA 91765-4178

Subject: Notice of Completion of a Draft Environmental Assessment –
Proposed Amended Rule 1148.1 – Oil and Gas Production Wells

Dear Ms. Radlein:

Western States Petroleum Association (WSPA) appreciates the opportunity to comment on the abovementioned Draft EA. WSPA is a non-profit trade association representing companies that explore for, produce, refine, transport and market petroleum, petroleum products, natural gas and other energy supplies in California and four other western states. 1-1

Overall, WSPA is concerned that the amended regulation does nothing to improve air quality in the South Coast Air Basin. Further, the regulation adds voluminous requirements, paperwork, notification and compliance testing while there has been no determination of an odor nuisance from this source category and there are already odor nuisance regulations in place should the need arise. The regulation is duplicative and does not further the agency’s mission of attaining Ambient Air Quality Standards in any way. 1-2

Draft EA Specific Comments

The comments below highlight specific concerns about the amendment and the associated Draft EA. 1-3

The document states that “By statute, the SCAQMD is required to adopt an air quality management plan (AQMP) demonstrating compliance will all federal and state ambient air quality standards for the district. Furthermore, the SCAQMD must adopt rules and regulations that carry out the AQMP.” WSPA agrees with this assertion but is unclear how this amendment carries out the AQMP or the agency’s mission in any way. *There are no emission reductions associated with the amendment.* 1-4

The introduction presents background information about the health effects of VOCs including “coughing, sneezing, headaches...” *Again, it is unclear what the relevance of this information is as there are no emission reductions associated with this amendment.* 1-5

The Draft EA states that the regulation is being revisited “*due to an increased awareness of oil and gas production wells by the community...*” Please clarify what this means and how it has any relevance to the necessity of a regulation amendment. There is no evidence to suggest that this industry has had a problem in the past or created a significant odor nuisance. 1-6

“*To prevent public odor nuisance and possible detriment to public health caused by exposure to VOC, TAC, and total organic compound emissions (TOC) from the operation and maintenance of oil and gas production facilities...*” (page 1-1) Again, there appears to be no emission inventory presented to suggest that there are any emission reductions associated this amendment so this statement is misleading and erroneous. 1-7

The California Environmental Quality Act (CEQA) defines a “Project” as the whole of an action, which has a potential for resulting in either a direct physical change in the environment, or a reasonably foreseeable indirect physical change in the environment. WSPA requests clarification as to what the physical change on the environment is as a result of the project. SCAQMD staff indicated at the Stationary Source Committee that the proposed amendments result in emission reductions; however, there is no inventory provided to allow for an adequate analysis. 1-8

The document states that “To date, there are 473 oil and gas production facilities operating within SCAQMD’s jurisdiction that are either currently subject to Rule 1148.1 or registered via Rule 222.” Of these facilities, District staff indicated that more than 1,000 wells were drilled throughout the last twelve months. It is further WSPA’s understanding that there were no violations issued to this industry throughout the last twelve months. Therefore, the necessity of this amendment is unclear. 1-9

Please clarify that in addition to the list of regulations subject to this industry, oil and gas production facilities are also subject to Rule 402 – Nuisance. This regulation is already being complied with by this industry making the rule amendment duplicative and unnecessary. 1-10

“*This subdivision proposes clarifications that include the reduction of TAC and TOC emissions as contaminants, in addition to VOCs, that will contribute to the overall emission reduction goal.*” (page 1-14). 1-11

Page 2-4 states, “*PAR 1148.1 is undergoing amendments in order to further prevent public nuisance and possible detriment to public health caused by exposure to VOC, TAC and TOC emissions from the operation and maintenance of oil and gas production facilities.*” 1-11

Again, if there are emission reductions associated with the proposed amendments, they should be quantified and included herein. If there are no emission reductions associated with the amendment, statements such as the abovementioned need to be corrected as they are misleading in nature. 1-12

WSPA is unclear about the installation of a rubber grommet as part of a maintenance or drill piping replacement activity and its relevance to a potential odor nuisance. 1-12

Please clarify what instrumentation is being used to determine the occurrence of each confirmed odor event. 1-13

Table 1-1 – Proposed Odor Monitoring and Mitigation Requirements, lists the requirement of an alternative fuel or electric powered workover rig. This table’s title is misleading as there are allegedly no mitigation measures associated with this Draft EA nor are there any significant adverse environmental impacts. 1-14

Appendix B in the Draft EA highlights emission reductions that appear to be exclusive to the requirement related to the electric workover rig. It is WSPA’s understanding that this requirement has been removed from 1-15

the proposed amended regulation. If this is the case, potential emission reductions associated with this proposed amendment were the premise for the entire analysis. WSPA respectfully requests that a new emission inventory be developed and that this document be recirculated so that the public has sufficient time to review this significant new information presented therein. 1-15 cont.

Table 1-1 also lists leak detection and repair (LDAR) requirements. The document accurately states that LDAR requirements are contained in Rule 1173. However, this rule is not the subject of this analysis nor is it being amended at this time. It is unclear why it is being referenced and why a change to Rule 1173 would be reflected in Rule 1148.1. 1-16

Air Quality

There are two methods of piping controls listed as Mitigation Plan Improvement Measures in the Staff Report as well as the Draft EA. It is unclear how enclosures or tarping has anything to do with reducing odor. Further, if enclosure is a compliance option, why is the analysis of enclosure completely missing from the Draft EA? The Draft EA states that *“Because of the available compliance options for storing removed drill piping and drill rods, the analysis in this Draft EA assumes that facility operators would not choose to construct new storage areas or modify existing storage areas when a tarp can be used instead. Thus, the proposed project would not promote the construction of new facilities or structures nor would it cause construction activities to occur at existing facilities.”* (page 2-4) 1-17

The rule specifically lists an enclosed structure as a potential compliance option but no environmental analysis is provided. CEQA requires that all indirect environmental impacts be evaluated that result from the proposed project. WSPA is further unclear what measures were taken to determine *“that facility operators would not choose to construct new storage areas...”* Which facilities were surveyed or questioned relative to their compliance determination under this clause? The analysis should have conservatively assumed that even a portion of the facilities would choose this option and the indirect impacts should have been evaluated. This analysis would have demonstrated that the proposed amendments have potential adverse environmental impacts associated with the construction of storage units to house piping. 1-18

The Staff Report indicates that covering drill rods and piping with plastic tarping will be the preferred option; again it unclear how this determination was made. However, the staff report further indicates that *“each potentially affected facility would use up to six tarps, twice a year for six wells.”* (Staff Report page 21) Using this estimate provided, it appears that 473 facilities would each need six tarps twice a year. This would result in the delivery and installation of 5,676 tarps per year throughout the Basin. Since drilling schedules and facilities vary greatly, it would have to be assumed that these tarps may be delivered individually as needed. Therefore, it is again unclear why there is no analysis of the secondary air quality impacts associated with these tarp deliveries. This analysis would indicate that there are adverse environmental impacts associated with the project and no air quality benefits. 1-19

WSPA takes exception to several unsubstantiated statements in this section. First, that the rule amendment seeks to *“minimize the potential for odor and nuisance and odor impacts to local residents and sensitive receptors that are often located nearby from ongoing operations that do not include drilling.”* Again, there is no history of nuisance impacts from this sector nor has any substantiation been provided in the Staff Report. WSPA is also requesting substantiation as to how SCAQMD knows that these facilities are often located nearby sensitive receptors. These statements are misleading particularly when there is no evidence that any sensitive receptors have even found this source category to be a nuisance. 1-20

Another sentence that requires revision or clarification states that “...*the proposed project will continue to assist the SCAQMD’s progress in attaining and maintaining the ambient air quality standards for ozone.*” This statement is completely false and needs to be removed from the Draft EA. 1-21

Another statement that is concerning to WSPA says, “*PAR 1148.1 neither requires the construction of new facilities nor requires physical modifications at existing facilities that would entail construction activities.*” The proposed amended regulation specifically requires an enclosure for used rods. CEQA requires an analysis of this mandatory component and we request that emissions from the construction of these structures being included in the Final EA. 1-22

The utilization of an electric workover rig assumed in the analysis has been removed from the regulation. The Final EA needs to reflect that Appendix B and Tables 2-2, 2-3 2-4 and 2-5 are no longer valid and there are no emission reductions associated with this amendment. As such, there are now no environmental benefits associated with the amendment yet there are several potential adverse environmental impacts that have yet to be adequately addressed. 1-23

The air quality analysis indicates that “*past compliance data for Rule 1148.1 facilities has shown that only three facilities experienced more than three confirmed odor events....*” There are no dates indicated to determine when these confirmed odor incidents occurred but WSPA knows of no odor incidents within the last year at its more than 473 facilities. This begs the question as to the necessity of this amendment. One of the mandatory findings under California Health and Safety Code Section 40727 is a finding of Necessity. WSPA is unclear how this finding can possibly be made when there is no evidence to suggest there is a nuisance problem that needs to be addressed. 1-24

Although it is WSPA’s understanding that the electric workover rig component of the amendment has been removed, the statement that “*facility operators could choose to install electricity generating equipment in order to support the operation of an electric workover rig*” is concerning. The SCAQMD finds it more environmentally beneficial to generate more power in order to reduce potential odor impacts that have not occurred nor have they occurred in the past. If a new power generating source is required as a result of this regulation, it should have been evaluated under this CEQA analysis. It is part of this rule amendment and not including it is considered “*piece meal*ing” under CEQA and prohibited. 1-25

Any reference to an electric work over rig or clean fuel work over should be removed if this component has been taken out of the amendment. If this component remains in the amendment, this analysis is flawed and must evaluate all secondary impacts associated with this change including the installation or creation of new power generating facilities. 1-26

The Air Quality Section includes a statement that “*PAR 1148.1 would not change any of the VOC/TOC/TAC reduction aspects in [SIC] currently in the rule....*” WSPA agrees with this statement and requests that a clarification be made throughout the document to indicate that there are no emission reductions associated with the rule. Any references to furthering the goals of the AQMP or attaining ozone standards are misleading, false and should be removed. 1-27

Energy

If the electric work over rig component remains in the rule amendment, then the Energy analysis needs revisions and recirculation under CEQA. There is an estimate of approximately 68 workover rigs that may need to be converted to electric. If so, there is a potential for an increase in the demand for utilities that exceed current capacities. WSPA is unclear why the analysis assumes only three workover rigs that may need 1-28

conversion since the rule amendment applies to the entire industry. Table 2-6 should be revised to accurately reflect the number of work over rigs operating in the Basin. 1-28 cont.

Geology and Soils

The proposed amended rule allows for the use of a storage shed. As such WSPA requests clarification as to why this section states that *“Other than the possible replacement of three diesel-fueled workover rigs with three non-diesel workover rigs, no physical modifications to buildings or structures are expected to occur as a result of implementing PAR 1148.1”* The rule specifically allows for the construction of a storage shed as a compliance option so this option is required to be evaluated under CEQA. 1-29

WSPA also requests substantiation as to how SCAQMD knows that all of these sites are flat or have all been previously graded? Any facility choosing to install the storage shed would need to excavate and grade the site as part of compliance. 1-30

Hazards and Hazardous Materials/Solid and Hazardous Waste

WSPA requests further analysis relative to VIII a-b. If SCAQMD requires the use of 5,676 oversized tarps that could come in contact with crude oil or by-products, these tarps would be required to be disposed of as hazardous waste. This is costly and there is a significant shortage of landfills permitted to accept hazardous materials. An analysis should be conducted as to the trips generated and the site location of that these tarps would need to be transported to. This is a potential adverse impact that has not been addressed or quantified in any way. The significance criteria for Solid and Hazardous Waste states that the project can be significant if “the generation and disposal of hazardous and non-hazardous waste exceeds the capacity of designated landfills.” It is unclear how a non-significance determination can be made lacking any quantification or analysis of local capacity to handle hazardous materials. 1-31

If hydrogen sulfide (H2S) vented to the atmosphere is being reduced as a result of the proposed amended regulation as the analysis asserts, this should have been quantified. No quantification of emission reductions (of any pollutant) is provided to allow for an adequate analysis. 1-32

Hydrology and Water Quality

Please see the comments above. The proposed amendments specifically allow for the construction of a storage shed as part of mandatory rule compliance. WSPA disagrees with the statement that *“PAR 1148.1 neither requires construction of new facilities nor requires physical modifications at existing facilities that would entail construction activities that would require water for dust mitigation.”* 1-33

This analysis is inadequate and requires quantification. 1-35

Land Use and Planning

Please see the comments above. This analysis is inadequate and requires quantification. 1-34

Transportation and Traffic

The delivery and removal of approximately 5,767 tarps needs to be addressed. WSPA is unclear what vendor can supply these oversized tarps and how far they would need to travel for delivery and then subsequent 1-35

removal as a hazardous waste. Quantification is needed before this analysis can adequately find no significant impacts from the environmental sector.
If the tarps are not delivered, it is because a facility has chosen to comply with the construction of a storage shed. There are workers, equipment and deliveries associated with this construction that should have been addressed.

1-35
cont.

Mandatory Findings of Significance

The Draft EA lacks the detail or quantification to make an adequate finding of significance under CEQA. The SCAQMD's own footnote highlighting documentation that is more than 12 years old should indicate that this type of documentation is outdated and not an effective tool for determining cumulative significance.

1-36

WSPA requests that the reference to "possible detriment to public health caused by exposure to VOC, TAC and TOC emissions...." be removed. This is false and misleading and contradicts many other statements that confirm that the amendments are administrative and do not reduce emissions in any way.

1-37

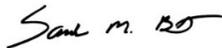
WSPA appreciates the opportunity to comment on the Draft EA for PAR 1148.1. We request that the analysis be re-done and recirculated to remove the reference to the electric workover rig as well as include an adequate analysis related to the thousands of tarps and storage sheds that are required to be included as part of this rule amendment.

1-38

WSPA also requests the removal of any reference to emission reductions associated with this amendment and finally, would encourage the SCAQMD to focus on rule development that actually attains and maintains ambient air quality standards necessary to protect public health. This amendment is an administrative, costly burden with no environmental benefits whatsoever.

1-39

Sincerely,



Sandra Burkhardt
Senior Coordinator, Coastal Region, State Marine, Waste, and Property Tax Issues

CC: Barry Wallerstein, D.Env.
Governing Board members

RESPONSES TO COMMENT LETTER #1
(Western States Petroleum Association – May 28, 2015)

- 1-1** This comment introduces the nature of the commentator’s affiliation with the oil and gas industry. No response is necessary.
- 1-2** This comment claims that PAR 1148.1 does nothing to improve air quality and instead adds voluminous requirements, paperwork, notification, and compliance testing even though there has been no determination of an odor nuisance and other odor nuisance regulations are already in place. This comment claims that PAR 1148.1 is duplicative and does not further SCAQMD’s mission of attaining ambient air quality standards.

The SCAQMD has a responsibility for not only achieving a reduction in criteria pollutants leading to attainment of the ambient air quality standards, but also for preventing public nuisance under the Health and Safety Code. Odor issues affecting a single complainant may be better described as a private nuisance and would not be covered by this authorization. The criteria used to establish a public nuisance is a relatively high bar, generally requiring six or more independent complainants and verification by SCAQMD personnel. PAR 1148.1 seeks to improve awareness over the issues involved with the complaint handling process, the efforts by the regulated industry, and the concerns from the local community, especially as they pertain to exposures from potentially toxic components of crude oil. Unlike as the commenter asserts, the proposed amended rule is not duplicative, as further described in the following paragraphs.

Appendix B of the Staff Report for PAR 1148.1 includes a five-year complaint history summary for a sample of the 473 oil and gas production facilities, which identifies three odor nuisance notices of violation as well as eight additional notices of violations that were identified during the investigation process for the complaints. The current complaint handling process used by the SCAQMD as part of the implementation of Rule 402 – Nuisance, involves the confirmation by an agency inspector of any odor identified in a complaint. The confirmation includes identification of the odor at the complainant location, traced back to a source. Although not every complaint call is a verifiable event, the complaint itself can be a community outreach opportunity, either as an indicator of dissatisfaction with perceived responses, actions, or of the desire for more information and awareness of the activities, including frequency and timeframes. In this way, management of potential private nuisance issues can help avoid escalation into a possible public nuisance situation.

SCAQMD Rule 410 — Odors from Transfer Stations and Material Recovery Facilities, currently establishes odor management practices and requirements to reduce odors from municipal solid waste transfer stations and material recovery facilities. In addition, Proposed Rule 415 — Odors from Rendering Facilities, seeks to establish odor mitigation requirements applicable to Rendering Facilities, and is scheduled for adoption later this year. PAR 1148.1 represents a

continuation of the effort to further minimize the potential for public nuisance due to odors from specific industries. PAR 1148.1 consists of two parts: 1) basic requirements for all covered facilities which are not burdensome; and, 2) Odor Mitigation Plan requirements which only go into effect once a triggering event occurs, meaning that there is a heightened potential for public nuisance. While there are various regulations that address accidental releases or breakdowns, it is not certain that potential nuisance can be solely attributed to upset conditions, or to other non-upset conditions from routine or preventative maintenance activities, or to otherwise compliant but inefficient operational or maintenance practices.

The provisions of PAR 1148.1 seek to strengthen the preventative measures some facilities may currently be taking and formalizing them in order to improve communication and transparency between the regulated community and their local residential community. As such, SCAQMD staff believes that only facilities with ongoing odor nuisance issues will become subject to the more stringent OMP requirements contained in the proposed amendment, whereas the community will benefit overall from the increased level of assurance provided from improved communication and improved overall awareness of the operations and practices conducted by the majority within the industry.

Lastly, some VOC and Toxic Air Contaminants (TACs) may be reduced as a result of incorporating additional best practices to reduce odors, but quantification of these benefits is difficult for State Implementation Plan (SIP) submittals, and thus PAR 1148.1 is not being considered for inclusion in the SIP.

1-3 This comment explains that the letter highlights specific concerns about the proposed project and the Draft EA. The comment letter has been bracketed and individual responses to the specific concerns raised are contained in responses 1-4 through 1-39.

1-4 This comment points out that because there are no emission reductions associated with PAR 1148.1, it is unclear as to how PAR 1148.1 carries out the goals of the AQMP to demonstrate compliance with federal and state ambient air quality standards. The District has a responsibility to protect community members from objectionable odors as well as attaining ambient air quality standards.

Although PAR 1148.1 is not driven by the AQMP, the current version of Rule 1148.1 implements Control Measure FUG-05 – Emission Reductions from Fugitive Emission Sources of the 2003 AQMP, and as such information on the achieved reductions under the rule is relevant to the background discussion. For additional discussion, see also Response 1-2.

1-5 This comment points out that because there are no emission reductions associated with PAR 1148.1, it is unclear why the adverse health effects of VOCs is described in the Draft EA.

This comment repeats sentiments previously expressed in Comments 1-2 and 1-4. See Responses 1-2 and 1-4.

- 1-6** This comment requests clarification as to what the phrase “*due to an increased awareness of oil and gas production wells by the community...*” means and why Rule 1148.1 needs to be amended. This comment also claims that there is no evidence to suggest that the oil and gas industry has a past problem or has created a significant odor nuisance.

Appendix B of the Staff Report identifies a sampling of complaint history for oil and gas production facilities which is reflective of the local communities’ awareness and interest in the activities associated with them. Thus, page 1-1 of the Final EA has been clarified as follows: “However, due to an increased awareness of oil and gas production wells by the community, leading to multiple complaints and public comments requesting more proactive and preventative measures, SCAQMD staff has revisited the requirements in Rule 1148.1 to see what, if any, improvements can be made to the rule in order to minimize air quality and odor impacts to local residents and sensitive receptors that are often located nearby from ongoing operations that do not include drilling or well stimulation.” See also Response 1-2.

- 1-7** This comment claims that because no emission inventory was presented to suggest that there would be emission reductions associated with PAR 1148.1, the following statement on page 1-1 of the Draft EA is misleading and erroneous:

“To prevent public odor nuisance and possible detriment to public health caused by exposure to VOC, TAC, and total organic compound (TOC) emissions from the operation and maintenance of oil and gas production facilities...”

PAR 1148.1 includes rule language clarification as part of the purpose subdivision to indicate that TAC and TOC emission are reduced concurrent with the VOC emission reductions achieved by the existing rule and do not represent any additional reductions targeted as part of the proposed amendment. In addition, the purpose subdivision of PAR 1148.1 includes a reference “to prevent public nuisance and possible detriment to public health caused by exposure to such emissions.” As such, the possible detriment specifically refers to exposure to emissions related to a public nuisance. See also Responses 1-2 and 1-4.

- 1-8** This comment restates how CEQA defines a project and requests clarification as to what the physical change on the environment would be as a result of the project. This comment also claims that even though there is no inventory provided to allow for an adequate analysis, SCAQMD staff indicated at the Stationary Source Committee meeting that PAR 1148.1 would result in emission reductions.

PAR 1148.1 was discussed at two Stationary Source Committee meetings held on February 20, 2015 and April 17, 2015, but emission reductions from reducing odor nuisance potential was only discussed at the latter meeting. From the minutes of the April 17th meeting, SCAQMD staff explained that the proposal (PAR 1148.1) is focused on reducing odor nuisance potential which in turn would have the potential to reduce emissions. However, the potential to reduce emissions through odor minimization cannot be quantified. Nonetheless, CEQA does not preclude the use of a qualitative analysis to evaluate the potential environmental effects of a proposed project. As such, the analysis in the Final EA quantifies the environmental effects whenever data is available and qualitatively analyzes the remainder based on available information at the time of publication.

- 1-9** This comment claims that the necessity for amending Rule 1148.1 is unclear because more than 1,000 wells were drilled within the last 12 months and there were no violations issued during this time frame for the 473 oil and gas facilities that operate within SCAQMD's jurisdiction.

This comment repeats sentiments previously expressed in Comment 1-2. See Response 1-2.

- 1-10** This comment claims that the proposal to amend Rule 1148.1 is duplicative and unnecessary because the oil and gas industry is also subject to and complies with SCAQMD Rule 402 –Nuisance.

Page 1-6 of the Final EA includes a discussion on Rule 402 - Nuisance, which is included as being applicable to oil and gas production facilities. See also Response 1-2.

- 1-11** This comment claims that if there are emission reductions associated with PAR 1148.1 then they should be quantified and included or the statements that refer to reductions in VOC, TAC, and TOC emissions should be removed from the EA.

This comment repeats sentiments previously expressed in Comment 1-2. See Response 1-2.

- 1-12** This comment requests clarification as to how the installation of a rubber grommet during maintenance or drill piping replacement activities is relevant to a potential odor nuisance.

The use of a rubber grommet has been established through operating permits as a best practice for removing excess liquid from outside of drill piping, production tubing and sucker rods during removal. Excess volatile liquid is a contributor to emissions and related odorous emissions during such activities, and as such, is a potential odor nuisance source.

- 1-13** This comment requests clarification as to what instrumentation is used to determine a confirmed odor event.

A confirmed odor event is defined by PAR 1148.1 as “an occurrence of odor resulting in three or more complaints by different individuals from different addresses, and the source of the odor is verified by District personnel.” Odor has been defined by PAR 1148.1 as “the perception experienced by a person when one or more chemical substances in the air come into contact with the human olfactory nerves.” As such, a confirmed odor event is determined by the complainants and verified by District personnel through their respective sense of smell, consistent with the underlying investigative process used to address complaints under Rule 402 – Nuisance, for odors.

- 1-14** This comment claims that Table 1-1 is misleading because it identifies the requirement for an alternative fuel or electric powered workover rig. This comment also claims that the title of Table 1-1 is misleading because there are no significant adverse effects and no mitigation measures identified in the Draft EA.

Subsequent to the release of the Draft EA for public review and comment, additional revisions were made to PAR 1148.1 that resulted in the removal of the requirement for the use of an alternative fuel or electric powered workover rig as part of an OMP. As such, Table 1-1 no longer contains the requirement for an alternative fuel or electric powered workover rig. Relative to the comment that the title is misleading, the commentator has confused the odor monitoring and mitigation requirements that are in PAR 1148.1 and are part of the project’s design versus requiring mitigation and monitoring in response to significant adverse effects identified in a CEQA analysis as a result of implementing the project. The commentator is correct in that no significant adverse effects were identified in the Draft EA. Because PAR 1148.1 would not be expected to cause significant adverse environmental impacts for any topic area, mitigation measures are not required and therefore, were not included in the Draft EA.

The Odor Monitoring and Mitigation Requirements of Table 1-1 refer to PAR 1148.1 requirements associated with an Odor Mitigation Plan and not to any CEQA related elements. Please note that the latest version of PAR 1148.1 no longer includes alternative-fuel or electric powered workover rigs as an element of an Odor Mitigation Plan.

- 1-15** This comment claims that the analysis in Appendix B of the Draft EA contains emission reductions that are exclusive to the use of an electric workover rig and were the premise for the entire analysis even though this requirement was removed from the rule. This comment requests the development of a new emission inventory and a recirculation of the Draft EA so that the public has sufficient time to review the significant new information.

Emission reductions from alternative-fuel or electric rigs was not the basis for the proposed amendment and the emission inventory presented is only for CEQA purposes to discuss potential environmental impacts. As the commenter noted as a part of several comments, PAR 1148.1 is not expected to yield quantifiable emission reductions.

While it is correct that the calculations in Appendix B focus on the consequences of utilizing an electric workover rig, Appendix B also analyzes the adverse effects of utilizing alternate fuel workover rigs. Thus, the analysis shows both the potential benefits and adverse effects that may occur. However, as explained in Response 1-14, subsequent to the release of the Draft EA for public review and comment, additional revisions were made to PAR 1148.1 that resulted in the removal of the requirement for the use of an alternative fuel or electric powered workover rig as part of an OMP. By removing this requirement from PAR 1148.1, the adverse effects and benefits analyzed in Appendix B will not occur. Nonetheless, the analysis remains in the EA because it represents a worst-case analysis.

Other changes to PAR 1148.1 subsequent to the release of the Draft EA were proposed and the analysis has been revised to reflect these changes. In particular, the following modifications were made to the proposed project: 1) new paragraph (d)(3) has been added to require the pump out or removal of organic liquid accumulated in a well cellar the same day in the event the well cellar has been verified as a source of odors; 2) new paragraph (d)(14) has been added to require a facility operator to conduct and report a specific cause analysis for a confirmed oil deposition event; 3) new paragraph (e)(5) has been added to require monthly TOC measurements on any component identified as a potential odor nuisance and if a qualifying leak is identified, to require the repair, replacement, or removal from service the leaking component; and, 4) clause (f)(2)(C)(iv) has been revised to no longer specify covering of drill piping, production tubing and sucker rods; instead the new odor monitoring and mitigation plan specifications would require any removed drill piping, production tubing and sucker rods to be stored in a manner that would minimize emissions, either within an enclosed area, or by some other equivalent method.

Of these four changes to PAR 1148.1, industry has provided comments relative to item 1) to the effect that requiring the pump out or removal of organic liquid accumulated in a well cellar to occur the same day when the well cellar has been verified as a source of odors may cause an additional vacuum truck trip to the affected facility. Thus, the Draft EA has been revised to include an analysis of the potential adverse effects of additional vacuum truck trips and these additional assumptions and calculations can also be found in Appendix B.

Finally, the three remaining changes to PAR 1148.1 subsequent to the release of the Draft EA for public review and comment (see items 2 through 4) were determined to be procedural in nature and as such, would not be expected to cause any physical changes that that could cause secondary adverse environmental effects.

Staff has reviewed the modifications to the proposed project and concluded that none of the modifications constitute significant new information or a substantial increase in the severity of an environmental impact, nor provide new information of substantial importance relative to the draft document. In addition, revisions to

the proposed project in response to verbal or written comments would not create new, avoidable significant effects. As a result, these minor revisions do not require recirculation of the document pursuant to CEQA Guidelines §15073.5 and §15088.5.

See also Response 1-2 regarding the purpose of PAR 1148.1.

- 1-16** This comment claims that Table 1-1 is confusing because it includes leak detection and repair (LDAR) requirements even though LDAR requirements are contained in Rule 1173.

Oil and gas production facilities are currently subject to Rule 1173. PAR 1148.1 includes requirements that are more stringent than Rule 1173 as part of the Odor Mitigation Requirements under an Odor Mitigation Plan and does not reflect any amendment to Rule 1173. It is also noted that recent revisions to PAR 1148.1 add even more stringency to LDAR requirements above and beyond Rule 1173 if certain conditions are met. Specifically, Table 1-1 proposes more stringent LDAR requirements for PAR 1148.1 than what is currently required by Rule 1173 by reducing the required repair times for components subject to Rule 1173 LDAR to the lowest schedule of one calendar day with an extended repair period of three calendar days instead of the seven day repair time allowance and seven day extended repair period.

- 1-17** This comment requests clarification as to how enclosures or tarping have anything to do with reducing odor from removed drill piping and drill rods. This comment also asks for the reasoning behind why the Draft EA does not contain an analysis employing an enclosure as a compliance method.

As explained in Response 1-12, excess volatile liquid is a contributor to emissions and related odorous emissions during workover activities, and as such, is a potential odor nuisance source. For this reason, PAR 1148.1 requires the use of a grommet to remove any excess liquid from outside of the drill piping, production tubing, and sucker rods during removal. Further, managing the removed drill piping, production tubing and sucker rods through means such as storing within an enclosed area or other equivalent method to minimize exposure to crosswinds will reduce evaporation rates from any residue, thereby reducing peak releases and associated potential odor impacts. This requirement would apply only to those facilities subject to an Odor Mitigation Plan and where the facility identifies the removed drill piping, production tubing or sucker rods as a potential odor nuisance source, and the use of an enclosure or equivalent is determined to be feasible and effective in addressing the specific cause of the confirmed odor events or notice(s) of violation that resulted in the requirement for plan submittal.

When removing drill piping, production tubing or sucker rods during maintenance, the drill piping, production tubing and sucker rods are first temporarily staged (e.g., stored vertically) on the rig until they can be moved to an area on the property that has enough space to handle drill piping, production

tubing and sucker rod lengths up to 30 feet. Facilities already have designated areas where removed drill piping, production tubing and sucker rods are stored. Some facilities have an existing enclosed storage area for this purpose while others store the removed drill piping, production tubing and sucker rods out in the open. The proposed requirement in PAR 1148.1 for an enclosure or equivalent for storing the removed drill piping, production tubing and sucker rods would only apply in the following circumstances: 1) the facility is subject to an OMP; 2) the facility identifies the removed drill piping, production tubing or sucker rods as a potential odor nuisance source; and, 3) the use of an enclosure or equivalent is determined to be feasible. The purpose of the enclosure or equivalent would serve as a wind barrier to minimize the potential for a crosswind to disperse odors from any residue on the drill piping, production tubing and sucker rods across and offsite the property.

Subsequent to the release of the Draft EA, PAR 1148.1 was revised to clarify that an operator, would have the option of storing the removed drill piping, production tubing and sucker rods either within an enclosed area, or by some other equivalent method that acts as a wind barrier such as a covering or a freestanding wind screen, for example, in lieu of limiting the type of an equivalent method option in PAR 1148.1 to just a tarp. The Draft EA does not contain an analysis of constructing a new enclosed storage area because if an affected facility already has an enclosed storage area, a new one would not be needed since the existing enclosure would suffice. Further, if an affected facility already has a storage area on the property, all the facility would need to do is employ an equivalent method such as a covering or freestanding wind screen to provide a wind barrier. Because these would be the easiest and least expensive options, the analysis assumes that an affected facility would likely employ some kind of equivalent covering or wind screen in lieu of constructing an enclosed storage area.

- 1-18** This comment claims that even though the rule specifically lists an enclosed structure as a potential compliance option, no environmental analysis of the enclosed structure was included in the Draft EA. This comment also claims the CEQA requires all indirect environmental impacts to be evaluated and to be conservative, the analysis should have assumed that some portion of the affected facilities would build enclosures and the analysis should have evaluated those construction impacts. This comment inquires as to what measures were taken to support the claim that facility operators would not construct new storage areas. This comment inquires as to whether facilities were surveyed or questioned about what actions their operators might take to comply with this part of the rule.

Contrary to the comment, the language in PAR 1148.1 does not require or specify a building or storage shed as an enclosure. An enclosure can be a simple, temporary, portable wind barrier such as a covering or freestanding wind screen and does not need to be a permanent building, per se. Further, as explained in Response 1-17, an enclosure or equivalent for removed drill piping, production tubing and sucker rods would only be required under limited circumstances. Considering that workover activity is typically limited in duration, temporary

portable tenting may be also considered a feasible option in lieu of a more permanent enclosure. Certain facilities, especially those in urban areas, already store removed drill piping, production tubing and sucker rods in areas that minimize exposure to crosswinds.

The Draft EA assumed that there could be three facilities that may become subject to an OMP based on their past complaint histories. Thus, for these three facilities, if the removed drill piping, production tubing or sucker rods are identified as a potential odor nuisance source, then each facility operator would need to determine if the use of an enclosure or equivalent would be feasible and effective to prevent crosswinds flowing across the removed drill piping, production tubing and sucker rods while these items are being stored.

- 1-19** This comment requests clarification as to how the determination was made in the Staff Report which claims that covering drill rods and piping with plastic tarping is the preferred option. The comment extrapolates the data provided in the Staff Report to say that 473 facilities would each need six tarps twice a year and that the deliveries of these tarps along with the associated air emissions was not analyzed in the Draft EA.

Reference to the use of tarps has been removed from the Final Staff Report and PAR 1148.1, and this language is no longer included in the Final EA. Contrary to the comment, as explained in Response 1-18, the Draft EA assumed, based on past complaint histories, that there could be three facilities that may become subject to an OMP and that each facility could have six wells that would be maintained or reworked twice each year. Thus, only three facilities would be expected to use either an enclosure or equivalent to provide an effective wind barrier, such as a covering or freestanding wind screen, in lieu of an enclosed area in the event that the removed drill piping, production tubing and sucker rods are identified as a potential odor nuisance source, and the use of an enclosure equivalent such as a covering or freestanding wind screen may be feasible in preventing crosswinds from flowing across the removed drill piping, production tubing and sucker rods while these items are being stored.

If a facility operator chooses to utilize a covering such as a tarp as an equivalent enclosure, then one covering per well would be needed twice per year (e.g., 1 covering x 6 wells x 2 workovers = 12 coverings). Further, if all three facility operators choose to utilize coverings, then a total of 36 coverings per year would be needed instead of the commentator's alleged 5,676 coverings. Because the OMP would be prepared in advance, facility operators would have advance knowledge to be able to coordinate amongst their existing supply trips or delivery schedules to also include the purchase of 12 coverings per facility that may be needed for future removal and storage of drill piping, production tubing and sucker rods. Thus, any trips to purchase the coverings would be covered by existing maintenance trips to obtain supplies.

In the event that each facility operator would need to make an unplanned trip to obtain coverings or have the coverings delivered by a supplier for the aforementioned purpose, the amount of unplanned trips needed per year could be one additional round-trip per facility. Even if three additional trips are needed to obtain or supply coverings over the course of one year, these trips would not be expected to occur on the same day for three separate facilities. Finally, because the calculations in Appendix B are very conservative in that they are based on the assumption that there could be three heavy duty vacuum trucks visiting three facilities on a peak day, any additional unplanned trips that may occur in order to obtain or supply coverings, would not be expected to exceed the peak daily trips currently analyzed in the document.

- 1-20** This comment claims that because there is no history of nuisance impacts from the oil and gas industry, PAR 1148.1 and its Staff Report do not contain substantiation to justify the goal to “minimize the potential for nuisance and odor impacts to local residents and sensitive receptors that are often located nearby from ongoing operations that do not include drilling.” This comment also claims that there is no evidence that any sensitive receptors have found the oil and gas source category to be a nuisance and therefore, requests substantiation as to how the SCAQMD knows that these facilities are located near sensitive receptors.

PAR 1148.1 defines sensitive receptor to “mean any residence including private homes, condominiums, apartments, and living quarters; education resources such as preschools and kindergarten through grade twelve (k-12) schools; licensed daycare centers; and health care facilities such as hospitals or retirement and nursing homes. A sensitive receptor includes long term care hospitals, hospices, prisons, and dormitories or similar live-in housing.” Appendix B of the Staff Report identifies facilities with a complaint history and also identifies the proximity to sensitive receptors as defined in PAR 1148.1. See also Response 1-2.

- 1-21** This comment claims that the following statement in the Draft EA is false and needs to be removed: “...the proposed project will continue to assist the SCAQMD’s progress in attaining and maintaining the ambient air quality standards for ozone.”

PAR 1148.1 includes additional rule language clarifications that improve the enforceability of the existing rule requirements, and as such, serve to continue to assist the SCAQMD’s progress in attaining and maintaining the ambient air quality standards for ozone. (Examples include: strengthening the safety exemption language, providing cross-references to other rules applicable to oil and gas production facilities, and clarifying recordkeeping requirements).

PAR 1148.1 is designed to enhance compliance activities in order to prevent emissions from hydrocarbons which are also a source of odors when released to the atmosphere. Thus, the prevention of odors is directly related to preventing

emissions that would otherwise contribute to the formation of ozone. For these reasons, the statement will remain in the Final EA.

- 1-22** This comment claims that a construction analysis should be included in the Final EA and that the following statement is incorrect because PAR 1148.1 requires an enclosure for used rods: *“PAR 1148.1 neither requires construction of new facilities nor requires physical modifications at existing facilities that would entail construction activities.”*

This comment is a repeat of the sentiments expressed in Comment 1-18. See Response 1-18.

- 1-23** This comment claims that the calculations in Appendix B and the data presented in Tables 2-2, 2-3, 2-4, and 2-5 of the Draft EA are no longer valid because the utilization of an electric workover rig is no longer required and there are no emission reductions associated with PAR 1148.1. This comment also claims that without the requirement for an electric workover rig, there are no environmental benefits from PAR 1148.1 and instead there are several potential adverse environmental impacts that have yet to be adequately addressed.

While it is correct that the use of an alternative fuel or electric powered workover rig is no longer a requirement in PAR 1148.1, the analysis which includes both benefits and adverse impacts relative to the use of an alternative fuel or electric powered workover rig will remain as part of the responses to the environmental checklist to represent a worst-case analysis. The Final EA has been revised to acknowledge this understanding. PAR 1148.1 still has environmental benefits by reducing the potential for odor nuisances. However, in response to the claim that there are several potential adverse environmental impacts that have yet to be adequately addressed, the commentator has not identified the impacts of concern. As such, SCAQMD staff is unable and not required to prepare a response to this comment.

- 1-24** This comment claims that there were no odor incidents within the last year at more than 473 facilities so it is not clear in the Draft EA when the three confirmed odor events occurred. This comment claims that because there were no odor incidents and no evidence of a nuisance problem, then the necessity of the amendment, a finding required by Health and Safety Code §40727, is called into question.

Because complaints need to be independent and associated with the same event, the Final EA has been clarified as follows: *“Past ~~compliance~~ complaint data for Rule 1148.1 facilities has shown that only three facilities experienced the potential equivalent of ~~more than~~ three or more confirmed odor events or received a Rule 402 NOV.”* See also Response 1-2.

- 1-25** This comment claims that while the electric workover rig component was removed from PAR 1148.1, the Draft EA claims that electricity generating

equipment could be installed to support the operation of an electric workover rig. This comment claims that the SCAQMD finds it more beneficial to generate more power in order to reduce odor impacts that have not occurred. This comment also claims that if a new power generating source is required, it should have been evaluated in the CEQA document. This comment claims that by not analyzing new power generating equipment in the CEQA is piecemealing and prohibited.

As explained in Responses 1-14, 1-15, and 1-23, while the electric workover rig component of the Draft EA was removed, the analysis for electric workover rigs as well as the analysis for alternative fuel workover rigs will remain in the document to represent a worst-case analysis. With regard to the remark that any electricity generating equipment that may be installed to support an electric workover rig (which currently do not exist) should be analyzed in this CEQA document, the discussion in Section III b) of the Draft EA explained that any new electricity generation within the district would require permitting and compliance with a multitude of SCAQMD rules and regulations and a separate CEQA evaluation to evaluate the effects of any proposal to install new electricity generating equipment. In other words, a CEQA evaluation and separate permitting analysis of new electricity generation equipment is beyond the scope of PAR 1148.1 and thus, is not included in this EA.

The commentator is incorrect in claiming that the lack of analysis for new power generating equipment is piecemealing. In actuality, piecemealing is when a project is divided up into smaller projects in order to qualify for an exemption and is prohibited by Public Resources Code §21159.27. The SCAQMD did not determine that the project or any portion would be exempt under CEQA but instead prepared an Environmental Assessment pursuant to its Certified Regulatory Program as promulgated in CEQA Guidelines §15251 (l). Further, the Final EA contains an analysis of the environmental effects of the future action of implementing PAR 1148.1 and the reasonably foreseeable consequences of the project.

SCAQMD staff is not aware of any current efforts to bring an electric or alternative fuel workover rig into commercial use, nor is SCAQMD staff aware of any such rigs under production or undergoing retrofit. Nonetheless, because electric and alternate fuel workover rigs are not reasonably foreseeable in that they do not currently exist, the SCAQMD conducted an analysis based on currently available diesel fuel usage data for diesel-fueled workover rigs and extrapolated that data to estimate the potential environmental impacts, both beneficial and adverse, of what may happen if electric and alternative fuel workover rigs are developed and are used. In particular, Table 2-9 (formerly numbered as Table 2-6 in the Draft EA) summarizes that 0.0003 MW of instantaneous electricity would be needed to supply three electric workover rigs, a miniscule and less than significant amount when compared to the amount of electricity supply available.

- 1-26** This comment claims that references to electric or clean fuel workover rigs in the CEQA document should be removed if the requirement has been removed from PAR 1148.1. This comment also claims that if the requirement for electric or clean fuel workover rigs remains in PAR 1148.1, then the analysis in the CEQA document is flawed because it does not analyze the secondary effects of installing new power generation facilities.

These comments repeat the sentiments expressed in Comment 1-25. See Response 1-25.

- 1-27** This comment agrees with the statement in Section III d) of the EA that says “PAR 1148.1 would not change any of the VOC/TOC/TAC reduction aspects currently in the rule...” and requests that the CEQA document contain a clarification that there are no emission reductions associated with PAR 1148.1. This comment also requests that references to furthering the goals of the AQMP or attaining ozone standards should be removed from the CEQA document because they are misleading and false.

These comments repeat the sentiments expressed in Comments 1-4, 1-7, 1-11, and 1-21. See Responses 1-4, 1-7, 1-11, and 1-21.

- 1-28** This comment claims that if the electric workover rig requirement remains in PAR 1148.1, then the energy analysis needs to be revised and the CEQA document needs to be recirculated. This comment also claims that approximately 68 workover rigs would need to be converted to electric workover rigs and that there is a potential to exceed utilities’ capacities to provide power. This comment requests clarification as to why the analysis assumes that only three workover rigs would need to be converted to electric since PAR 1148.1 applies to the entire industry. Lastly, this comment suggests that Table 2-6 be revised to accurately reflect the number of workover rigs operating in the Basin.

As previously explained in Response 1-14, the electric workover rig requirement as well as the alternative fuel workover rig requirement was removed from PAR 1148.1; thus, the energy analysis does not need to be revised and the CEQA document does not need to be recirculated. With regard to the comment that 68 workover rigs should have been analyzed, the commentator has misinterpreted the requirement in the OMP provision as applying to all workover rigs. Instead, the requirement that was initially proposed in PAR 1148.1 and then subsequently removed, would have required the use of an electric or alternative fuel workover rig only in the event that a facility would be required to prepare and obtain approval of an Odor Mitigation Plan in response to a confirmed odor event. Since historic complaint data shows that only three facilities would have potentially required an Odor Mitigation Plan, the analysis was based on the assumption that three electric or alternative fuel workover rigs might be utilized. For this reason, SCAQMD staff believes that the energy data based on the use of three electric workover rigs as presented in Table 2-6 (which has been renumbered in the Final

EA to Table 2-9) accurately reflects the potential electricity demand. See also Response 1-25.

- 1-29** This comment claims that PAR 1148.1 allows for the use of a storage shed which would require construction and the effects of constructing a storage shed should be evaluated under CEQA.

This comment repeats the sentiments previously expressed in Comments 1-17 and 1-18. See Responses 1-17 and 1-18.

- 1-30** This comment requests substantiation for how SCAQMD knows that the storage areas are flat or have been previously graded. This comment claims that any facility choosing to install a storage shed would need to excavate and grade the site.

As explained in Response 1-17, workover activities, which include the removal of drill piping, production tubing and sucker rods, are currently occurring at the affected facilities, and these facilities already have designated areas on their properties for storing these removed items. Because the length of drill rods, production tubing and sucker rods can be up to 30 feet, in order to safely store these items without risking them moving or rolling away, the area would need to be relatively level. Further, as explained in Responses 1-17 and 1-18, SCAQMD staff does not believe that a storage shed would be necessary in order to comply with the enclosure or equivalent requirement for the limited number of facilities.

- 1-31** This comment claims that the SCAQMD is requiring the use of 5,676 oversized tarps and because these tarps could come in contact with crude oil or by-products, they would need to be disposed of as hazardous waste and the CEQA document would need to further analyze this impact. This comment claims that the disposal of these tarps would be costly and there is a significant shortage of landfills permitted to accept hazardous materials. This comment claims that an analysis should be conducted to quantify the number of trips generated based on the site locations where the tarps would need to be delivered and that this impact is not addressed or quantified in the CEQA document. This comment questions how a non-significance determination was made when the quantity of hazardous waste was not assessed and compared to the capacity of designated landfills.

The commentator has misinterpreted the enclosure or equivalent requirement in PAR 1148.1 to apply to all facilities subject to PAR 1148.1. The commentator's estimate of the number of tarps that would be needed and the explanation for why this estimate is incorrect is addressed in Response 1-19. In addition, Response 1-19 addresses the estimated number of trips that may be needed to supply coverings for the removed drill piping, production tubing and sucker rods.

With regard to the claim that used tarps would need to be disposed of as hazardous waste, SCAQMD staff understands that it is current industry best practice during workover activities to use a grommet to remove excess liquid

from the drill piping, production tubing and sucker rods as they are being removed from the well. Further, new paragraph (d)(11) requiring the installation of a rubber grommet as part of a maintenance or drill rod/production tubing/sucker rod replacement activity that involves the use of a workover rig, would also help to minimize any excess liquid or residue coming off of the removed drill piping, production tubing and sucker rods. After the drill rods, production tubing and sucker rods are removed, they are temporarily staged vertically on the rig, so any free flowing liquid would not be expected to remain on these items prior to moving them from the rig to a storage area, although residue which may create odors may remain. For these reasons, SCAQMD staff does not believe that the tarps, if utilized, would come in contact with any free flowing liquid materials during the storage, and thus, would not require them to be treated as hazardous waste, if a facility operator chooses to dispose of the tarps. Further, since six coverings would be needed for six wells twice a year at three facilities (or 12 per facility), if each facility operator chooses to dispose of these coverings (36 in total), instead of reusing them, this small volume being disposed would not be expected to cause a significant exceedance of the capacity of designated landfills, even if each facility operator chooses to dispose of the coverings as hazardous waste.

- 1-32** This comment claims that if hydrogen sulfide (H₂S) is being reduced as a result of PAR 1148.1, then the amount of reduction should have been quantified in the CEQA document. This comment claims that the CEQA document does not contain a quantification of any emission reductions needed for an adequate analysis.

Sulfur compounds such as hydrogen sulfide (H₂S) and mercaptans contribute to odors from existing oil and gas operations. While CARB does not identify H₂S as a toxic air contaminant (TAC) per se, CARB is evaluating H₂S and considers this substance a potential candidate for TAC classification as part of an ongoing evaluation of carcinogenic and noncarcinogenic health effects, emissions and exposure in California¹⁶. In addition, because H₂S is known odorous substance and a pollutant of concern from an accidental release perspective, H₂S is listed in the accidental release provisions of section 112 (r) of the Clean Air Act. Substances regulated under section 112 (r) are anticipated to cause death, injury, or serious adverse affects to human health or the environment upon accidental release¹⁷. Thus, by incorporating additional best practices to reduce odors, PAR 1148.1 would further assist in minimizing emissions to the atmosphere by improving upon compliance and monitoring requirements to minimize the potential for odors. For these reasons, some VOC, TACs, and H₂S may be reduced as a result, but quantification of these benefits is difficult for SIP submittals, and thus, PAR 1148.1 is not being considered for inclusion in the SIP.

¹⁶ CARB, Toxic Air Contaminant (TAC) Identification List, Quick Reference Format, December 1999.
<http://www.arb.ca.gov/toxics/quickref.htm>

¹⁷ EPA, Report to Congress on Hydrogen Sulfide Air Emissions Associated with the Extraction of Oil and Natural Gas, October 1993.

With regard to the comment that the CEQA document does not quantify any emission reductions, this comment is a repeat of the sentiments expressed in Comments 1-4, 1-5, 1-7 and 1-11. See Responses 1-4, 1-5, 1-7 and 1-11.

- 1-33** This comment claims that PAR 1148.1 allows for the use of a storage shed which would require construction and the effects of constructing a storage shed should be evaluated under CEQA.

This comment essentially repeats the sentiments expressed in Comments 1-17 and 1-18. See Responses 1-17 and 1-18.

- 1-34** This comment claims that PAR 1148.1 allows for the use of a storage shed which would require construction and the effects of constructing a storage shed should be evaluated under CEQA.

This comment essentially repeats the sentiments expressed in Comments 1-17 and 1-18. See Responses 1-17 and 1-18.

- 1-35** This comment claims that the delivery of 5,767 tarps needs to be addressed. This comment inquires as to the supplier of the tarps and claims that the distance that would be traveled in order to deliver the tarps to the facilities and to later deliver the used tarps to a hazardous waste landfill should be analyzed in the CEQA document. This comment also claims that if tarps are not delivered, it would be because a facility has chosen to comply by building a storage shed and workers, deliveries and equipment need to be addressed.

With regard to the number of tarps that were estimated, the delivery of the tarps, and the disposal of the tarps, see Response 1-31. With regard to the commentator's assumption that storage shed will be built if tarps are not utilized, see Responses 1-17 and 1-18.

- 1-36** This comment claims that the Draft EA lacks detail or quantification to make an adequate finding of significance under CEQA. This comment also claims at a footnote referencing documentation that is more than 12 years old indicates that the documentation is outdated and not an effective tool for determining cumulative significance.

The comment about the lack of quantification in the Draft EA has been addressed in Responses 1-2, 1-8, 1-15, 1-31 and 1-32. With regard to the footnote with 12 year old documentation, the commentator did not identify the specific footnote of concern and there are multiple footnotes to references from years ranging from 2003 to 2015. Thus, SCAQMD staff is unable to provide a specific response to this claim. Nonetheless, an age of a particular resource does not automatically mean that the information should be discounted or invalidated if the data is applicable to the project. When preparing the CEQA document, SCAQMD staff has used its best efforts to find out and rely upon the best available data and resources and disclose all that it reasonably can to present facts, reasonable assumptions predicated upon facts, and expert opinion supported by facts.

- 1-37** This comment requests the removal of the phrase “*possible detriment to public health caused by exposure to VOC, TAC, and TOC emissions*” from the Draft EA because it is false and misleading and because it contradicts other statements that confirm the amendments are administrative and do not reduce emissions in any way.

This comment repeats the sentiments previously expressed in Comment 1-7. See Response 1-7.

- 1-38** This comment expresses appreciation for the opportunity to comment. This comment also requests that the CEQA analysis be re-done and recirculated to remove the reference to electric workover rigs and include an analysis related to the thousands of tarps and storage sheds that are required to be included as part of PAR 1148.1.

These comments repeat the sentiments previously expressed in Comments 1-14, 1-15, 1-17, 1-18, 1-19, 1-23, and 1-26. See Responses 1-14, 1-15, 1-17, 1-18, 1-19, 1-23, and 1-26.

- 1-39** This comment requests the removal of any reference to emission reductions and encourages the SCAQMD to focus on rule development that actually attains and maintains ambient air quality standards. This comment claims that PAR 1148.1 is an administrative, costly burden with no environmental benefits.

The references to emission reductions in the CEQA document pertain to the environmental impact analysis of potential secondary effects of implementing PAR 1148.1 and do not reflect any SIP creditable actions. With regard to the claim that PAR 1148.1 has no environmental benefits, see Response 1-2.

COMMENT LETTER No. 2

From: Joyce Dillard [mailto:dillardjoyce@yahoo.com]
Sent: Thursday, May 28, 2015 4:17 PM
To: Barbara Radlein
Subject: Comments AQMD Draft EA-Proposed Amended Rule 1148.1–Oil and Gas Production Wells due 5.28.2015

Potential Environmental Factors include:

- Biological Resources
- Hydrology and Water Quality
- Public Services

} 2-1

Watersheds and the Basin Plans are not addressed.

Not clear if the use of wastewater under urban runoff and the potential uses for recycled water or irrigation water. Another term used is or surface water and drainage. LA Regional Water Quality Control Board in issuing the LA Municipal Separate Storm Sewer System (MS4) Discharges Order NO. R4-2012-0175 NPDES Permit No. CAS004001 allows for capture of such water and reuse for water quality and Total Maximum Daily Load reductions. Basin Plan is divided into watersheds with Watershed Management Areas requiring Watershed Management Plans or Enhanced Watershed Management Plans.

} 2-2

Urban runoff appears to be from non-point sources. Does this document consider these wells point sources with their own permit or non-point sources subject to this runoff and water recycling collection?

} 2-3

Water quality monitoring is necessary yet excluded in this document.

} 2-4

More than just Odor Mitigation, the VOC emissions from wastewater systems may affect water quality, public health and biological resources such as birds, wildlife, trees and plants.

} 2-5

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**RESPONSES TO COMMENT LETTER #2
(Joyce Dillard – May 28, 2015)**

- 2-1** The comment implies that the Draft EA should consider potential environmental factors for the topics of biological resources, hydrology and water quality, and public services without explaining the reasoning for why the commentator believes that there would be environmental factors to consider relative to the proposed project.

The Draft EA analyzed the effects of the proposed project for all 17 environmental topics, which include the topics of biological resources, hydrology and water quality, and public services. The proposed project was shown to have no impact on the topics of biological resources, hydrology and water quality, and public services.

- 2-2** The comment states that the Draft EA did not address watersheds and basin plans. The comment also seeks clarification as to potential uses for recycled or irrigation water.

Because the proposed project has no provision that would increase demand for water or increase the generation or recycling of wastewater, urban runoff or stormwater, watersheds and basin plans would also not be affected by the proposed project. Further, as explained in Section IX of the EA, the proposed project would not require the construction of additional water resource facilities, increase the need for new or expanded water entitlements, or alter existing drainage patterns. For these same reasons, the proposed project would not substantially deplete groundwater supplies. Consequently, the proposed project is not expected to interfere substantially with groundwater recharge.

- 2-3** The comment states that urban runoff appears to come from non-point sources and inquires as to whether the Draft EA considers wells to be point sources with their own permit or non-point sources subject to runoff and water recycling collection requirements.

This comment appears to be directed at water impacts of existing wells, and not any adverse impacts of the proposed rule amendments. The proposed project has no provision that would affect urban runoff or require water recycling. As explained in Section IX of the EA, PAR 1148.1 would not create or contribute runoff water that would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff. Since compliance with PAR 1148.1 does not involve water that would generate wastewater processes, there would be no change in the composition or volume of existing wastewater streams from the affected facilities. Thus, PAR 1148.1 is not expected to require additional wastewater disposal capacity, violate any water quality standard or wastewater discharge requirements, or otherwise substantially degrade water quality. For these reasons, the EA is not required to identify wells as point- or non-point sources.

- 2-4** The comment states that water quality monitoring should have been addressed in the Draft EA. As previously explained in Responses 2-3 and 2-4, because the proposed project does not contain any provisions that would alter how oil and gas production facilities currently process and monitor water quality, the EA concluded that the proposed project would not violate any water quality standards, waste discharge requirements, exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board, or otherwise substantially degrade water quality.
- 2-5** The comment states that VOC emissions from wastewater systems may affect water quality, public health and biological resources such as birds, wildlife, trees and plants. The proposed project has been crafted to reduce the number of verified odor complaints required before an affected facility is required to take corrective action. The proposed project does not, however, contain any provisions that would require affected facilities to alter their existing wastewater systems.